

SECTION **LAN**
LAN SYSTEM

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MAIN LINE BETWEEN EMCM AND ICC CIRCUIT	596	DTC/CIRCUIT DIAGNOSIS	619	LAN
Diagnosis Procedure	596	MAIN LINE BETWEEN DLC AND M&A CIRCUIT	619	
IPDM-E BRANCH LINE CIRCUIT	597	Diagnosis Procedure	619	N
Diagnosis Procedure	597	MAIN LINE BETWEEN M&A AND EMCM CIRCUIT	620	
DLC BRANCH LINE CIRCUIT	598	Diagnosis Procedure	620	O
Diagnosis Procedure	598	MAIN LINE BETWEEN EMCM AND ANC CIRCUIT	621	
ECM BRANCH LINE CIRCUIT	599	Diagnosis Procedure	621	P
Diagnosis Procedure	599	MAIN LINE BETWEEN ADP AND ICC CIRCUIT	623	
EPS/DAST 3 BRANCH LINE CIRCUIT	601	Diagnosis Procedure	623	
Diagnosis Procedure	601			

MAIN LINE BETWEEN ICC AND DLC CIRCUIT	624	ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	646
Diagnosis Procedure	624	Diagnosis Procedure	646
MAIN LINE BETWEEN DLC AND STRG CIRCUIT	626	4WD BRANCH LINE CIRCUIT	647
Diagnosis Procedure	626	Diagnosis Procedure	647
MAIN LINE BETWEEN STRG AND ABS CIRCUIT	627	CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	648
Diagnosis Procedure	627	Diagnosis Procedure	648
IPDM-E BRANCH LINE CIRCUIT	628	STRG BRANCH LINE CIRCUIT	650
Diagnosis Procedure	628	Diagnosis Procedure	650
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	629	ABS BRANCH LINE CIRCUIT	651
Diagnosis Procedure	629	Diagnosis Procedure	651
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	630	CAN COMMUNICATION CIRCUIT 1	653
Diagnosis Procedure	630	Diagnosis Procedure	653
ECM BRANCH LINE CIRCUIT	631	CAN COMMUNICATION CIRCUIT 2	655
Diagnosis Procedure	631	Diagnosis Procedure	655
EPS/DAST 3 BRANCH LINE CIRCUIT	633	DRIVETRAIN CAN COMMUNICATION CIRCUIT	657
Diagnosis Procedure	633	Diagnosis Procedure	657
AV BRANCH LINE CIRCUIT	635	CAN SYSTEM (TYPE 11)	
Diagnosis Procedure	635	DTC/CIRCUIT DIAGNOSIS	658
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	636	MAIN LINE BETWEEN DLC AND M&A CIRCUIT	658
Diagnosis Procedure	636	Diagnosis Procedure	658
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	637	MAIN LINE BETWEEN M&A AND EMCM CIRCUIT	659
Diagnosis Procedure	637	Diagnosis Procedure	659
HVAC BRANCH LINE CIRCUIT	638	MAIN LINE BETWEEN ADP AND ICC CIRCUIT	660
Diagnosis Procedure	638	Diagnosis Procedure	660
M&A BRANCH LINE CIRCUIT	639	MAIN LINE BETWEEN ICC AND DLC CIRCUIT	661
Diagnosis Procedure	639	Diagnosis Procedure	661
A-BAG BRANCH LINE CIRCUIT	640	MAIN LINE BETWEEN DLC AND STRG CIRCUIT	663
Diagnosis Procedure	640	Diagnosis Procedure	663
EMCM BRANCH LINE CIRCUIT	641	MAIN LINE BETWEEN STRG AND ABS CIRCUIT	664
Diagnosis Procedure	641	Diagnosis Procedure	664
ANC BRANCH LINE CIRCUIT	642	IPDM-E BRANCH LINE CIRCUIT	665
Diagnosis Procedure	642	Diagnosis Procedure	665
BCM BRANCH LINE CIRCUIT	643	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	666
Diagnosis Procedure	643	Diagnosis Procedure	666
ADP BRANCH LINE CIRCUIT	644		
Diagnosis Procedure	644		

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	667	DRIVETRAIN CAN COMMUNICATION CIRCUIT	693	A
Diagnosis Procedure	667	Diagnosis Procedure	693	
ECM BRANCH LINE CIRCUIT	668	CAN SYSTEM (TYPE 12)		
Diagnosis Procedure	668	DTC/CIRCUIT DIAGNOSIS	694	B
EPS/DAST 3 BRANCH LINE CIRCUIT	670	MAIN LINE BETWEEN DLC AND M&A CIRCUIT	694	C
Diagnosis Procedure	670	Diagnosis Procedure	694	
AV BRANCH LINE CIRCUIT	672	MAIN LINE BETWEEN M&A AND EMCM CIRCUIT	695	D
Diagnosis Procedure	672	Diagnosis Procedure	695	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	673	MAIN LINE BETWEEN ADP AND ICC CIRCUIT	696	E
Diagnosis Procedure	673	Diagnosis Procedure	696	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	674	MAIN LINE BETWEEN ICC AND DLC CIRCUIT	697	F
Diagnosis Procedure	674	Diagnosis Procedure	697	
HVAC BRANCH LINE CIRCUIT	675	Diagnosis Procedure	697	G
Diagnosis Procedure	675	MAIN LINE BETWEEN DLC AND STRG CIRCUIT	699	H
M&A BRANCH LINE CIRCUIT	676	Diagnosis Procedure	699	
Diagnosis Procedure	676	MAIN LINE BETWEEN STRG AND ABS CIRCUIT	700	I
A-BAG BRANCH LINE CIRCUIT	677	Diagnosis Procedure	700	
Diagnosis Procedure	677	IPDM-E BRANCH LINE CIRCUIT	701	J
EMCM BRANCH LINE CIRCUIT	678	Diagnosis Procedure	701	
Diagnosis Procedure	678	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	702	K
BCM BRANCH LINE CIRCUIT	679	Diagnosis Procedure	702	
Diagnosis Procedure	679	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	703	L
ADP BRANCH LINE CIRCUIT	680	Diagnosis Procedure	703	
Diagnosis Procedure	680	ECM BRANCH LINE CIRCUIT	704	LAN
ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	682	Diagnosis Procedure	704	
Diagnosis Procedure	682	EPS/DAST 3 BRANCH LINE CIRCUIT	706	N
4WD BRANCH LINE CIRCUIT	683	Diagnosis Procedure	706	
Diagnosis Procedure	683	AV BRANCH LINE CIRCUIT	708	O
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	684	Diagnosis Procedure	708	
Diagnosis Procedure	684	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	709	P
STRG BRANCH LINE CIRCUIT	686	Diagnosis Procedure	709	
Diagnosis Procedure	686	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	710	
ABS BRANCH LINE CIRCUIT	687	Diagnosis Procedure	710	
Diagnosis Procedure	687	HVAC BRANCH LINE CIRCUIT	711	
CAN COMMUNICATION CIRCUIT 1	689	Diagnosis Procedure	711	
Diagnosis Procedure	689			
CAN COMMUNICATION CIRCUIT 2	691			
Diagnosis Procedure	691			

M&A BRANCH LINE CIRCUIT	712	Diagnosis Procedure	712	Diagnosis Procedure	734
A-BAG BRANCH LINE CIRCUIT	713	Diagnosis Procedure	713	MAIN LINE BETWEEN DLC AND STRG CIR- CUIT	736
EMCM BRANCH LINE CIRCUIT	714	Diagnosis Procedure	714	Diagnosis Procedure	736
TCU BRANCH LINE CIRCUIT	715	Diagnosis Procedure	715	MAIN LINE BETWEEN STRG AND ABS CIR- CUIT	737
BCM BRANCH LINE CIRCUIT	716	Diagnosis Procedure	716	Diagnosis Procedure	737
ADP BRANCH LINE CIRCUIT	717	Diagnosis Procedure	717	MAIN LINE BETWEEN RDR-L AND AVM CIR- CUIT	738
ICC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT)	719	Diagnosis Procedure	719	Diagnosis Procedure	738
4WD BRANCH LINE CIRCUIT	720	Diagnosis Procedure	720	MAIN LINE BETWEEN AVM AND BSW/ BUZZER CIRCUIT	739
CCM BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT)	721	Diagnosis Procedure	721	Diagnosis Procedure	739
STRG BRANCH LINE CIRCUIT	723	Diagnosis Procedure	723	IPDM-E BRANCH LINE CIRCUIT	741
ABS BRANCH LINE CIRCUIT	724	Diagnosis Procedure	724	Diagnosis Procedure	741
CAN COMMUNICATION CIRCUIT 1	726	Diagnosis Procedure	726	DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 1)	742
CAN COMMUNICATION CIRCUIT 2	728	Diagnosis Procedure	728	Diagnosis Procedure	742
DRIVETRAIN CAN COMMUNICATION CIR- CUIT	730	Diagnosis Procedure	730	DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 2)	743
CAN SYSTEM (TYPE 13)				Diagnosis Procedure	743
DTC/CIRCUIT DIAGNOSIS	731			ECM BRANCH LINE CIRCUIT	744
MAIN LINE BETWEEN DLC AND M&A CIR- CUIT	731	Diagnosis Procedure	731	Diagnosis Procedure	744
MAIN LINE BETWEEN M&A AND EMCM CIR- CUIT	732	Diagnosis Procedure	732	EPS/DAST 3 BRANCH LINE CIRCUIT	746
Diagnosis Procedure	732			Diagnosis Procedure	746
MAIN LINE BETWEEN ADP AND ICC CIR- CUIT	733	Diagnosis Procedure	733	AV BRANCH LINE CIRCUIT	748
Diagnosis Procedure	733			Diagnosis Procedure	748
MAIN LINE BETWEEN ICC AND DLC CIR- CUIT	734	Diagnosis Procedure	734	CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 1)	749
Diagnosis Procedure	734			Diagnosis Procedure	749
				CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 2)	750
				Diagnosis Procedure	750
				HVAC BRANCH LINE CIRCUIT	751
				Diagnosis Procedure	751
				M&A BRANCH LINE CIRCUIT	752
				Diagnosis Procedure	752
				A-BAG BRANCH LINE CIRCUIT	753
				Diagnosis Procedure	753
				EMCM BRANCH LINE CIRCUIT	754
				Diagnosis Procedure	754
				TCU BRANCH LINE CIRCUIT	755
				Diagnosis Procedure	755
				BCM BRANCH LINE CIRCUIT	756
				Diagnosis Procedure	756

ADP BRANCH LINE CIRCUIT	757	Diagnosis Procedure	781	
Diagnosis Procedure	757			A
ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	759	MAIN LINE BETWEEN AFS AND EMCM CIRCUIT	782	
Diagnosis Procedure	759	Diagnosis Procedure	782	B
4WD BRANCH LINE CIRCUIT	760	MAIN LINE BETWEEN ADP AND ICC CIRCUIT	783	
Diagnosis Procedure	760	Diagnosis Procedure	783	C
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	761	MAIN LINE BETWEEN ICC AND DLC CIRCUIT	784	
Diagnosis Procedure	761	Diagnosis Procedure	784	D
STRG BRANCH LINE CIRCUIT	763	MAIN LINE BETWEEN DLC AND STRG CIRCUIT	786	
Diagnosis Procedure	763	Diagnosis Procedure	786	E
ABS BRANCH LINE CIRCUIT	764	MAIN LINE BETWEEN STRG AND ABS CIRCUIT	787	
Diagnosis Procedure	764	Diagnosis Procedure	787	F
RDR-L BRANCH LINE CIRCUIT	766	MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT	788	
Diagnosis Procedure	766	Diagnosis Procedure	788	G
RDR-R BRANCH LINE CIRCUIT	767	MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT	789	
Diagnosis Procedure	767	Diagnosis Procedure	789	H
AVM BRANCH LINE CIRCUIT	768	IPDM-E BRANCH LINE CIRCUIT	791	
Diagnosis Procedure	768	Diagnosis Procedure	791	I
APA BRANCH LINE CIRCUIT	769	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	792	
Diagnosis Procedure	769	Diagnosis Procedure	792	J
BSW/BUZZER BRANCH LINE CIRCUIT	770	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	793	
Diagnosis Procedure	770	Diagnosis Procedure	793	L
SONAR BRANCH LINE CIRCUIT	771	ECM BRANCH LINE CIRCUIT	794	
Diagnosis Procedure	771	Diagnosis Procedure	794	LAN
LASER BRANCH LINE CIRCUIT	772	EPS/DAST 3 BRANCH LINE CIRCUIT	796	
Diagnosis Procedure	772	Diagnosis Procedure	796	N
CAN COMMUNICATION CIRCUIT 1	773	AV BRANCH LINE CIRCUIT	798	
Diagnosis Procedure	773	Diagnosis Procedure	798	O
CAN COMMUNICATION CIRCUIT 2	775	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	799	
Diagnosis Procedure	775	Diagnosis Procedure	799	P
ITS COMMUNICATION CIRCUIT	777	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	800	
Diagnosis Procedure	777	Diagnosis Procedure	800	
DRIVETRAIN CAN COMMUNICATION CIRCUIT	779	HVAC BRANCH LINE CIRCUIT	801	
Diagnosis Procedure	779	Diagnosis Procedure	801	
CAN SYSTEM (TYPE 14)		M&A BRANCH LINE CIRCUIT	802	
DTC/CIRCUIT DIAGNOSIS	780			
MAIN LINE BETWEEN DLC AND M&A CIRCUIT	780			
Diagnosis Procedure	780			
MAIN LINE BETWEEN M&A AND AFS CIRCUIT	781			

Diagnosis Procedure	802	LASER BRANCH LINE CIRCUIT	827
AFS BRANCH LINE CIRCUIT	803	Diagnosis Procedure	827
Diagnosis Procedure	803	CAN COMMUNICATION CIRCUIT 1	828
A-BAG BRANCH LINE CIRCUIT	804	Diagnosis Procedure	828
Diagnosis Procedure	804	CAN COMMUNICATION CIRCUIT 2	830
EMCM BRANCH LINE CIRCUIT	805	Diagnosis Procedure	830
Diagnosis Procedure	805	ITS COMMUNICATION CIRCUIT	832
HBA BRANCH LINE CIRCUIT	806	Diagnosis Procedure	832
Diagnosis Procedure	806	DRIVETRAIN CAN COMMUNICATION CIR-	
TCU BRANCH LINE CIRCUIT	807	CUIT	834
Diagnosis Procedure	807	Diagnosis Procedure	834
BCM BRANCH LINE CIRCUIT	808	CAN SYSTEM (TYPE 15)	
Diagnosis Procedure	808	DTC/CIRCUIT DIAGNOSIS	835
ADP BRANCH LINE CIRCUIT	809	MAIN LINE BETWEEN DLC AND M&A CIR-	
Diagnosis Procedure	809	CUIT	835
PSB BRANCH LINE CIRCUIT	811	Diagnosis Procedure	835
Diagnosis Procedure	811	MAIN LINE BETWEEN EPS/DAST 3 AND	
ICC BRANCH LINE CIRCUIT (CAN COMMU-		DLC CIRCUIT	836
UNICATION CIRCUIT)	812	Diagnosis Procedure	836
Diagnosis Procedure	812	MAIN LINE BETWEEN M&A AND AV CIR-	
4WD BRANCH LINE CIRCUIT	813	CUIT	838
Diagnosis Procedure	813	Diagnosis Procedure	838
CCM BRANCH LINE CIRCUIT (CAN COM-		MAIN LINE BETWEEN AV AND ANC CIR-	
MUNICATION CIRCUIT)	814	CUIT	839
Diagnosis Procedure	814	Diagnosis Procedure	839
STRG BRANCH LINE CIRCUIT	816	IPDM-E BRANCH LINE CIRCUIT	840
Diagnosis Procedure	816	Diagnosis Procedure	840
ABS BRANCH LINE CIRCUIT	817	DLC BRANCH LINE CIRCUIT	841
Diagnosis Procedure	817	Diagnosis Procedure	841
RDR-L BRANCH LINE CIRCUIT	819	ECM BRANCH LINE CIRCUIT	842
Diagnosis Procedure	819	Diagnosis Procedure	842
RDR-R BRANCH LINE CIRCUIT	820	TCM BRANCH LINE CIRCUIT	844
Diagnosis Procedure	820	Diagnosis Procedure	844
AVM BRANCH LINE CIRCUIT	821	EPS/DAST 3 BRANCH LINE CIRCUIT	846
Diagnosis Procedure	821	Diagnosis Procedure	846
APA BRANCH LINE CIRCUIT	822	AV BRANCH LINE CIRCUIT	848
Diagnosis Procedure	822	Diagnosis Procedure	848
BSW/BUZZER BRANCH LINE CIRCUIT	823	HVAC BRANCH LINE CIRCUIT	849
Diagnosis Procedure	823	Diagnosis Procedure	849
LANE BRANCH LINE CIRCUIT	824	M&A BRANCH LINE CIRCUIT	850
Diagnosis Procedure	824	Diagnosis Procedure	850
SONAR BRANCH LINE CIRCUIT	826	A-BAG BRANCH LINE CIRCUIT	851
Diagnosis Procedure	826	Diagnosis Procedure	851
		ANC BRANCH LINE CIRCUIT	852

Diagnosis Procedure	852	CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	878	A
BCM BRANCH LINE CIRCUIT	853	Diagnosis Procedure	878	
Diagnosis Procedure	853	STRG BRANCH LINE CIRCUIT	880	B
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	854	Diagnosis Procedure	880	
Diagnosis Procedure	854	ABS BRANCH LINE CIRCUIT	881	C
STRG BRANCH LINE CIRCUIT	856	Diagnosis Procedure	881	
Diagnosis Procedure	856	CAN COMMUNICATION CIRCUIT	883	D
ABS BRANCH LINE CIRCUIT	857	Diagnosis Procedure	883	
Diagnosis Procedure	857	CAN SYSTEM (TYPE 17)		
CAN COMMUNICATION CIRCUIT	859	DTC/CIRCUIT DIAGNOSIS	885	E
Diagnosis Procedure	859	MAIN LINE BETWEEN DLC AND M&A CIRCUIT	885	F
CAN SYSTEM (TYPE 16)		Diagnosis Procedure	885	
DTC/CIRCUIT DIAGNOSIS	861	MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	886	G
MAIN LINE BETWEEN DLC AND M&A CIRCUIT	861	Diagnosis Procedure	886	
Diagnosis Procedure	861	MAIN LINE BETWEEN M&A AND AV CIRCUIT	888	H
MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	862	Diagnosis Procedure	888	
Diagnosis Procedure	862	MAIN LINE BETWEEN AV AND ANC CIRCUIT	889	I
MAIN LINE BETWEEN M&A AND AV CIRCUIT	864	Diagnosis Procedure	889	
Diagnosis Procedure	864	IPDM-E BRANCH LINE CIRCUIT	890	J
IPDM-E BRANCH LINE CIRCUIT	865	Diagnosis Procedure	890	
Diagnosis Procedure	865	DLC BRANCH LINE CIRCUIT	891	K
DLC BRANCH LINE CIRCUIT	866	Diagnosis Procedure	891	
Diagnosis Procedure	866	ECM BRANCH LINE CIRCUIT	892	L
ECM BRANCH LINE CIRCUIT	867	Diagnosis Procedure	892	
Diagnosis Procedure	867	TCM BRANCH LINE CIRCUIT	894	LAN
TCM BRANCH LINE CIRCUIT	869	Diagnosis Procedure	894	
Diagnosis Procedure	869	EPS/DAST 3 BRANCH LINE CIRCUIT	896	N
EPS/DAST 3 BRANCH LINE CIRCUIT	871	Diagnosis Procedure	896	
Diagnosis Procedure	871	AV BRANCH LINE CIRCUIT	898	O
AV BRANCH LINE CIRCUIT	873	Diagnosis Procedure	898	
Diagnosis Procedure	873	HVAC BRANCH LINE CIRCUIT	899	P
HVAC BRANCH LINE CIRCUIT	874	Diagnosis Procedure	899	
Diagnosis Procedure	874	M&A BRANCH LINE CIRCUIT	900	
M&A BRANCH LINE CIRCUIT	875	Diagnosis Procedure	900	
Diagnosis Procedure	875	A-BAG BRANCH LINE CIRCUIT	901	
A-BAG BRANCH LINE CIRCUIT	876	Diagnosis Procedure	901	
Diagnosis Procedure	876	ANC BRANCH LINE CIRCUIT	902	
BCM BRANCH LINE CIRCUIT	877	Diagnosis Procedure	902	
Diagnosis Procedure	877	BCM BRANCH LINE CIRCUIT	903	

Diagnosis Procedure	903	ADP BRANCH LINE CIRCUIT	930
ADP BRANCH LINE CIRCUIT	904	Diagnosis Procedure	930
Diagnosis Procedure	904	CCM BRANCH LINE CIRCUIT (CAN COM-	932
CCM BRANCH LINE CIRCUIT (CAN COM-	906	MUNICATION CIRCUIT)	932
Diagnosis Procedure	906	Diagnosis Procedure	932
STRG BRANCH LINE CIRCUIT	908	STRG BRANCH LINE CIRCUIT	934
Diagnosis Procedure	908	Diagnosis Procedure	934
ABS BRANCH LINE CIRCUIT	909	ABS BRANCH LINE CIRCUIT	935
Diagnosis Procedure	909	Diagnosis Procedure	935
CAN COMMUNICATION CIRCUIT	911	CAN COMMUNICATION CIRCUIT	937
Diagnosis Procedure	911	Diagnosis Procedure	937
CAN SYSTEM (TYPE 18)		CAN SYSTEM (TYPE 19)	
DTC/CIRCUIT DIAGNOSIS	913	DTC/CIRCUIT DIAGNOSIS	939
MAIN LINE BETWEEN EPS/DAST 3 AND		MAIN LINE BETWEEN EPS/DAST 3 AND	
DLC CIRCUIT	913	DLC CIRCUIT	939
Diagnosis Procedure	913	Diagnosis Procedure	939
MAIN LINE BETWEEN DLC AND M&A CIR-		MAIN LINE BETWEEN DLC AND M&A CIR-	
CUIT	915	CUIT	941
Diagnosis Procedure	915	Diagnosis Procedure	941
MAIN LINE BETWEEN M&A AND AV CIR-		MAIN LINE BETWEEN M&A AND AV CIR-	
CUIT	916	CUIT	942
Diagnosis Procedure	916	Diagnosis Procedure	942
IPDM-E BRANCH LINE CIRCUIT	917	IPDM-E BRANCH LINE CIRCUIT	943
Diagnosis Procedure	917	Diagnosis Procedure	943
DLC BRANCH LINE CIRCUIT	918	DLC BRANCH LINE CIRCUIT	944
Diagnosis Procedure	918	Diagnosis Procedure	944
ECM BRANCH LINE CIRCUIT	919	ECM BRANCH LINE CIRCUIT	945
Diagnosis Procedure	919	Diagnosis Procedure	945
TCM BRANCH LINE CIRCUIT	921	TCM BRANCH LINE CIRCUIT	947
Diagnosis Procedure	921	Diagnosis Procedure	947
EPS/DAST 3 BRANCH LINE CIRCUIT	923	EPS/DAST 3 BRANCH LINE CIRCUIT	949
Diagnosis Procedure	923	Diagnosis Procedure	949
AV BRANCH LINE CIRCUIT	925	AV BRANCH LINE CIRCUIT	951
Diagnosis Procedure	925	Diagnosis Procedure	951
HVAC BRANCH LINE CIRCUIT	926	HVAC BRANCH LINE CIRCUIT	952
Diagnosis Procedure	926	Diagnosis Procedure	952
M&A BRANCH LINE CIRCUIT	927	M&A BRANCH LINE CIRCUIT	953
Diagnosis Procedure	927	Diagnosis Procedure	953
A-BAG BRANCH LINE CIRCUIT	928	A-BAG BRANCH LINE CIRCUIT	954
Diagnosis Procedure	928	Diagnosis Procedure	954
BCM BRANCH LINE CIRCUIT	929	TCU BRANCH LINE CIRCUIT	955
Diagnosis Procedure	929	Diagnosis Procedure	955
		BCM BRANCH LINE CIRCUIT	956
		Diagnosis Procedure	956

ADP BRANCH LINE CIRCUIT	957	AV BRANCH LINE CIRCUIT	981	A
Diagnosis Procedure	957	Diagnosis Procedure	981	
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	959	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	982	B
Diagnosis Procedure	959	Diagnosis Procedure	982	
STRG BRANCH LINE CIRCUIT	961	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	983	C
Diagnosis Procedure	961	Diagnosis Procedure	983	
ABS BRANCH LINE CIRCUIT	962	HVAC BRANCH LINE CIRCUIT	984	D
Diagnosis Procedure	962	Diagnosis Procedure	984	
CAN COMMUNICATION CIRCUIT	964	M&A BRANCH LINE CIRCUIT	985	E
Diagnosis Procedure	964	Diagnosis Procedure	985	
CAN SYSTEM (TYPE 20)				
DTC/CIRCUIT DIAGNOSIS	966	A-BAG BRANCH LINE CIRCUIT	986	F
MAIN LINE BETWEEN DLC AND M&A CIRCUIT	966	Diagnosis Procedure	986	
Diagnosis Procedure	966	BCM BRANCH LINE CIRCUIT	987	G
MAIN LINE BETWEEN M&A AND AV CIRCUIT	967	Diagnosis Procedure	987	
Diagnosis Procedure	967	ADP BRANCH LINE CIRCUIT	988	H
MAIN LINE BETWEEN DLC AND ADP CIRCUIT	968	Diagnosis Procedure	988	
Diagnosis Procedure	968	CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	990	I
MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT	969	Diagnosis Procedure	990	
Diagnosis Procedure	969	STRG BRANCH LINE CIRCUIT	992	J
MAIN LINE BETWEEN ADP AND AVM CIRCUIT	970	Diagnosis Procedure	992	
Diagnosis Procedure	970	ABS BRANCH LINE CIRCUIT	993	K
MAIN LINE BETWEEN AVM AND EPS/DAST 3 CIRCUIT	971	Diagnosis Procedure	993	
Diagnosis Procedure	971	AVM BRANCH LINE CIRCUIT	995	L
IPDM-E BRANCH LINE CIRCUIT	972	Diagnosis Procedure	995	
Diagnosis Procedure	972	SONAR BRANCH LINE CIRCUIT	996	LAN
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	973	Diagnosis Procedure	996	
Diagnosis Procedure	973	DAST 1 BRANCH LINE CIRCUIT	997	N
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	974	Diagnosis Procedure	997	
Diagnosis Procedure	974	CAN COMMUNICATION CIRCUIT 1	998	O
ECM BRANCH LINE CIRCUIT	975	Diagnosis Procedure	998	
Diagnosis Procedure	975	CAN COMMUNICATION CIRCUIT 2	1000	P
TCM BRANCH LINE CIRCUIT	977	Diagnosis Procedure	1000	
Diagnosis Procedure	977	CHASSIS COMMUNICATION CIRCUIT	1002	
EPS/DAST 3 BRANCH LINE CIRCUIT	979	Diagnosis Procedure	1002	
Diagnosis Procedure	979	CAN SYSTEM (TYPE 21)		
		DTC/CIRCUIT DIAGNOSIS	1004	
		MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	1004	
		Diagnosis Procedure	1004	
		MAIN LINE BETWEEN DLC AND M&A CIRCUIT	1006	

Diagnosis Procedure	1006	A-BAG BRANCH LINE CIRCUIT	1029
MAIN LINE BETWEEN M&A AND AV CIR- CUIT	1007	Diagnosis Procedure	1029
Diagnosis Procedure	1007	TCU BRANCH LINE CIRCUIT	1030
MAIN LINE BETWEEN DLC AND ADP CIR- CUIT	1008	Diagnosis Procedure	1030
Diagnosis Procedure	1008	BCM BRANCH LINE CIRCUIT	1031
MAIN LINE BETWEEN ADP AND ICC CIR- CUIT	1009	Diagnosis Procedure	1031
Diagnosis Procedure	1009	ADP BRANCH LINE CIRCUIT	1032
MAIN LINE BETWEEN ICC AND STRG CIR- CUIT	1010	Diagnosis Procedure	1032
Diagnosis Procedure	1010	ICC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT)	1034
MAIN LINE BETWEEN RDR-L AND AVM CIR- CUIT	1012	Diagnosis Procedure	1034
Diagnosis Procedure	1012	ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)	1035
MAIN LINE BETWEEN AVM AND BSW/ BUZZER CIRCUIT	1013	Diagnosis Procedure	1035
Diagnosis Procedure	1013	CCM BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT)	1036
IPDM-E BRANCH LINE CIRCUIT	1015	Diagnosis Procedure	1036
Diagnosis Procedure	1015	STRG BRANCH LINE CIRCUIT	1038
DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 1)	1016	Diagnosis Procedure	1038
Diagnosis Procedure	1016	ABS BRANCH LINE CIRCUIT	1039
DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 2)	1017	Diagnosis Procedure	1039
Diagnosis Procedure	1017	RDR-L BRANCH LINE CIRCUIT	1041
ECM BRANCH LINE CIRCUIT	1018	Diagnosis Procedure	1041
Diagnosis Procedure	1018	RDR-R BRANCH LINE CIRCUIT	1042
TCM BRANCH LINE CIRCUIT	1020	Diagnosis Procedure	1042
Diagnosis Procedure	1020	AVM BRANCH LINE CIRCUIT	1043
EPS/DAST 3 BRANCH LINE CIRCUIT	1022	Diagnosis Procedure	1043
Diagnosis Procedure	1022	APA BRANCH LINE CIRCUIT	1044
AV BRANCH LINE CIRCUIT	1024	Diagnosis Procedure	1044
Diagnosis Procedure	1024	BSW/BUZZER BRANCH LINE CIRCUIT	1045
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 1)	1025	Diagnosis Procedure	1045
Diagnosis Procedure	1025	SONAR BRANCH LINE CIRCUIT	1046
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 2)	1026	Diagnosis Procedure	1046
Diagnosis Procedure	1026	LASER BRANCH LINE CIRCUIT	1047
HVAC BRANCH LINE CIRCUIT	1027	Diagnosis Procedure	1047
Diagnosis Procedure	1027	CAN COMMUNICATION CIRCUIT 1	1048
M&A BRANCH LINE CIRCUIT	1028	Diagnosis Procedure	1048
Diagnosis Procedure	1028	CAN COMMUNICATION CIRCUIT 2	1050
		Diagnosis Procedure	1050
		ITS COMMUNICATION CIRCUIT	1052
		Diagnosis Procedure	1052
		CHASSIS COMMUNICATION CIRCUIT	1054
		Diagnosis Procedure	1054
		CAN SYSTEM (TYPE 22)	

DTC/CIRCUIT DIAGNOSIS	1056	
MAIN LINE BETWEEN DLC AND M&A CIRCUIT	1056	
Diagnosis Procedure	1056	
MAIN LINE BETWEEN M&A AND AV CIRCUIT	1057	
Diagnosis Procedure	1057	
MAIN LINE BETWEEN DLC AND ADP CIRCUIT	1058	
Diagnosis Procedure	1058	
MAIN LINE BETWEEN ADP AND ICC CIRCUIT	1059	
Diagnosis Procedure	1059	
MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT	1060	
Diagnosis Procedure	1060	
MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT	1062	
Diagnosis Procedure	1062	
MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT	1063	
Diagnosis Procedure	1063	
MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT	1064	
Diagnosis Procedure	1064	
MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT	1066	
Diagnosis Procedure	1066	
IPDM-E BRANCH LINE CIRCUIT	1068	
Diagnosis Procedure	1068	
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	1069	
Diagnosis Procedure	1069	
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1070	
Diagnosis Procedure	1070	
ECM BRANCH LINE CIRCUIT	1071	
Diagnosis Procedure	1071	
TCM BRANCH LINE CIRCUIT	1073	
Diagnosis Procedure	1073	
EPS/DAST 3 BRANCH LINE CIRCUIT	1075	
Diagnosis Procedure	1075	
AV BRANCH LINE CIRCUIT	1077	
Diagnosis Procedure	1077	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	1078	A
Diagnosis Procedure	1078	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1079	B
Diagnosis Procedure	1079	
HVAC BRANCH LINE CIRCUIT	1080	C
Diagnosis Procedure	1080	
M&A BRANCH LINE CIRCUIT	1081	D
Diagnosis Procedure	1081	
A-BAG BRANCH LINE CIRCUIT	1082	E
Diagnosis Procedure	1082	
TCU BRANCH LINE CIRCUIT	1083	F
Diagnosis Procedure	1083	
BCM BRANCH LINE CIRCUIT	1084	G
Diagnosis Procedure	1084	
ADP BRANCH LINE CIRCUIT	1085	J
Diagnosis Procedure	1085	
ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1087	H
Diagnosis Procedure	1087	
ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)	1088	I
Diagnosis Procedure	1088	
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1089	K
Diagnosis Procedure	1089	
STRG BRANCH LINE CIRCUIT	1091	L
Diagnosis Procedure	1091	
ABS BRANCH LINE CIRCUIT	1092	
Diagnosis Procedure	1092	
RDR-L BRANCH LINE CIRCUIT	1094	LAN
Diagnosis Procedure	1094	
RDR-R BRANCH LINE CIRCUIT	1095	N
Diagnosis Procedure	1095	
AVM BRANCH LINE CIRCUIT	1096	O
Diagnosis Procedure	1096	
APA BRANCH LINE CIRCUIT	1097	P
Diagnosis Procedure	1097	
BSW/BUZZER BRANCH LINE CIRCUIT	1098	
Diagnosis Procedure	1098	
SONAR BRANCH LINE CIRCUIT	1099	
Diagnosis Procedure	1099	
LASER BRANCH LINE CIRCUIT	1100	

Diagnosis Procedure	1100	Diagnosis Procedure	1123
DAST 1 BRANCH LINE CIRCUIT	1101	IPDM-E BRANCH LINE CIRCUIT	1124
Diagnosis Procedure	1101	Diagnosis Procedure	1124
CAN COMMUNICATION CIRCUIT 1	1102	DLC BRANCH LINE CIRCUIT (CAN COMMU-	
Diagnosis Procedure	1102	UNICATION CIRCUIT 1)	1125
CAN COMMUNICATION CIRCUIT 2	1104	Diagnosis Procedure	1125
Diagnosis Procedure	1104	DLC BRANCH LINE CIRCUIT (CAN COMMU-	
ITS COMMUNICATION CIRCUIT	1106	UNICATION CIRCUIT 2)	1126
Diagnosis Procedure	1106	Diagnosis Procedure	1126
CHASSIS COMMUNICATION CIRCUIT	1108	ECM BRANCH LINE CIRCUIT	1127
Diagnosis Procedure	1108	Diagnosis Procedure	1127
CAN SYSTEM (TYPE 23)		TCM BRANCH LINE CIRCUIT	1129
DTC/CIRCUIT DIAGNOSIS	1110	Diagnosis Procedure	1129
MAIN LINE BETWEEN DLC AND M&A CIR-		EPS/DAST 3 BRANCH LINE CIRCUIT	1131
CUIT	1110	Diagnosis Procedure	1131
Diagnosis Procedure	1110	AV BRANCH LINE CIRCUIT	1133
MAIN LINE BETWEEN M&A AND AFS CIR-		Diagnosis Procedure	1133
CUIT	1111	CGW BRANCH LINE CIRCUIT (CAN COM-	
Diagnosis Procedure	1111	MUNICATION CIRCUIT 1)	1134
MAIN LINE BETWEEN AFS AND AV CIR-		Diagnosis Procedure	1134
CUIT	1112	CGW BRANCH LINE CIRCUIT (CAN COM-	
Diagnosis Procedure	1112	MUNICATION CIRCUIT 2)	1135
MAIN LINE BETWEEN DLC AND ADP CIR-		Diagnosis Procedure	1135
CUIT	1113	HVAC BRANCH LINE CIRCUIT	1136
Diagnosis Procedure	1113	Diagnosis Procedure	1136
MAIN LINE BETWEEN ADP AND ICC CIR-		M&A BRANCH LINE CIRCUIT	1137
CUIT	1114	Diagnosis Procedure	1137
Diagnosis Procedure	1114	AFS BRANCH LINE CIRCUIT	1138
MAIN LINE BETWEEN ICC AND EPS/DAST 3		Diagnosis Procedure	1138
CIRCUIT	1115	A-BAG BRANCH LINE CIRCUIT	1139
Diagnosis Procedure	1115	Diagnosis Procedure	1139
MAIN LINE BETWEEN EPS/DAST 3 AND		HBA BRANCH LINE CIRCUIT	1140
STRG CIRCUIT	1117	Diagnosis Procedure	1140
Diagnosis Procedure	1117	BCM BRANCH LINE CIRCUIT	1141
MAIN LINE BETWEEN RDR-L AND AVM CIR-		Diagnosis Procedure	1141
CUIT	1118	ADP BRANCH LINE CIRCUIT	1142
Diagnosis Procedure	1118	Diagnosis Procedure	1142
MAIN LINE BETWEEN AVM AND BSW/		PSB BRANCH LINE CIRCUIT	1144
BUZZER CIRCUIT	1119	Diagnosis Procedure	1144
Diagnosis Procedure	1119	ICC BRANCH LINE CIRCUIT (CAN COMMU-	
MAIN LINE BETWEEN DAST 1 AND ICC CIR-		UNICATION CIRCUIT)	1145
CUIT	1121	Diagnosis Procedure	1145
Diagnosis Procedure	1121	ICC BRANCH LINE CIRCUIT (CHASSIS	
MAIN LINE BETWEEN ICC AND LANE CIR-		COMMUNICATION CIRCUIT)	1146
CUIT	1123		

Diagnosis Procedure	1146	MAIN LINE BETWEEN AFS AND AV CIR- CUIT	1172	A
CCM BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT)	1147	Diagnosis Procedure	1172	
Diagnosis Procedure	1147	MAIN LINE BETWEEN DLC AND ADP CIR- CUIT	1173	B
STRG BRANCH LINE CIRCUIT	1149	Diagnosis Procedure	1173	
Diagnosis Procedure	1149	MAIN LINE BETWEEN ADP AND ICC CIR- CUIT	1174	C
ABS BRANCH LINE CIRCUIT	1150	Diagnosis Procedure	1174	
Diagnosis Procedure	1150	MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT	1175	D
RDR-L BRANCH LINE CIRCUIT	1152	Diagnosis Procedure	1175	
Diagnosis Procedure	1152	MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT	1177	E
RDR-R BRANCH LINE CIRCUIT	1153	Diagnosis Procedure	1177	
Diagnosis Procedure	1153	MAIN LINE BETWEEN RDR-L AND AVM CIR- CUIT	1178	G
AVM BRANCH LINE CIRCUIT	1154	Diagnosis Procedure	1178	
Diagnosis Procedure	1154	MAIN LINE BETWEEN AVM AND BSW/ BUZZER CIRCUIT	1179	H
APA BRANCH LINE CIRCUIT	1155	Diagnosis Procedure	1179	
Diagnosis Procedure	1155	MAIN LINE BETWEEN DAST 1 AND ICC CIR- CUIT	1181	I
BSW/BUZZER BRANCH LINE CIRCUIT	1156	Diagnosis Procedure	1181	
Diagnosis Procedure	1156	MAIN LINE BETWEEN ICC AND LANE CIR- CUIT	1183	J
LANE BRANCH LINE CIRCUIT	1157	Diagnosis Procedure	1183	
Diagnosis Procedure	1157	IPDM-E BRANCH LINE CIRCUIT	1184	K
SONAR BRANCH LINE CIRCUIT	1159	Diagnosis Procedure	1184	
Diagnosis Procedure	1159	DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 1)	1185	L
LASER BRANCH LINE CIRCUIT	1160	Diagnosis Procedure	1185	
Diagnosis Procedure	1160	DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 2)	1186	LAN
DAST 1 BRANCH LINE CIRCUIT	1161	Diagnosis Procedure	1186	
Diagnosis Procedure	1161	ECM BRANCH LINE CIRCUIT	1187	N
CAN COMMUNICATION CIRCUIT 1	1162	Diagnosis Procedure	1187	
Diagnosis Procedure	1162	TCM BRANCH LINE CIRCUIT	1189	O
CAN COMMUNICATION CIRCUIT 2	1164	Diagnosis Procedure	1189	
Diagnosis Procedure	1164	EPS/DAST 3 BRANCH LINE CIRCUIT	1191	P
ITS COMMUNICATION CIRCUIT	1166	Diagnosis Procedure	1191	
Diagnosis Procedure	1166	AV BRANCH LINE CIRCUIT	1193	
CHASSIS COMMUNICATION CIRCUIT	1168	Diagnosis Procedure	1193	
Diagnosis Procedure	1168	CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 1)	1194	
CAN SYSTEM (TYPE 24)		Diagnosis Procedure	1194	
DTC/CIRCUIT DIAGNOSIS	1170			
MAIN LINE BETWEEN DLC AND M&A CIR- CUIT	1170			
Diagnosis Procedure	1170			
MAIN LINE BETWEEN M&A AND AFS CIR- CUIT	1171			
Diagnosis Procedure	1171			

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1195	LANE BRANCH LINE CIRCUIT	1218
Diagnosis Procedure	1195	Diagnosis Procedure	1218
HVAC BRANCH LINE CIRCUIT	1196	SONAR BRANCH LINE CIRCUIT	1220
Diagnosis Procedure	1196	Diagnosis Procedure	1220
M&A BRANCH LINE CIRCUIT	1197	LASER BRANCH LINE CIRCUIT	1221
Diagnosis Procedure	1197	Diagnosis Procedure	1221
AFS BRANCH LINE CIRCUIT	1198	DAST 1 BRANCH LINE CIRCUIT	1222
Diagnosis Procedure	1198	Diagnosis Procedure	1222
A-BAG BRANCH LINE CIRCUIT	1199	CAN COMMUNICATION CIRCUIT 1	1223
Diagnosis Procedure	1199	Diagnosis Procedure	1223
HBA BRANCH LINE CIRCUIT	1200	CAN COMMUNICATION CIRCUIT 2	1225
Diagnosis Procedure	1200	Diagnosis Procedure	1225
TCU BRANCH LINE CIRCUIT	1201	ITS COMMUNICATION CIRCUIT	1227
Diagnosis Procedure	1201	Diagnosis Procedure	1227
BCM BRANCH LINE CIRCUIT	1202	CHASSIS COMMUNICATION CIRCUIT	1229
Diagnosis Procedure	1202	Diagnosis Procedure	1229
ADP BRANCH LINE CIRCUIT	1203	CAN SYSTEM (TYPE 25)	
Diagnosis Procedure	1203	DTC/CIRCUIT DIAGNOSIS	1231
PSB BRANCH LINE CIRCUIT	1205	MAIN LINE BETWEEN DLC AND M&A CIRCUIT	1231
Diagnosis Procedure	1205	Diagnosis Procedure	1231
ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1206	MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	1232
Diagnosis Procedure	1206	Diagnosis Procedure	1232
ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)	1207	MAIN LINE BETWEEN M&A AND AV CIRCUIT	1234
Diagnosis Procedure	1207	Diagnosis Procedure	1234
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1208	IPDM-E BRANCH LINE CIRCUIT	1235
Diagnosis Procedure	1208	Diagnosis Procedure	1235
STRG BRANCH LINE CIRCUIT	1210	DLC BRANCH LINE CIRCUIT	1236
Diagnosis Procedure	1210	Diagnosis Procedure	1236
ABS BRANCH LINE CIRCUIT	1211	ECM BRANCH LINE CIRCUIT	1237
Diagnosis Procedure	1211	Diagnosis Procedure	1237
RDR-L BRANCH LINE CIRCUIT	1213	TCM BRANCH LINE CIRCUIT	1239
Diagnosis Procedure	1213	Diagnosis Procedure	1239
RDR-R BRANCH LINE CIRCUIT	1214	EPS/DAST 3 BRANCH LINE CIRCUIT	1241
Diagnosis Procedure	1214	Diagnosis Procedure	1241
AVM BRANCH LINE CIRCUIT	1215	AV BRANCH LINE CIRCUIT	1243
Diagnosis Procedure	1215	Diagnosis Procedure	1243
APA BRANCH LINE CIRCUIT	1216	HVAC BRANCH LINE CIRCUIT	1244
Diagnosis Procedure	1216	Diagnosis Procedure	1244
BSW/BUZZER BRANCH LINE CIRCUIT	1217	M&A BRANCH LINE CIRCUIT	1245
Diagnosis Procedure	1217	Diagnosis Procedure	1245

A-BAG BRANCH LINE CIRCUIT	1246	BCM BRANCH LINE CIRCUIT	1272	
Diagnosis Procedure	1246	Diagnosis Procedure	1272	A
BCM BRANCH LINE CIRCUIT	1247	ADP BRANCH LINE CIRCUIT	1273	
Diagnosis Procedure	1247	Diagnosis Procedure	1273	B
4WD BRANCH LINE CIRCUIT	1248	4WD BRANCH LINE CIRCUIT	1275	
Diagnosis Procedure	1248	Diagnosis Procedure	1275	C
CCM BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT)	1249	CCM BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT)	1276	
Diagnosis Procedure	1249	Diagnosis Procedure	1276	D
STRG BRANCH LINE CIRCUIT	1251	STRG BRANCH LINE CIRCUIT	1278	
Diagnosis Procedure	1251	Diagnosis Procedure	1278	E
ABS BRANCH LINE CIRCUIT	1252	ABS BRANCH LINE CIRCUIT	1279	
Diagnosis Procedure	1252	Diagnosis Procedure	1279	F
CAN COMMUNICATION CIRCUIT	1254	CAN COMMUNICATION CIRCUIT	1281	
Diagnosis Procedure	1254	Diagnosis Procedure	1281	G
CAN SYSTEM (TYPE 26)		CAN SYSTEM (TYPE 27)		
DTC/CIRCUIT DIAGNOSIS	1256	DTC/CIRCUIT DIAGNOSIS	1283	
MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	1256	MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	1283	
Diagnosis Procedure	1256	Diagnosis Procedure	1283	H
MAIN LINE BETWEEN DLC AND M&A CIR- CUIT	1258	MAIN LINE BETWEEN DLC AND M&A CIR- CUIT	1285	
Diagnosis Procedure	1258	Diagnosis Procedure	1285	I
MAIN LINE BETWEEN M&A AND AV CIR- CUIT	1259	MAIN LINE BETWEEN M&A AND AV CIR- CUIT	1286	
Diagnosis Procedure	1259	Diagnosis Procedure	1286	J
IPDM-E BRANCH LINE CIRCUIT	1260	IPDM-E BRANCH LINE CIRCUIT	1287	
Diagnosis Procedure	1260	Diagnosis Procedure	1287	K
DLC BRANCH LINE CIRCUIT	1261	DLC BRANCH LINE CIRCUIT	1288	
Diagnosis Procedure	1261	Diagnosis Procedure	1288	L
ECM BRANCH LINE CIRCUIT	1262	ECM BRANCH LINE CIRCUIT	1289	
Diagnosis Procedure	1262	Diagnosis Procedure	1289	LAN
TCM BRANCH LINE CIRCUIT	1264	TCM BRANCH LINE CIRCUIT	1291	
Diagnosis Procedure	1264	Diagnosis Procedure	1291	N
EPS/DAST 3 BRANCH LINE CIRCUIT	1266	EPS/DAST 3 BRANCH LINE CIRCUIT	1293	
Diagnosis Procedure	1266	Diagnosis Procedure	1293	O
AV BRANCH LINE CIRCUIT	1268	AV BRANCH LINE CIRCUIT	1295	
Diagnosis Procedure	1268	Diagnosis Procedure	1295	P
HVAC BRANCH LINE CIRCUIT	1269	HVAC BRANCH LINE CIRCUIT	1296	
Diagnosis Procedure	1269	Diagnosis Procedure	1296	
M&A BRANCH LINE CIRCUIT	1270	M&A BRANCH LINE CIRCUIT	1297	
Diagnosis Procedure	1270	Diagnosis Procedure	1297	
A-BAG BRANCH LINE CIRCUIT	1271	A-BAG BRANCH LINE CIRCUIT	1298	
Diagnosis Procedure	1271	Diagnosis Procedure	1298	

TCU BRANCH LINE CIRCUIT	1299	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	1323
Diagnosis Procedure	1299	Diagnosis Procedure	1323
BCM BRANCH LINE CIRCUIT	1300	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1324
Diagnosis Procedure	1300	Diagnosis Procedure	1324
ADP BRANCH LINE CIRCUIT	1301	ECM BRANCH LINE CIRCUIT	1325
Diagnosis Procedure	1301	Diagnosis Procedure	1325
4WD BRANCH LINE CIRCUIT	1303	TCM BRANCH LINE CIRCUIT	1327
Diagnosis Procedure	1303	Diagnosis Procedure	1327
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1304	EPS/DAST 3 BRANCH LINE CIRCUIT	1329
Diagnosis Procedure	1304	Diagnosis Procedure	1329
STRG BRANCH LINE CIRCUIT	1306	AV BRANCH LINE CIRCUIT	1331
Diagnosis Procedure	1306	Diagnosis Procedure	1331
ABS BRANCH LINE CIRCUIT	1307	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	1332
Diagnosis Procedure	1307	Diagnosis Procedure	1332
CAN COMMUNICATION CIRCUIT	1309	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1333
Diagnosis Procedure	1309	Diagnosis Procedure	1333
CAN SYSTEM (TYPE 28)			
DTC/CIRCUIT DIAGNOSIS	1311	HVAC BRANCH LINE CIRCUIT	1334
MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT	1311	Diagnosis Procedure	1334
Diagnosis Procedure	1311	M&A BRANCH LINE CIRCUIT	1335
MAIN LINE BETWEEN DLC AND M&A CIRCUIT	1313	Diagnosis Procedure	1335
Diagnosis Procedure	1313	A-BAG BRANCH LINE CIRCUIT	1336
MAIN LINE BETWEEN M&A AND AV CIRCUIT	1314	Diagnosis Procedure	1336
Diagnosis Procedure	1314	TCU BRANCH LINE CIRCUIT	1337
MAIN LINE BETWEEN DLC AND ADP CIRCUIT	1315	Diagnosis Procedure	1337
Diagnosis Procedure	1315	BCM BRANCH LINE CIRCUIT	1338
MAIN LINE BETWEEN ADP AND ICC CIRCUIT	1316	Diagnosis Procedure	1338
Diagnosis Procedure	1316	ADP BRANCH LINE CIRCUIT	1339
MAIN LINE BETWEEN ICC AND STRG CIRCUIT	1317	Diagnosis Procedure	1339
Diagnosis Procedure	1317	ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1341
MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT	1319	Diagnosis Procedure	1341
Diagnosis Procedure	1319	ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)	1342
MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT	1320	Diagnosis Procedure	1342
Diagnosis Procedure	1320	4WD BRANCH LINE CIRCUIT	1343
IPDM-E BRANCH LINE CIRCUIT	1322	Diagnosis Procedure	1343
Diagnosis Procedure	1322	CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1344
		Diagnosis Procedure	1344
		STRG BRANCH LINE CIRCUIT	1346
		Diagnosis Procedure	1346

ABS BRANCH LINE CIRCUIT	1347	MAIN LINE BETWEEN RDR-L AND AVM CIR-		
Diagnosis Procedure	1347	CUIT	1371	A
RDR-L BRANCH LINE CIRCUIT	1349	Diagnosis Procedure	1371	
Diagnosis Procedure	1349	MAIN LINE BETWEEN AVM AND BSW/		B
RDR-R BRANCH LINE CIRCUIT	1350	BUZZER CIRCUIT	1372	
Diagnosis Procedure	1350	Diagnosis Procedure	1372	
AVM BRANCH LINE CIRCUIT	1351	MAIN LINE BETWEEN DAST 1 AND ICC CIR-		C
Diagnosis Procedure	1351	CUIT	1374	
APA BRANCH LINE CIRCUIT	1352	Diagnosis Procedure	1374	
Diagnosis Procedure	1352	IPDM-E BRANCH LINE CIRCUIT	1376	D
BSW/BUZZER BRANCH LINE CIRCUIT	1353	Diagnosis Procedure	1376	
Diagnosis Procedure	1353	DLC BRANCH LINE CIRCUIT (CAN COMMU-		E
SONAR BRANCH LINE CIRCUIT	1354	NICATION CIRCUIT 1)	1377	
Diagnosis Procedure	1354	Diagnosis Procedure	1377	
LASER BRANCH LINE CIRCUIT	1355	DLC BRANCH LINE CIRCUIT (CAN COMMU-		F
Diagnosis Procedure	1355	NICATION CIRCUIT 2)	1378	
CAN COMMUNICATION CIRCUIT 1	1356	Diagnosis Procedure	1378	G
Diagnosis Procedure	1356	ECM BRANCH LINE CIRCUIT	1379	
CAN COMMUNICATION CIRCUIT 2	1358	Diagnosis Procedure	1379	
Diagnosis Procedure	1358	TCM BRANCH LINE CIRCUIT	1381	H
ITS COMMUNICATION CIRCUIT	1360	Diagnosis Procedure	1381	
Diagnosis Procedure	1360	EPS/DAST 3 BRANCH LINE CIRCUIT	1383	I
CHASSIS COMMUNICATION CIRCUIT	1362	Diagnosis Procedure	1383	
Diagnosis Procedure	1362	AV BRANCH LINE CIRCUIT	1385	J
CAN SYSTEM (TYPE 29)		Diagnosis Procedure	1385	
DTC/CIRCUIT DIAGNOSIS	1364	CGW BRANCH LINE CIRCUIT (CAN COM-		K
MAIN LINE BETWEEN DLC AND M&A CIR-		MUNICATION CIRCUIT 1)	1386	
CUIT	1364	Diagnosis Procedure	1386	
Diagnosis Procedure	1364	CGW BRANCH LINE CIRCUIT (CAN COM-		L
MAIN LINE BETWEEN M&A AND AV CIR-		MUNICATION CIRCUIT 2)	1387	
CUIT	1365	Diagnosis Procedure	1387	
Diagnosis Procedure	1365	HVAC BRANCH LINE CIRCUIT	1388	LAN
MAIN LINE BETWEEN DLC AND ADP CIR-		Diagnosis Procedure	1388	
CUIT	1366	M&A BRANCH LINE CIRCUIT	1389	N
Diagnosis Procedure	1366	Diagnosis Procedure	1389	
MAIN LINE BETWEEN ADP AND ICC CIR-		A-BAG BRANCH LINE CIRCUIT	1390	O
CUIT	1367	Diagnosis Procedure	1390	
Diagnosis Procedure	1367	TCU BRANCH LINE CIRCUIT	1391	P
MAIN LINE BETWEEN ICC AND EPS/DAST 3		Diagnosis Procedure	1391	
CIRCUIT	1368	BCM BRANCH LINE CIRCUIT	1392	
Diagnosis Procedure	1368	Diagnosis Procedure	1392	
MAIN LINE BETWEEN EPS/DAST 3 AND		ADP BRANCH LINE CIRCUIT	1393	
STRG CIRCUIT	1370	Diagnosis Procedure	1393	
Diagnosis Procedure	1370			

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1395	MAIN LINE BETWEEN M&A AND AFS CIRCUIT	1420
Diagnosis Procedure	1395	Diagnosis Procedure	1420
ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)	1396	MAIN LINE BETWEEN AFS AND AV CIRCUIT	1421
Diagnosis Procedure	1396	Diagnosis Procedure	1421
4WD BRANCH LINE CIRCUIT	1397	MAIN LINE BETWEEN DLC AND ADP CIRCUIT	1422
Diagnosis Procedure	1397	Diagnosis Procedure	1422
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1398	MAIN LINE BETWEEN ADP AND ICC CIRCUIT	1423
Diagnosis Procedure	1398	Diagnosis Procedure	1423
STRG BRANCH LINE CIRCUIT	1400	MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT	1424
Diagnosis Procedure	1400	Diagnosis Procedure	1424
ABS BRANCH LINE CIRCUIT	1401	MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT	1426
Diagnosis Procedure	1401	Diagnosis Procedure	1426
RDR-L BRANCH LINE CIRCUIT	1403	MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT	1427
Diagnosis Procedure	1403	Diagnosis Procedure	1427
RDR-R BRANCH LINE CIRCUIT	1404	MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT	1428
Diagnosis Procedure	1404	Diagnosis Procedure	1428
AVM BRANCH LINE CIRCUIT	1405	MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT	1430
Diagnosis Procedure	1405	Diagnosis Procedure	1430
APA BRANCH LINE CIRCUIT	1406	MAIN LINE BETWEEN ICC AND LANE CIRCUIT	1432
Diagnosis Procedure	1406	Diagnosis Procedure	1432
BSW/BUZZER BRANCH LINE CIRCUIT	1407	IPDM-E BRANCH LINE CIRCUIT	1433
Diagnosis Procedure	1407	Diagnosis Procedure	1433
SONAR BRANCH LINE CIRCUIT	1408	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	1434
Diagnosis Procedure	1408	Diagnosis Procedure	1434
LASER BRANCH LINE CIRCUIT	1409	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1435
Diagnosis Procedure	1409	Diagnosis Procedure	1435
DAST 1 BRANCH LINE CIRCUIT	1410	ECM BRANCH LINE CIRCUIT	1436
Diagnosis Procedure	1410	Diagnosis Procedure	1436
CAN COMMUNICATION CIRCUIT 1	1411	TCM BRANCH LINE CIRCUIT	1438
Diagnosis Procedure	1411	Diagnosis Procedure	1438
CAN COMMUNICATION CIRCUIT 2	1413	EPS/DAST 3 BRANCH LINE CIRCUIT	1440
Diagnosis Procedure	1413	Diagnosis Procedure	1440
ITS COMMUNICATION CIRCUIT	1415	AV BRANCH LINE CIRCUIT	1442
Diagnosis Procedure	1415	Diagnosis Procedure	1442
CHASSIS COMMUNICATION CIRCUIT	1417		
Diagnosis Procedure	1417		
CAN SYSTEM (TYPE 30)			
DTC/CIRCUIT DIAGNOSIS	1419		
MAIN LINE BETWEEN DLC AND M&A CIRCUIT	1419		
Diagnosis Procedure	1419		

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	1443	
Diagnosis Procedure	1443	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	1444	
Diagnosis Procedure	1444	
HVAC BRANCH LINE CIRCUIT	1445	
Diagnosis Procedure	1445	
M&A BRANCH LINE CIRCUIT	1446	
Diagnosis Procedure	1446	
AFS BRANCH LINE CIRCUIT	1447	
Diagnosis Procedure	1447	
A-BAG BRANCH LINE CIRCUIT	1448	
Diagnosis Procedure	1448	
HBA BRANCH LINE CIRCUIT	1449	
Diagnosis Procedure	1449	
TCU BRANCH LINE CIRCUIT	1450	
Diagnosis Procedure	1450	
BCM BRANCH LINE CIRCUIT	1451	
Diagnosis Procedure	1451	
ADP BRANCH LINE CIRCUIT	1452	
Diagnosis Procedure	1452	
PSB BRANCH LINE CIRCUIT	1454	
Diagnosis Procedure	1454	
ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1455	
Diagnosis Procedure	1455	
ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)	1456	
Diagnosis Procedure	1456	
4WD BRANCH LINE CIRCUIT	1457	
Diagnosis Procedure	1457	
CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)	1458	A
Diagnosis Procedure	1458	
STRG BRANCH LINE CIRCUIT	1460	B
Diagnosis Procedure	1460	
ABS BRANCH LINE CIRCUIT	1461	C
Diagnosis Procedure	1461	
RDR-L BRANCH LINE CIRCUIT	1463	D
Diagnosis Procedure	1463	
RDR-R BRANCH LINE CIRCUIT	1464	E
Diagnosis Procedure	1464	
AVM BRANCH LINE CIRCUIT	1465	F
Diagnosis Procedure	1465	
APA BRANCH LINE CIRCUIT	1466	G
Diagnosis Procedure	1466	
BSW/BUZZER BRANCH LINE CIRCUIT	1467	H
Diagnosis Procedure	1467	
LANE BRANCH LINE CIRCUIT	1468	I
Diagnosis Procedure	1468	
SONAR BRANCH LINE CIRCUIT	1470	J
Diagnosis Procedure	1470	
LASER BRANCH LINE CIRCUIT	1471	K
Diagnosis Procedure	1471	
DAST 1 BRANCH LINE CIRCUIT	1472	L
Diagnosis Procedure	1472	
CAN COMMUNICATION CIRCUIT 1	1473	LAN
Diagnosis Procedure	1473	
CAN COMMUNICATION CIRCUIT 2	1475	
Diagnosis Procedure	1475	
ITS COMMUNICATION CIRCUIT	1477	
Diagnosis Procedure	1477	
CHASSIS COMMUNICATION CIRCUIT	1479	N
Diagnosis Procedure	1479	

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information

INFOID:000000012795077

- “CAN FUNDAMENTAL” of LAN Section describes the basic knowledge of the CAN communication system and the method of trouble diagnosis.
- For information peculiar to a vehicle and inspection procedure, refer to “CAN”.

PRECAUTION

PRECAUTIONS

Precautions for Trouble Diagnosis

INFOID:000000012795078

CAUTION:

Follow the instructions listed below. Failure to do this may cause damage to parts:

- Never apply 7.0 V or more to the measurement terminal.
- Use a tester with open terminal voltage of 7.0 V or less.
- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

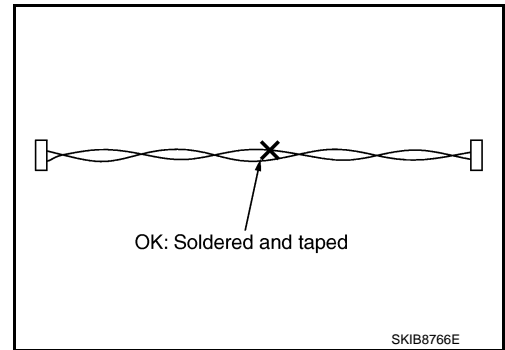
Precautions for Harness Repair

INFOID:000000012795079

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

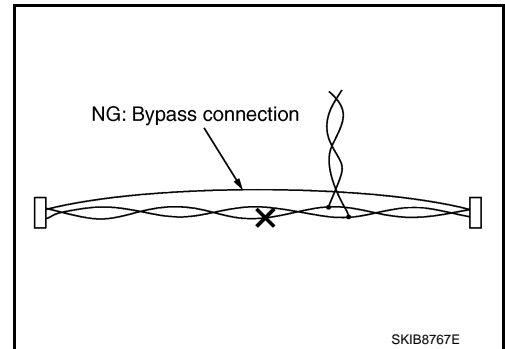
A fray of twisted lines must be within 110 mm (4.33 in).



- Bypass connection is never allowed at the repaired area.

NOTE:

Bypass connection may cause CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



- Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

A
B
C
D
E
F
G
H
I
J
K
L

LAN

SYSTEM DESCRIPTION

SYSTEM

CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM : System Description

INFOID:000000012795080

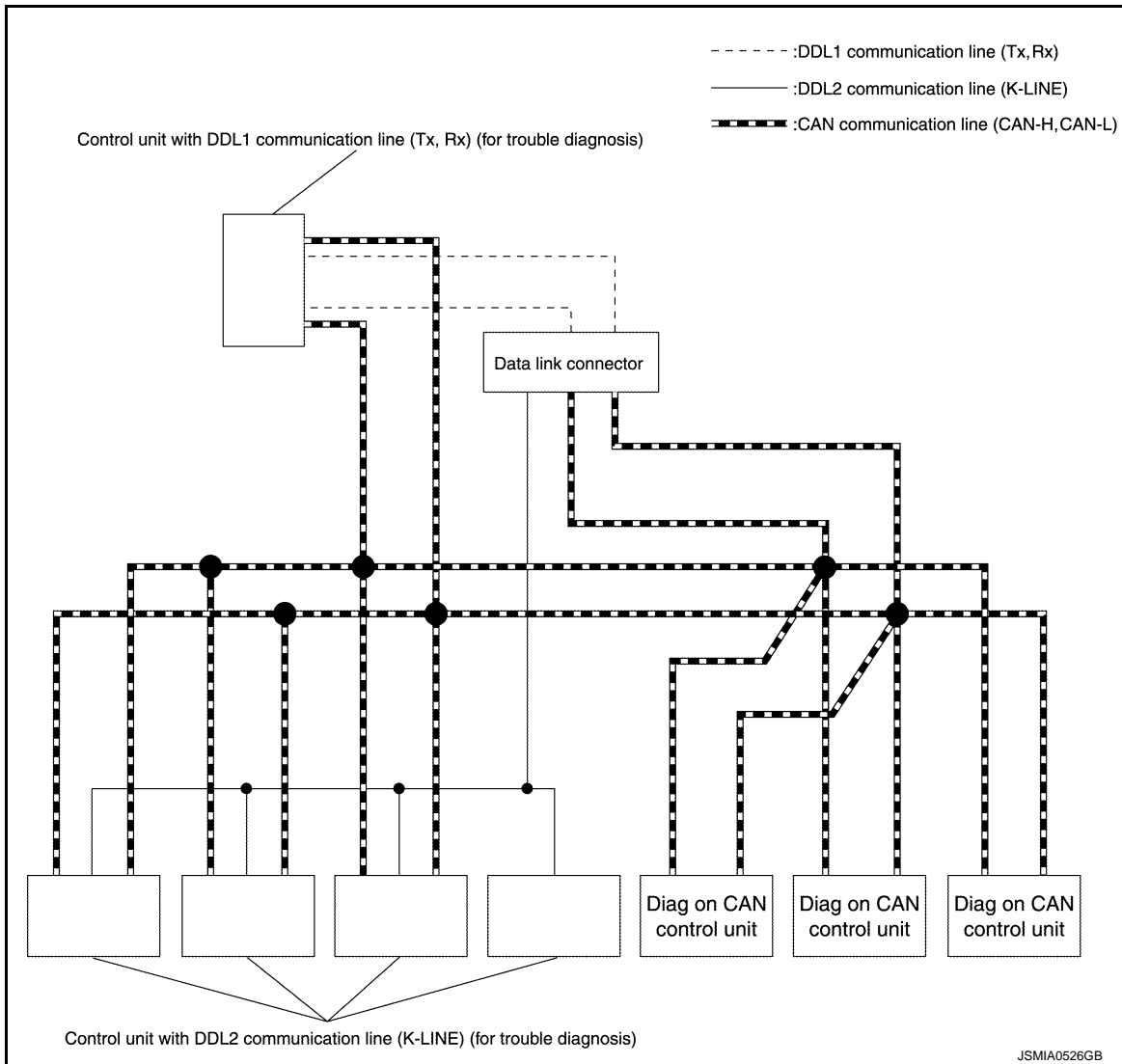
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

DIAG ON CAN

DIAG ON CAN : System Description

INFOID:000000012795081

SYSTEM DIAGRAM



SYSTEM

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Name	Harness	Description
DDL1	Tx Rx	For communications with the diagnostic tool. (CAN-H and CAN-L are used for controlling)
DDL2	K-LINE	For communications with the diagnostic tool. (CAN-H and CAN-L are used for controlling)
Diag on CAN	CAN-H CAN-L	For communications with the diagnostic tool. (CAN-H and CAN-L are also used for control and diagnoses.)

DESCRIPTION

“Diag on CAN” is a diagnosis method which uses the CAN communication line for the communication between the control unit and the diagnostic tool.

A
B
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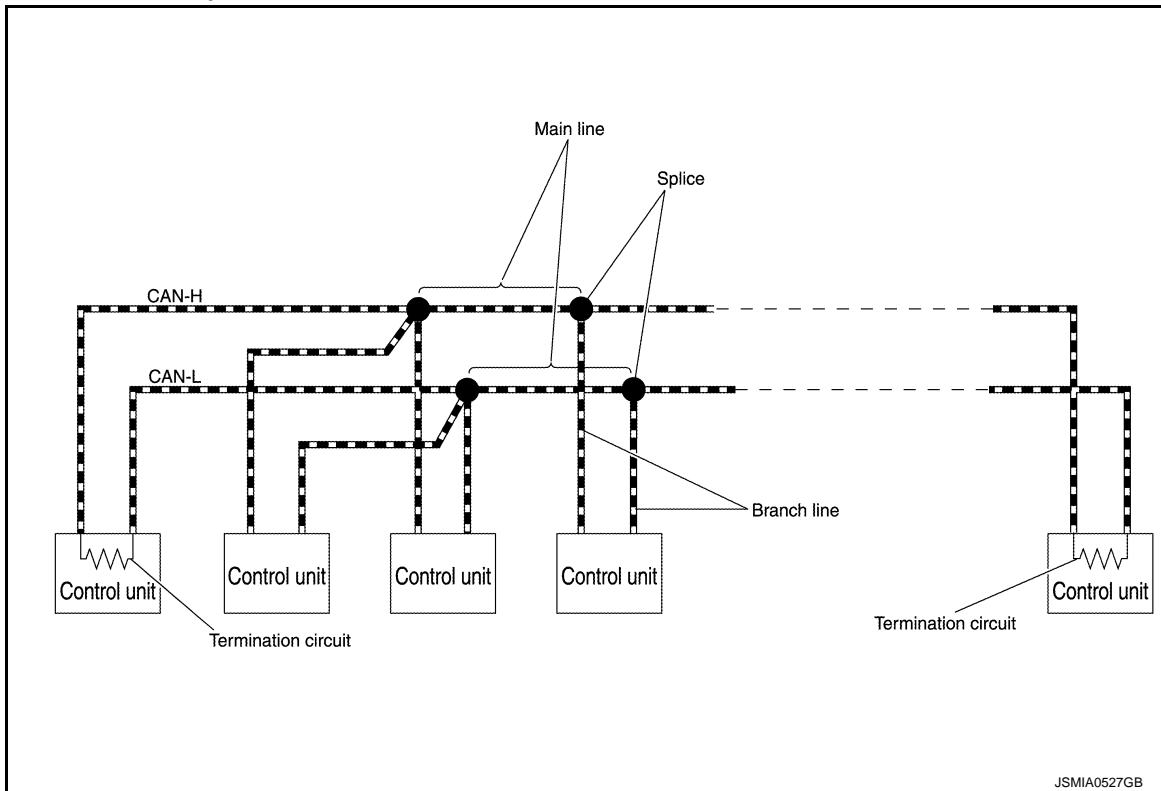
LAN

N
O
P

TROUBLE DIAGNOSIS

Component Description

INFOID:000000012795082



JSMIA0527GB

Component	Description
Main line	CAN communication line between splices
Branch line	CAN communication line between splice and a control unit
Splice	A point connecting a branch line with a main line
Termination circuit	Circuit connected across the CAN communication system. (Resistor)

Condition of Error Detection

INFOID:000000012795083

DTC (e.g. U1000 and U1001) of CAN communication is indicated on SELF-DIAG RESULTS on CONSULT if a CAN communication signal is not transmitted or received between units for 2 seconds or more.

CAN COMMUNICATION SYSTEM ERROR

- CAN communication line open (CAN-H, CAN-L, or both)
- CAN communication line short (ground, between CAN communication lines, other harnesses)
- Error of CAN communication control circuit of the unit connected to CAN communication line

WHEN DTC OF CAN COMMUNICATION IS INDICATED EVEN THOUGH CAN COMMUNICATION SYSTEM IS NORMAL

- Removal/installation of parts: Error may be detected when removing and installing CAN communication unit and related parts while turning the ignition switch ON. (A DTC except for CAN communication may be detected.)
- Fuse blown out (removed): CAN communication of the unit may cease.
- Voltage drop: Error may be detected if voltage drops due to discharged battery when turning the ignition switch ON (Depending on the control unit which carries out CAN communication).
- Error may be detected if the power supply circuit of the control unit, which carries out CAN communication, malfunctions (Depending on the control unit which carries out CAN communication).
- Error may be detected if reprogramming is not completed normally.

NOTE:

CAN communication system is normal if DTC of CAN communication is indicated on SELF-DIAG RESULTS of CONSULT under the above conditions. Erase the memory of the self-diagnosis of each control unit.

TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Symptom When Error Occurs in CAN Communication System

INFOID:000000012795084

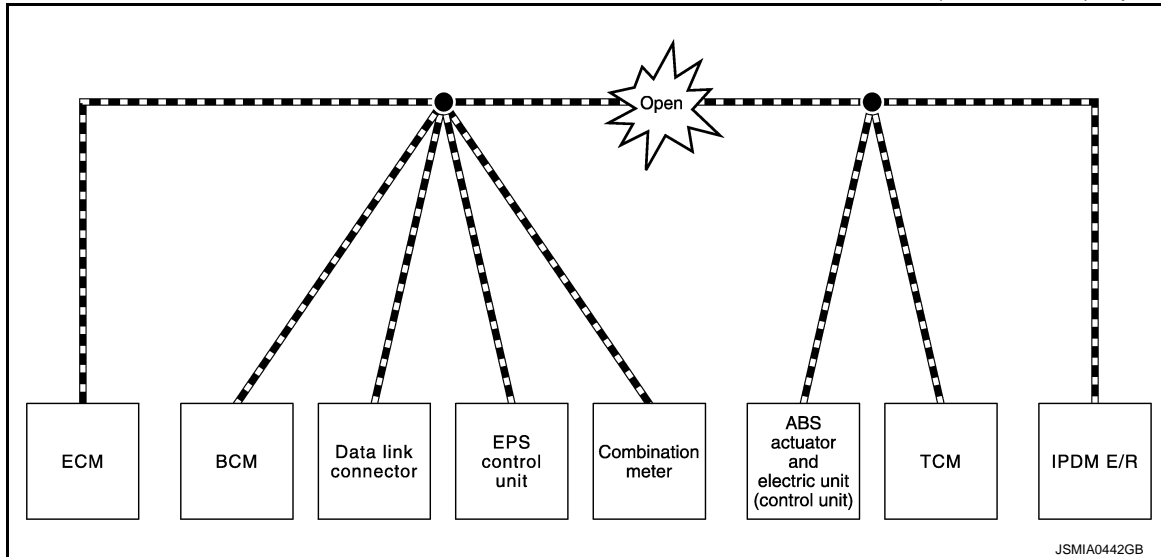
In CAN communication system, multiple control units mutually transmit and receive signals. Each control unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

ERROR EXAMPLE

NOTE:

Each vehicle differs in symptom of each control unit under fail-safe mode and CAN communication line wiring.

Example: Main Line Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) Open Circuit



Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	<ul style="list-style-type: none"> Reverse warning buzzer does not sound. The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position.
EPS control unit	The steering effort increases.
Combination meter	<ul style="list-style-type: none"> The shift position indicator and OD OFF indicator turn OFF. The speedometer is inoperative. The odo/trip meter stops.
ABS actuator and electric unit (control unit)	Normal operation.
TCM	No impact on operation.
IPDM E/R	When the ignition switch is ON, <ul style="list-style-type: none"> The headlamps (Lo) turn ON. The cooling fan continues to rotate.

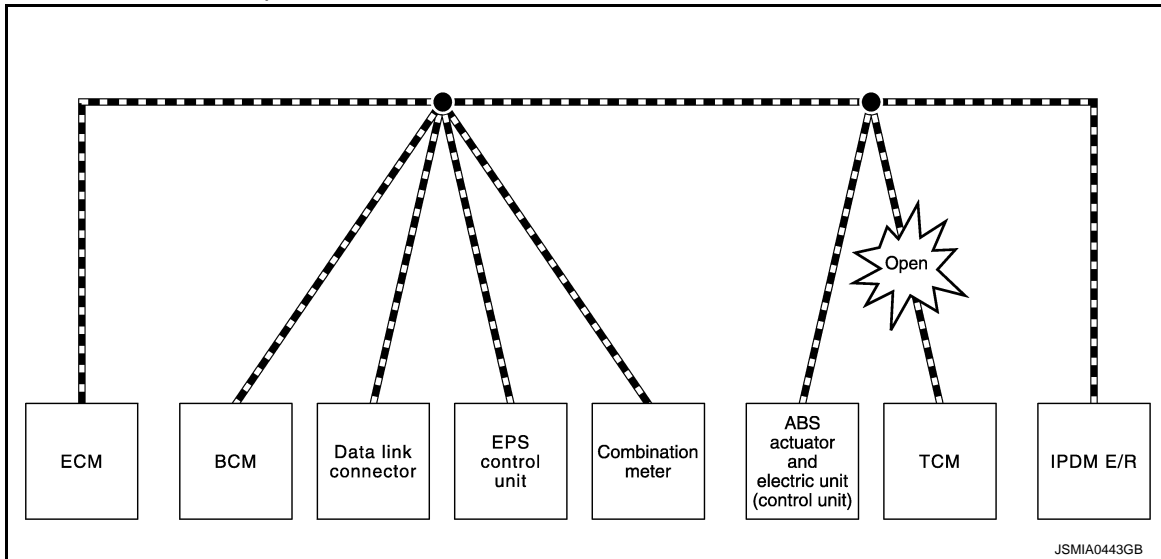
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TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Example: TCM Branch Line Open Circuit



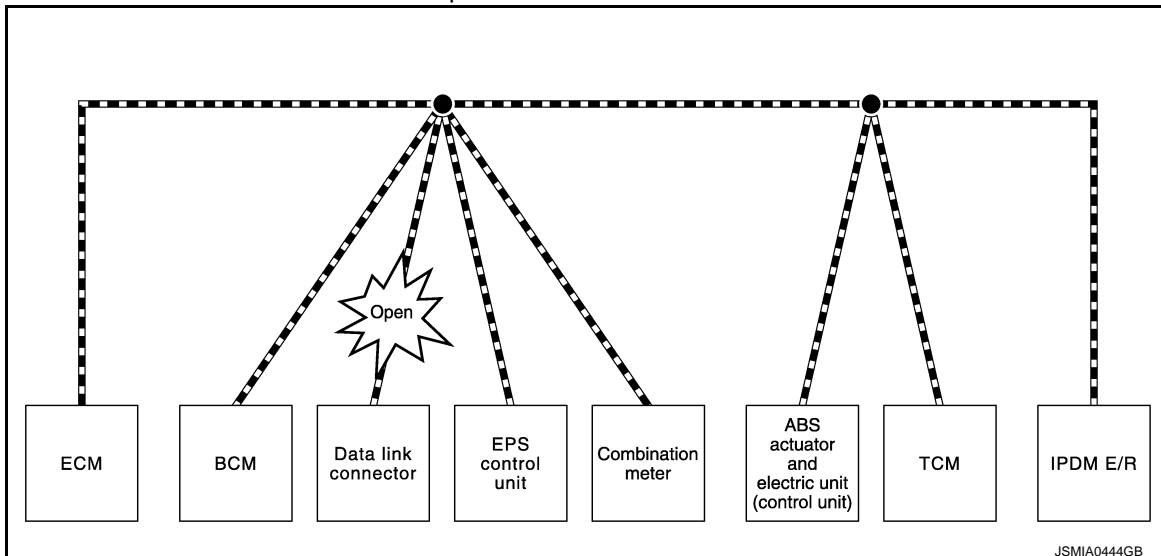
Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	Reverse warning buzzer does not sound.
EPS control unit	Normal operation.
Combination meter	<ul style="list-style-type: none"> • Shift position indicator and O/D OFF indicator turn OFF. • Warning lamps turn ON.
ABS actuator and electric unit (control unit)	Normal operation.
TCM	No impact on operation.
IPDM E/R	Normal operation.

NOTE:

The model (all control units on CAN communication system are Diag on CAN) cannot perform CAN diagnosis with CONSULT if the following error occurs. The error is judged by the symptom.

Error	Difference of symptom
Data link connector branch line open circuit	Normal operation.
CAN-H, CAN-L harness short-circuit	Most of the control units which are connected to the CAN communication system enter fail-safe mode or are deactivated.

Example: Data Link Connector Branch Line Open Circuit



TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

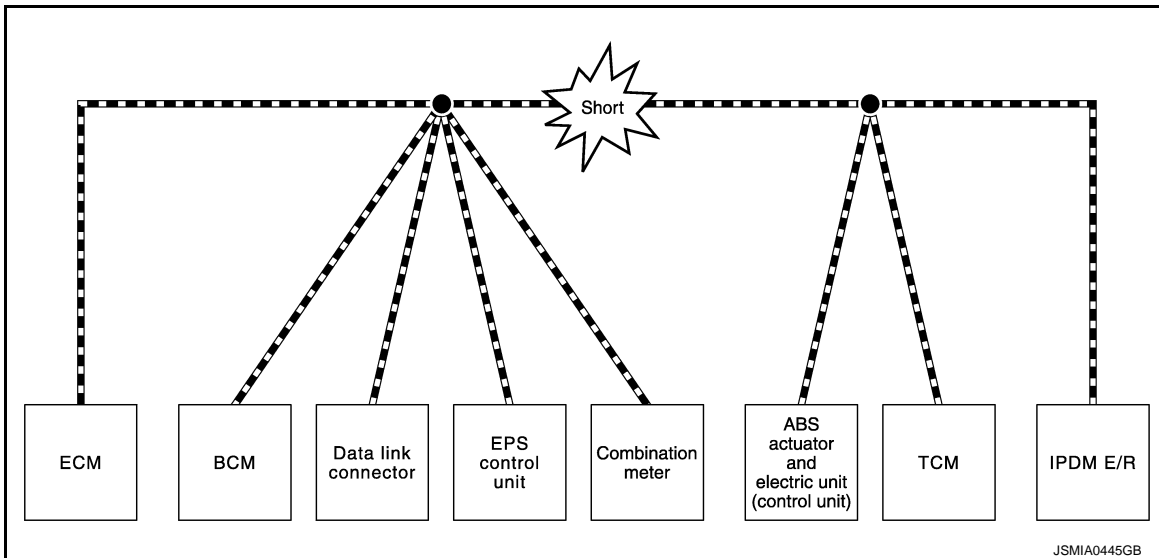
[CAN FUNDAMENTAL]

Unit name	Major symptom
ECM	Normal operation.
BCM	
EPS control unit	
Combination meter	
ABS actuator and electric unit (control unit)	
TCM	
IPDM E/R	

NOTE:

When data link connector branch line is open, transmission and reception of CAN communication signals are not affected. Therefore, no symptoms occur. However, be sure to repair malfunctioning circuit.

Example: CAN-H, CAN-L Harness Short Circuit



Unit name	Major symptom
ECM	<ul style="list-style-type: none"> • Engine torque limiting is affected, and shift harshness increases. • Engine speed drops.
BCM	<ul style="list-style-type: none"> • Reverse warning buzzer does not sound. • The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position. • The room lamp does not turn ON. • The engine does not start (if an error or malfunction occurs while turning the ignition switch OFF.) • The steering lock does not release (if an error or malfunction occurs while turning the ignition switch OFF.)
EPS control unit	The steering effort increases.
Combination meter	<ul style="list-style-type: none"> • The tachometer and the speedometer do not move. • Warning lamps turn ON. • Indicator lamps do not turn ON.
ABS actuator and electric unit (control unit)	Normal operation.
TCM	No impact on operation.
IPDM E/R	When the ignition switch is ON, <ul style="list-style-type: none"> • The headlamps (Lo) turn ON. • The cooling fan continues to rotate.

CAN Diagnosis with CONSULT

INFOID:0000000012795085

CAN diagnosis on CONSULT extracts the root cause by receiving the following information.

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TROUBLE DIAGNOSIS

[CAN FUNDAMENTAL]

< SYSTEM DESCRIPTION >

- Response to the system call
- Control unit diagnosis information
- Self-diagnosis
- CAN diagnostic support monitor

Self-Diagnosis

INFOID:000000012795086

If communication signals cannot be transmitted or received among control units communicating via CAN communication line, CAN communication-related DTC is displayed on the CONSULT "Self Diagnostic Result" screen.

NOTE:

The following table shows examples of CAN communication-related DTC. For other DTC, refer to the applicable sections.

DTC	Self-diagnosis item (CONSULT indication)	DTC detection condition		Inspection/Action
U1000	CAN COMM CIRCUIT	ECM	When ECM is not transmitting or receiving CAN communication signal of OBD (emission-related diagnosis) for 2 seconds or more.	Start the inspection. Refer to the applicable section of the indicated control unit.
		Except for ECM	When a control unit (except for ECM) is not transmitting or receiving CAN communication signal for 2 seconds or more.	
U1001	CAN COMM CIRCUIT	When ECM is not transmitting or receiving CAN communication signal other than OBD (emission-related diagnosis) for 2 seconds or more.		
U1002	SYSTEM COMM	When a control unit is not transmitting or receiving CAN communication signal for 2 seconds or less.		
U1010	CONTROL UNIT(CAN)	When an error is detected during the initial diagnosis for CAN controller of each control unit.		

CAN Diagnostic Support Monitor

INFOID:000000012795087

MONITOR ITEM (CONSULT)

Example: CAN DIAG SUPPORT MNTR indication

Without PAST				With PAST			
BCM				ENGINE			
MONITOR ITEM	PRESENT	PAST		MONITOR ITEM	PRESENT	PAST	
INITIAL DIAG	OK	-		TRANSMIT DIAG	OK	OK	
TRANSMIT DIAG	OK	-		VDC/TCS/ABS	OK	5	
ECM	OK	-		METER/M&A	Not diagnosed	-	
METER/M&A	OK	-		BCM/SEC	OK	OK	
TCM	OK	-		ICC	Not diagnosed	-	
IPDM E/R	OK	-		HVAC	Not diagnosed	-	
I-KEY	OK	-		TCM	OK	OK	
				EPS	OK	OK	
				IPDM E/R	OK	5	
				e4WD	Not diagnosed	-	
				AWD/4WD	Not diagnosed	-	

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Without PAST

Item	PRESENT	Description
Initial diagnosis	OK	Normal at present
	NG	Control unit error (Except for some control units)

TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Item	PRESENT	Description
Transmission diagnosis	OK	Normal at present
	UNKWN	Unable to transmit signals for 2 seconds or more.
		Diagnosis not performed
Control unit name (Reception diagnosis)	OK	Normal at present
	UNKWN	Unable to receive signals for 2 seconds or more.
		Diagnosis not performed
		No control unit for receiving signals. (No applicable optional parts)

With PAST

Item	PRESENT	PAST	Description
Transmission diagnosis	OK	OK	Normal at present and in the past
		1 – 39	Normal at present, but unable to transmit signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
	UNKWN	0	Unable to transmit signals for 2 seconds or more at present.
Control unit name (Reception diagnosis)	OK	OK	Normal at present and in the past
		1 – 39	Normal at present, but unable to receive signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
	UNKWN	0	Unable to receive signals for 2 seconds or more at present.
	Not diagnosed	-	Diagnosis not performed.
No control unit for receiving signals. (No applicable optional parts)			

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TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

How to Use CAN Communication Signal Chart

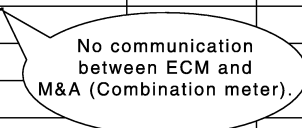
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The CAN communication signal chart lists the signals transmitted/received among control units. It is useful for detecting the root cause by finding a signal related to the symptom, and by checking transmission and reception unit.

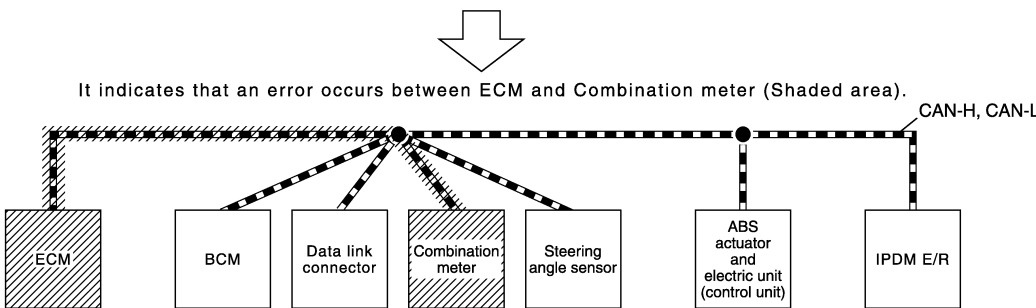
Example: Tachometer does not move even though the engine rotates.

T: Transmit R: Receive

Signal name/Connecting unit	ECM	BCM	M&A	STRG	ABS	IPDM-E
A/C compressor feedback signal	T		R			
A/C compressor request signal	T					R
Accelerator pedal position signal	T				R	
Cooling fan motor operation signal	T					R
Engine coolant temperature signal	T		R			
Engine speed signal	T		R		R	
Fuel consumption monitor signal	T		R			
Malfunction indicator lamp signal	T		R			
A/C switch signal	R	T				
Ignition switch signal		T				R
Sleep/wake up signal		T	R			R



No communication between ECM and M&A (Combination meter).



It indicates that an error occurs between ECM and Combination meter (Shaded area).

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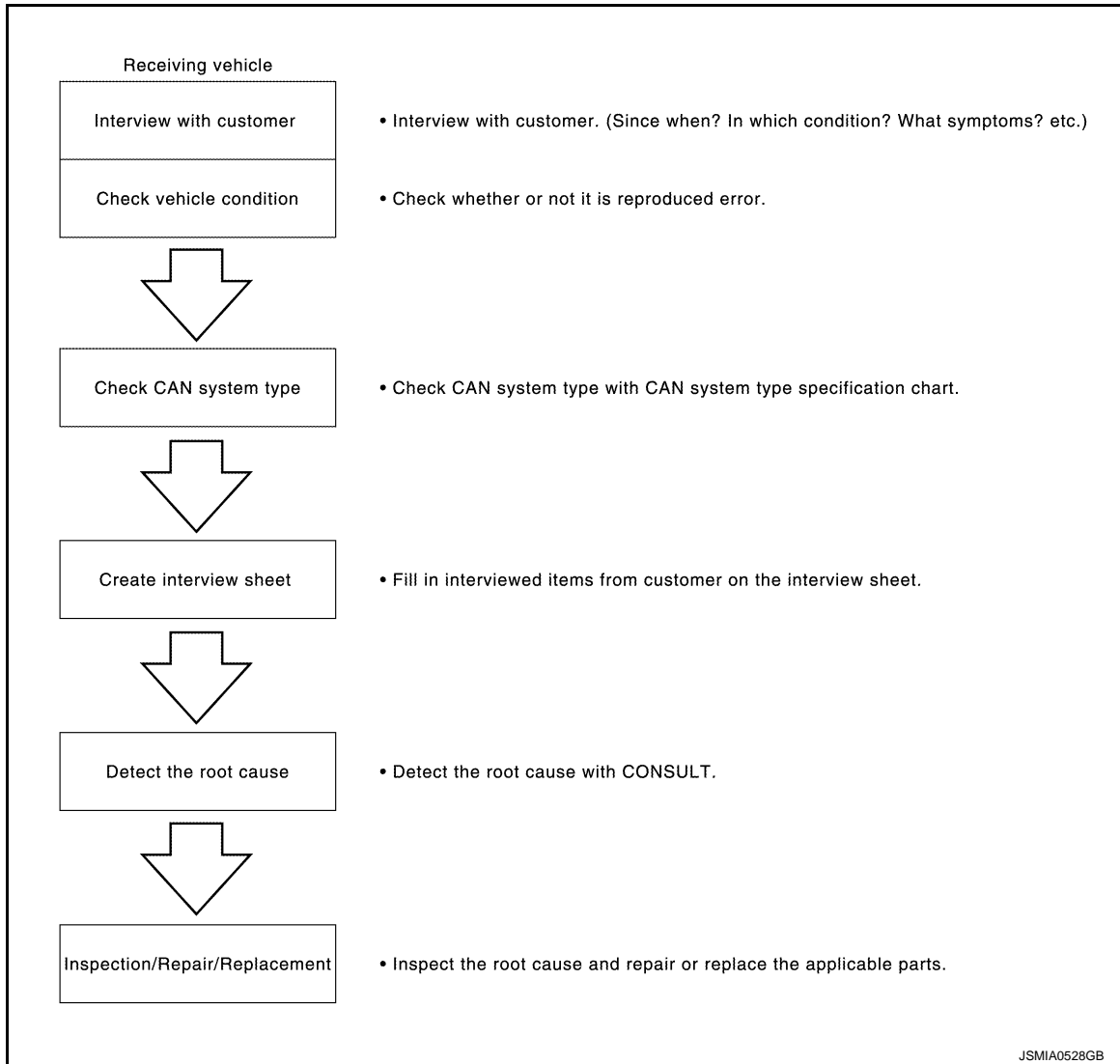
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart

INFOID:0000000012795089

DESCRIPTION



DETAIL OF TROUBLE DIAGNOSIS FLOW CHART

1. INTERVIEW WITH CUSTOMER

Interview with the customer is important to detect the root cause of CAN communication system errors and to understand vehicle condition and symptoms for proper trouble diagnosis.

Points in interview

- What: Parts name, system name
- When: Date, Frequency
- Where: Road condition, Place
- In what condition: Driving condition/environment
- Result: Symptom

Notes for checking error symptoms:

- Check normal units as well as error symptoms.
- Example: Circuit between ECM and the combination meter is judged normal if the customer indicates tachometer functions normally.

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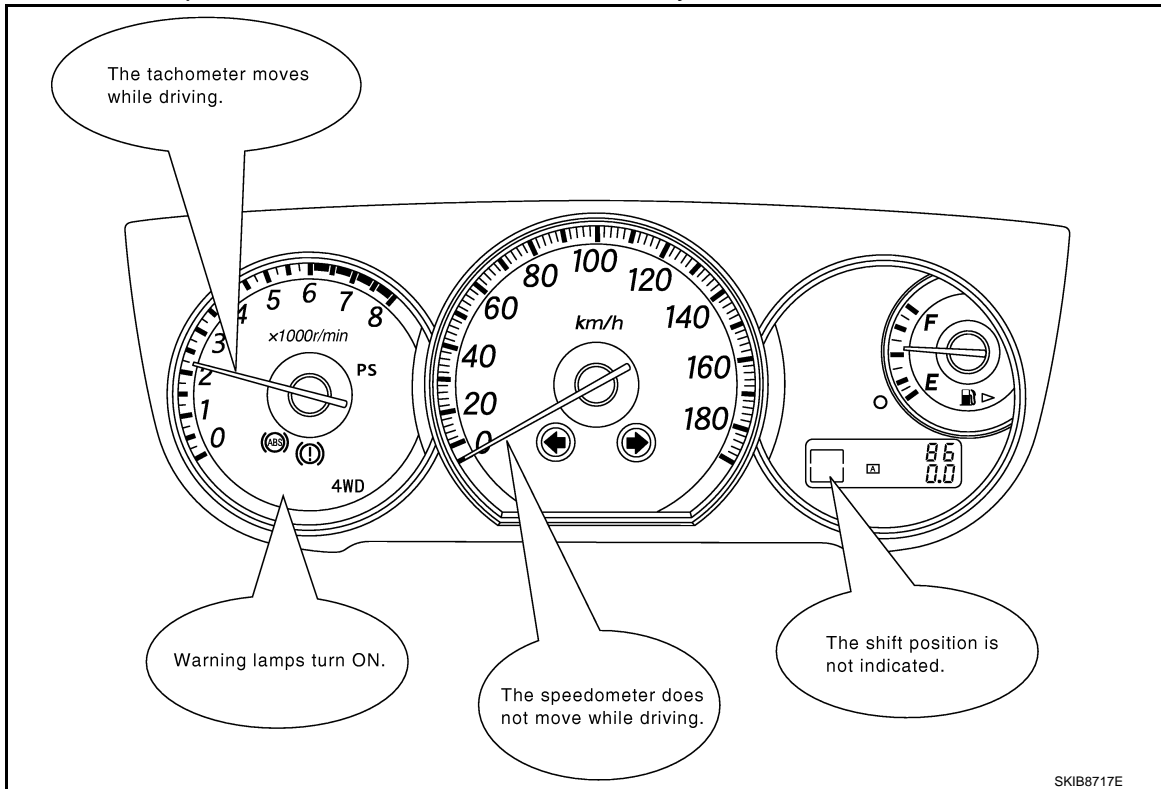
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DIAGNOSIS AND REPAIR WORKFLOW

[CAN FUNDAMENTAL]

< BASIC INSPECTION >

- When a CAN communication system error is present, multiple control units may malfunction or go into fail-safe mode.
- Indication of the combination meter is important to detect the root cause because it is the most obvious to the customer, and it performs CAN communication with many units.



>> GO TO 2.

2. INSPECTION OF VEHICLE CONDITION

Check whether the symptom is reproduced or not.

NOTE:

Do not turn the ignition switch OFF or disconnect the 12V battery cable while reproducing the error. The error may temporarily correct itself, making it difficult to determine the root cause.

>> GO TO 3.

3. CHECK OF CAN SYSTEM TYPE (HOW TO USE CAN SYSTEM TYPE SPECIFICATION CHART)

Determine CAN system type based on vehicle equipment.

NOTE:

- This chart is used if CONSULT does not automatically recognize CAN system type.
- There are two styles for CAN system type specification charts. Depending on the number of available system types, either style A or style B may be used.
- CAN System Type Specification Chart (Style A)

NOTE:

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

CAN system type is easily checked with the vehicle equipment identification information shown in the chart.

Example:
Vehicle is equipped as follows: Wagon, AWD, VQ35DE, CVT, VDC, and Intelligent Key system. (○ shows an example of CAN system type.)

CAN System Specification Chart
Determine CAN system type from the following specification chart.

Body type	Wagon					
Axle	2WD			AWD		
Engine	QR25DE			VQ35DE		
Transmission	A/T			CVT		
Brake control	ABS			VDC		
Intelligent Key system		×		×		×
CAN system type	1	2	3	4	5	6
CAN communication control unit						
ECM	×	×	×	×	×	×
AWD control unit					×	×
Air bag diagnosis sensor unit	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Intelligent Key unit		×		×		×
Steering angle sensor					×	×
EPS control unit	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
TCM	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×

× : Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION
NOTE:
Check CAN system type from the vehicle shape and equipment.

A

1. VDC OFF switch
A. With VDC

B

2. Ignition knob
B. With Intelligent Key system

For the above case, CAN system type is "6".

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• CAN System Type Specification Chart (Style B)
NOTE:

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

CAN system type is easily checked with the vehicle equipment identification information shown in the chart.

Example:
Vehicle is equipped as follows: Sedan, 2WD, MR20DE, CVT, ABS, Active AFS, Intelligent Key system, Navigation system and Automatic drive positioner. (○ shows an example of CAN system type.)

CAN System Specification Chart
Refer to the specification as shown in the chart.

Body type	Sedan		
Axle	2WD		AWD
Engine	HR15DE	MR20DE	HR15DE
Transmission	A/T	CVT	A/T
Brake control	ABS		
Specification chart	XX.XX... SPECIFICATION CHART A.	XX.XX... SPECIFICATION CHART B.	XX.XX... SPECIFICATION CHART C.

×: Applicable

Check the vehicle equipment with the vehicle identification number plate.
Check the vehicle equipment.
Select the applicable vehicle equipment. Refer to the specification chart.

SPECIFICATION CHART B
Determine CAN system type from the following specification chart.

Body type	Sedan												
Axle	2WD												
Engine	MR20DE												
Transmission	CVT												
Brake control	ABS												
Active AFS		×			×	×		×	×		×	×	×
Intelligent Key system			×		×		×	×	×	×	×	×	×
Navigation system				×		×		×		×		×	×
Automatic drive positioner									×		×	×	×
CAN system type	9	10	11	12	13	14	15	16	17	18	19	20	
CAN communication control unit													
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×
AFS control unit		×			×	×				×	×		×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×

×: Applicable

Check the vehicle equipment.
The number indicates the CAN system type of the vehicle.

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION
NOTE:
Check CAN system type from the vehicle shape and equipment.

In the above example,

- Checking Xenon bulb and bending lamp lead to judge whether or not Active AFS is equipped.
- Checking the ignition knob leads to judge whether or not Intelligent Key system is equipped.
- Checking display and multifunction switch lead to judge whether or not Navigation system is equipped.
- Checking seat memory switch leads to judge whether or not Automatic drive positioner is equipped.

1. Bending lamp 2. Xenon bulb 3. Ignition knob
4. Display 5. Multifunction switch 6. Seat memory switch
A. With active AFS B. With Intelligent Key system C. With navigation system
D. With automatic drive positioner

For the above case, CAN system type is "20".

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>> GO TO 4.

4. CREATE INTERVIEW SHEET

Fill out the symptom described by the customer, vehicle condition, and CAN system type on the interview sheet.

NOTE:

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

Interview Sheet (Example)

CAN Communication System Diagnosis Interview Sheet	
Date received:	3, Feb. 2006
Type: DBA-KG11	VIN No.: KG11-005040
Model: BDRARGZG11EDA-E-J-	
First registration: 10, Jan. 2001	Mileage: 62,140
CAN system type:	Type 19
Symptom (Results from interview with customer)	
<ul style="list-style-type: none">• Headlamps suddenly turn ON while driving the vehicle.• The engine does not restart after stopping the vehicle and turning the ignition switch OFF.• The cooling fan continues rotating while turning the ignition switch ON.	
Condition at inspection	
Error Symptom: <u>Present</u> / Past	
<p>The engine does not start. While turning the ignition switch ON,</p> <ul style="list-style-type: none">• The headlamps (Lo) turn ON, and the cooling fan continues rotating.• The interior lamp does not turn ON.	

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>> GO TO 5.

5. DETECT THE ROOT CAUSE

CAN diagnosis function of CONSULT detects a root cause.

>> GO TO 6.

6. REPAIR OR REPLACE MALFUNCTIONING PART

Repair or replace malfunctioning parts identified by CAN diagnosis function of CONSULT.

CAN communication circuit>> Refer to [LAN-188, "CAN Communication Circuit"](#).
ITS communication circuit>> Refer to [LAN-189, "ITS Communication Circuit"](#).
Chassis communication circuit>> Refer to [LAN-189, "Chassis Communication Circuit"](#).
Drivetrain CAN communication circuit>> Refer to [LAN-190, "Drivetrain CAN Communication Circuit"](#).

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HOW TO USE THIS SECTION

< HOW TO USE THIS MANUAL >

[CAN]

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information

INFOID:000000012795090

- “CAN” of LAN Section describes information peculiar to a vehicle and inspection procedures.
- For trouble diagnosis procedure, refer to [LAN-41, "Trouble Diagnosis Flow Chart"](#) of “CAN FUNDAMENTAL”.

Abbreviation List

INFOID:000000012795091

Unit name abbreviations in CONSULT CAN diagnosis and in this section are as per the following list.

Abbreviation	Unit name
4WD	AWD control unit
A-BAG	Air bag diagnosis sensor unit
ABS	ABS actuator and electric unit (control unit)
ADP	Driver seat control unit
AFS	AFS control unit
ANC	Active noise control unit
APA	Accelerator pedal actuator
AV	Display control unit
AVM	Around view monitor control unit
BCM	BCM
BSW/BUZZER	Driver assistance buzzer control module
CCM	Chassis control module
CGW	CAN gateway
DAST 1	Steering angle main control module
DLC	Data link connector
ECM	ECM
EMCM	EMCM
EPS/DAST3	Power steering control module (Without direct adaptive steering)
	Steering force control module (With direct adaptive steering)
HBA	High beam assist control module
HVAC	A/C auto amp.
ICC	ADAS control unit
IPDM-E	IPDM E/R
LANE	Lane camera unit
LASER	ICC sensor
M&A	Combination meter
PSB	Pre-crash seat belt control unit (driver side)
RDR-L	Side radar LH
RDR-R	Side radar RH
SONAR	Sonar control unit
STRG	Steering angle sensor
TCM	TCM
TCU	TCU

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000013521518

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery or batteries, and wait at least 3 minutes before performing any service.

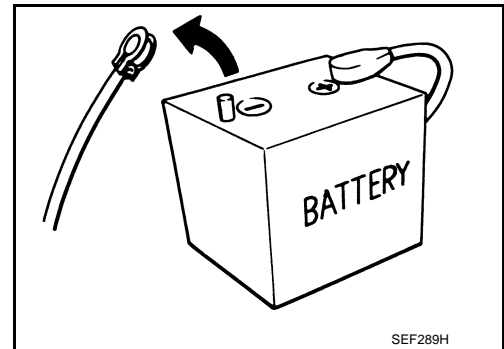
Precautions for Removing Battery Terminal

INFOID:000000013521550

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	V9X engine	: 4 minutes
D4D engine	: 20 minutes	YD25DDTi	: 2 minutes
HR09DET	: 12 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		



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NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:

PRECAUTIONS

[CAN]

< PRECAUTION >

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
 - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
 - Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

NOTE:

The removal of 12V battery may cause a DTC detection error.

Precautions for Trouble Diagnosis

INFOID:000000012795094

CAUTION:

- **Never apply 7.0 V or more to the measurement terminal.**
- **Use a tester with open terminal voltage of 7.0 V or less.**
- **Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.**

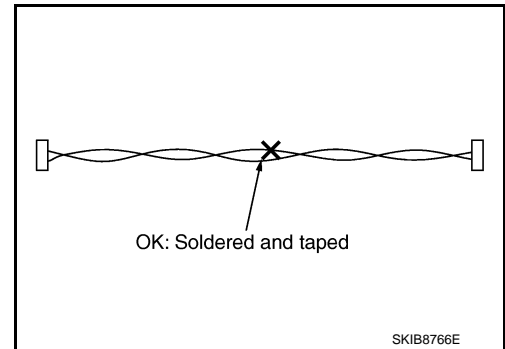
Precautions for Harness Repair

INFOID:000000012795095

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

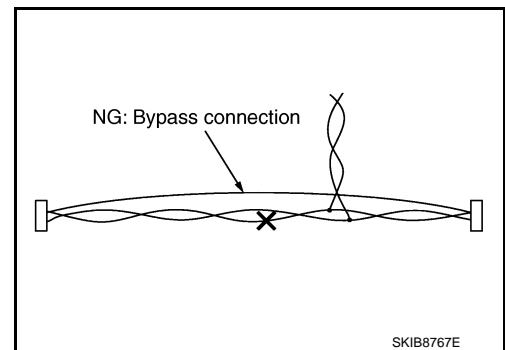
A fray of twisted lines must be within 110 mm (4.33 in).



- Bypass connection is never allowed at the repaired area.

NOTE:

Bypass connection may cause CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



- Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

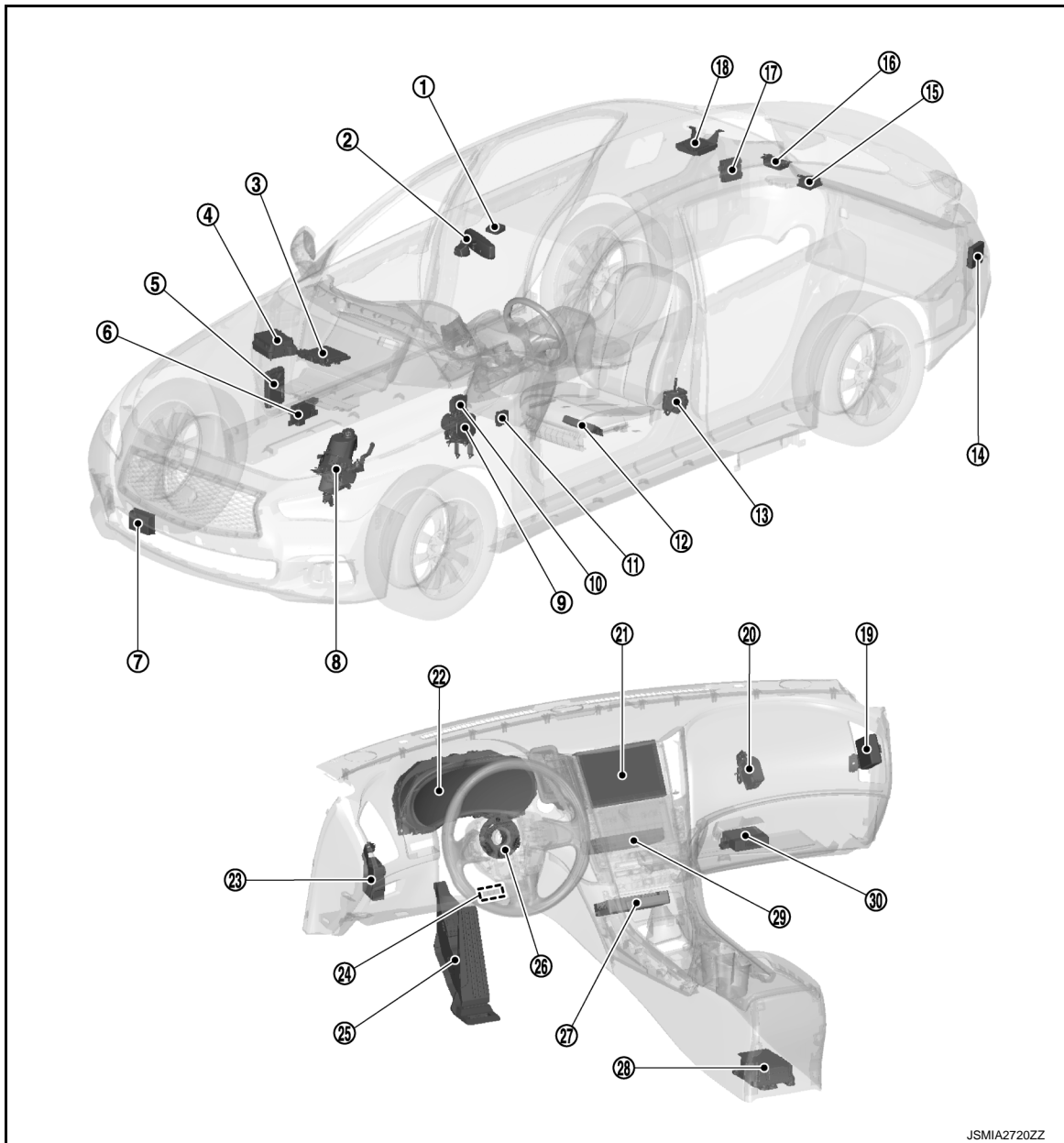
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000012795096

2.0L TURBO GASOLINE ENGINE MODELS



- | | | |
|--|-----------------------------------|---|
| ① Lane camera unit | ② High beam assist control module | ③ ECM |
| ④ IPDM E/R | ⑤ BCM | ⑥ EMCM |
| ⑦ ICC sensor | ⑧ Power steering control module | ⑨ ABS actuator and electric unit (control unit) |
| ⑩ AWD control unit | ⑪ Chassis control module | ⑫ Driver seat control unit |
| ⑬ Pre-crash seat belt control unit (driver side) | ⑭ Side radar LH | ⑮ ADAS control unit |
| ⑯ Active noise control unit | ⑰ Side radar RH | ⑱ Around view monitor control unit |

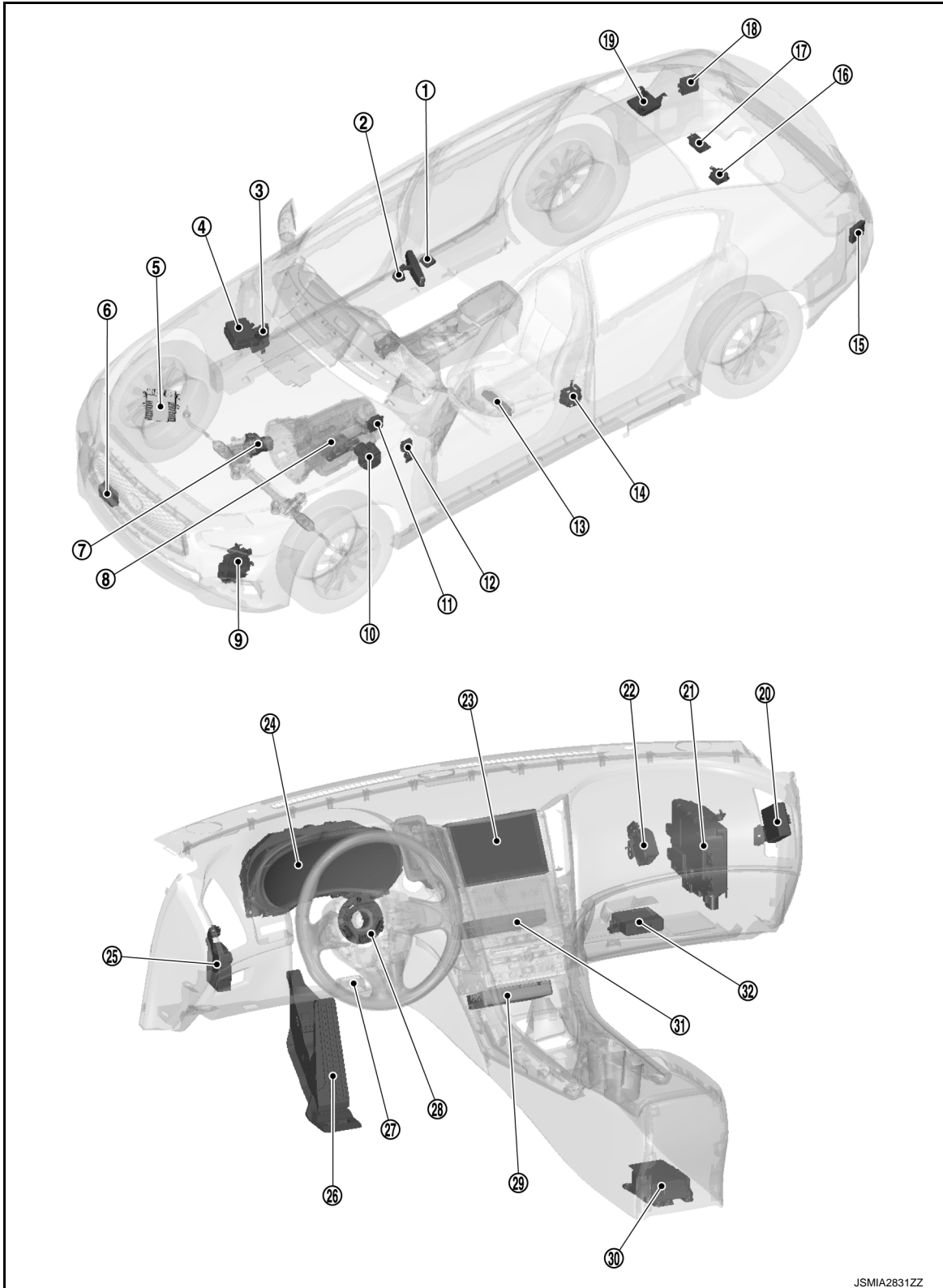
COMPONENT PARTS

[CAN]

< SYSTEM DESCRIPTION >

- | | | | | | |
|---|-------------------------------|---|---|---|----------------------|
| ① | AFS control unit | ② | Driver assistance buzzer control module | ③ | Display control unit |
| ④ | Combination meter | ⑤ | CAN gateway | ⑥ | Data link connector |
| ⑦ | Accelerator pedal actuator | ⑧ | Steering angle sensor | ⑨ | TCU |
| ⑩ | Air bag diagnosis sensor unit | ⑪ | A/C auto amp. | ⑫ | Sonar control unit |

VR30DDTT ENGINE MODELS



JSMIA2831ZZ

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[CAN]

① Lane camera unit	② High beam assist control module	③ BCM	A
④ IPDM E/R	⑤ ECM	⑥ ICC sensor	
⑦ Power steering control module (Without direct adaptive steering)	⑧ TCM	⑨ Steering angle main control module (With direct adaptive steering)	B
⑩ ABS actuator and electric unit (control unit)	⑪ AWD control unit	⑫ Chassis control module	
⑬ Driver seat control unit	⑭ Pre-crash seat belt control unit (driver side)	⑮ Side radar LH	C
⑯ ADAS control unit	⑰ Active noise control unit	⑱ Side radar RH	
⑲ Around view monitor control unit	⑳ AFS control unit	㉑ Steering force control module (With direct adaptive steering)	D
㉒ Driver assistance buzzer control module	㉓ Display control unit	㉔ Combination meter	
㉕ CAN gateway	㉖ Accelerator pedal actuator	㉗ Data link connector	E
㉘ Steering angle sensor	㉙ TCU	㉚ Air bag diagnosis sensor unit	
㉛ A/C auto amp.	㉜ Sonar control unit		F
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< SYSTEM DESCRIPTION >

SYSTEM

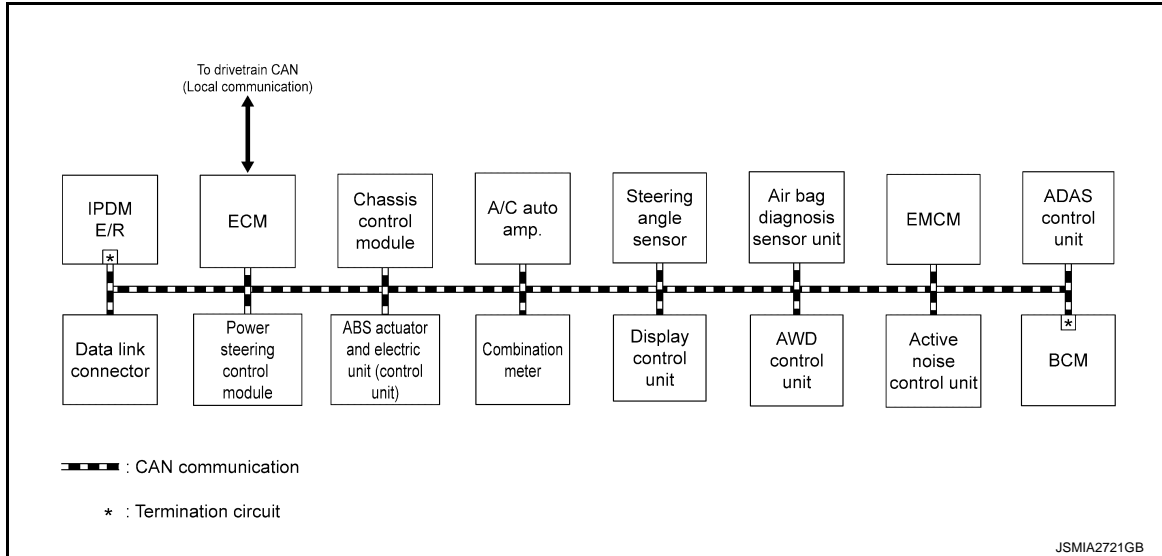
CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM : System Description

INFOID:000000012795097

SYSTEM DIAGRAM

2.0L turbo gasoline engine without automatic drive positioner

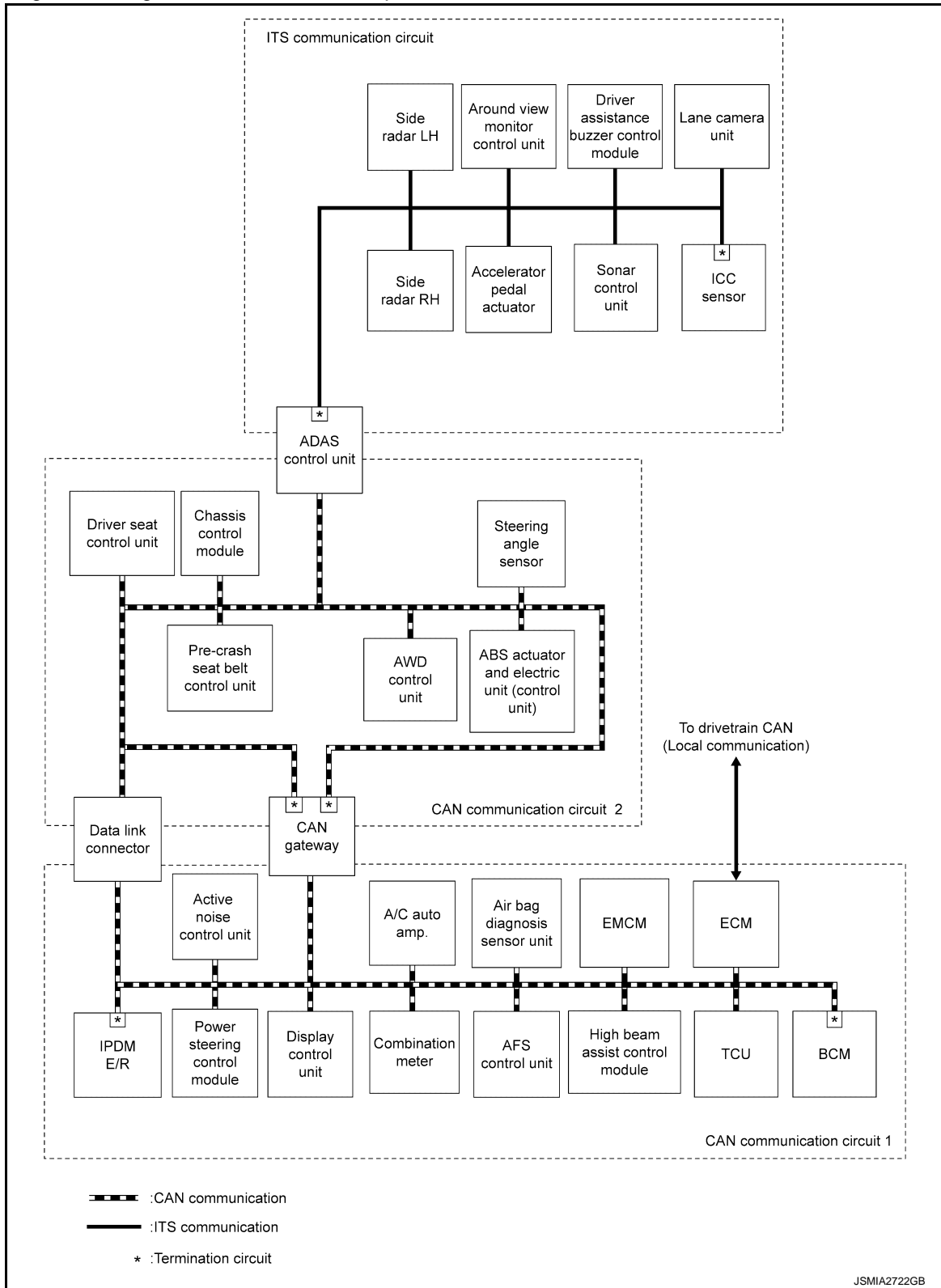


SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

2.0L turbo gasoline engine with automatic drive positioner



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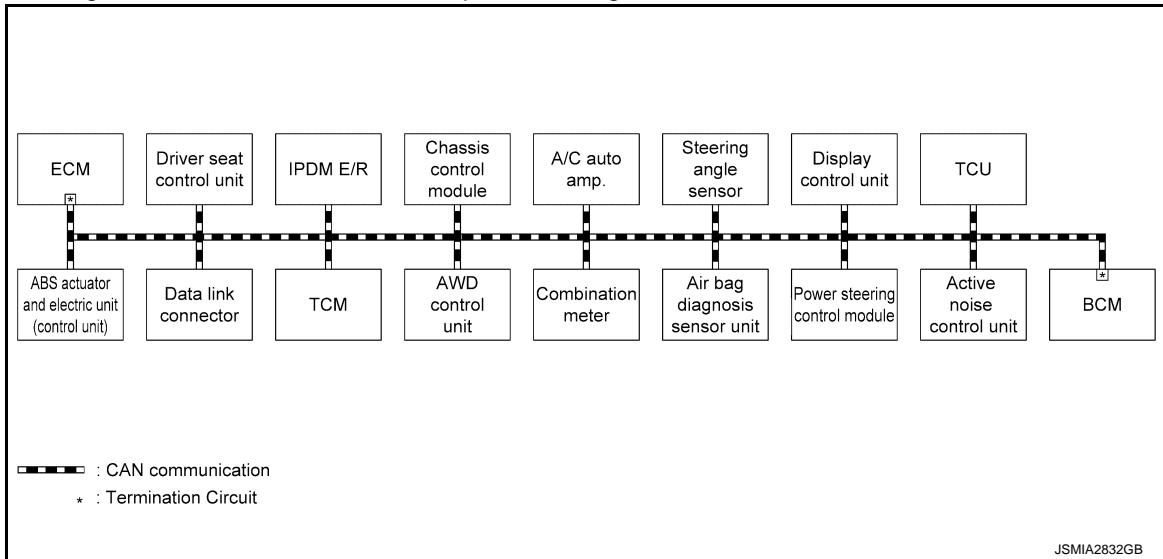
LAN

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

VR30DDTT engine without FEB and direct adaptive steering

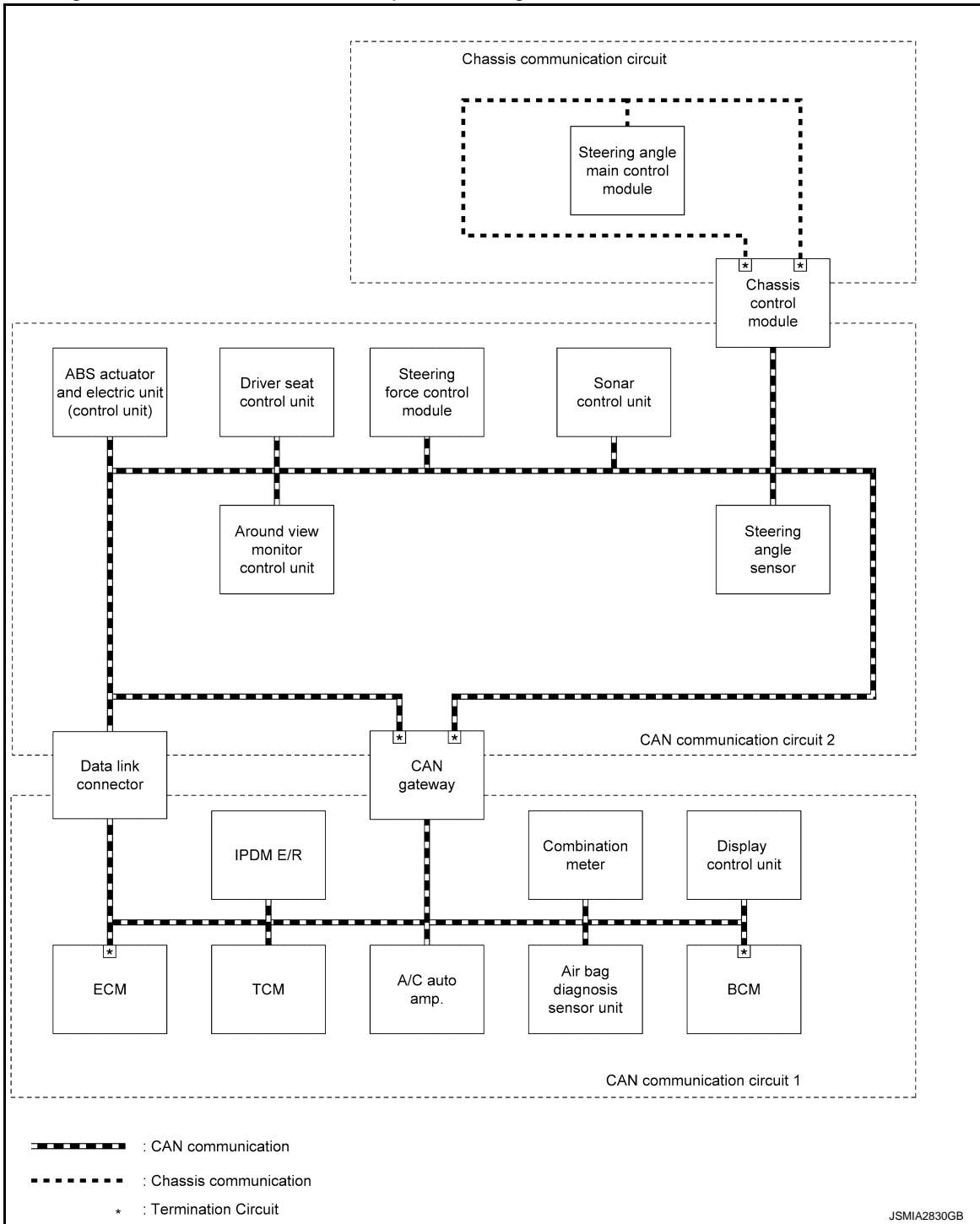


SYSTEM

[CAN]

< SYSTEM DESCRIPTION >

VR30DDTT engine without FEB with direct adaptive steering



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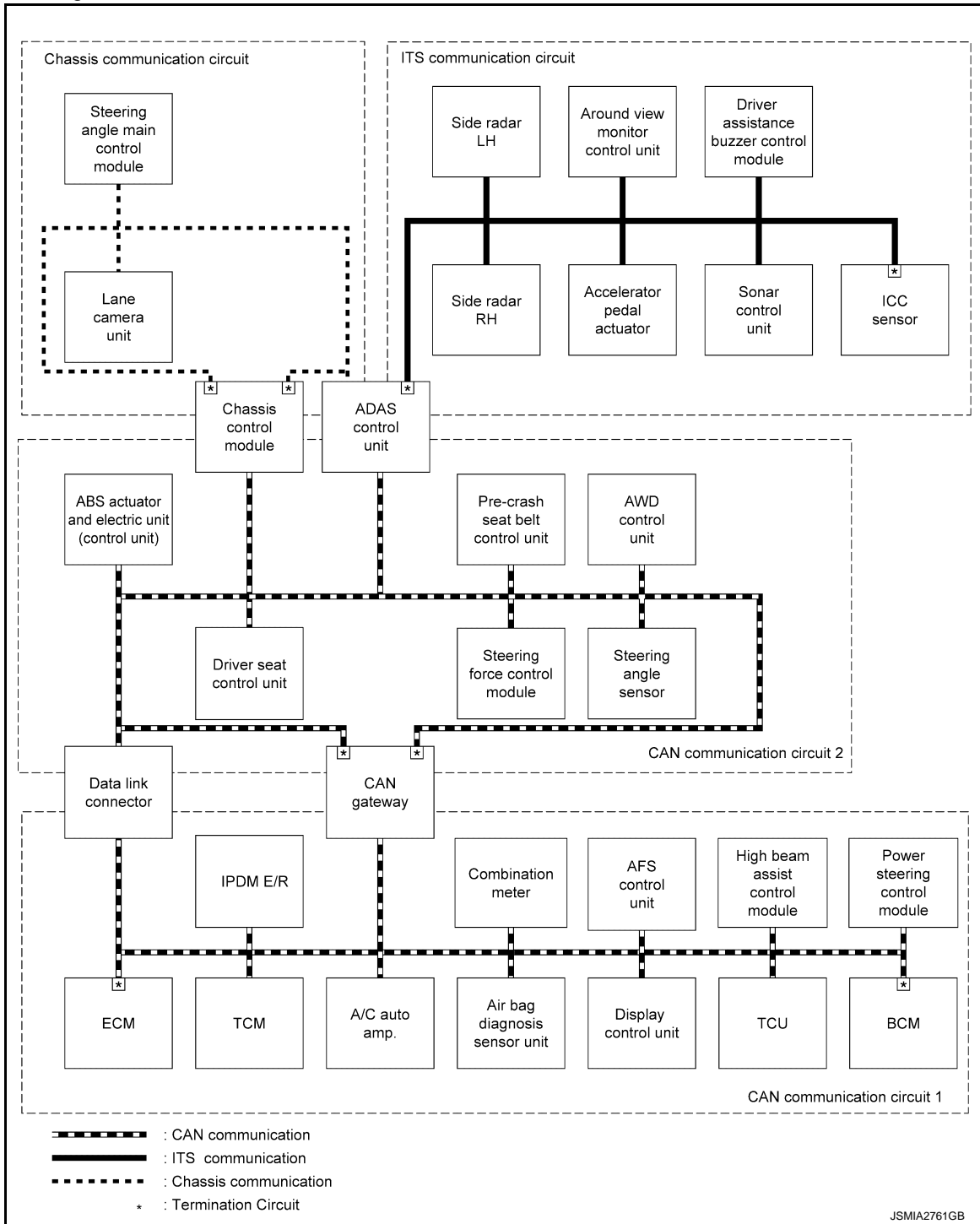
LAN

SYSTEM

[CAN]

< SYSTEM DESCRIPTION >

VR30DDTT engine with FEB



DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

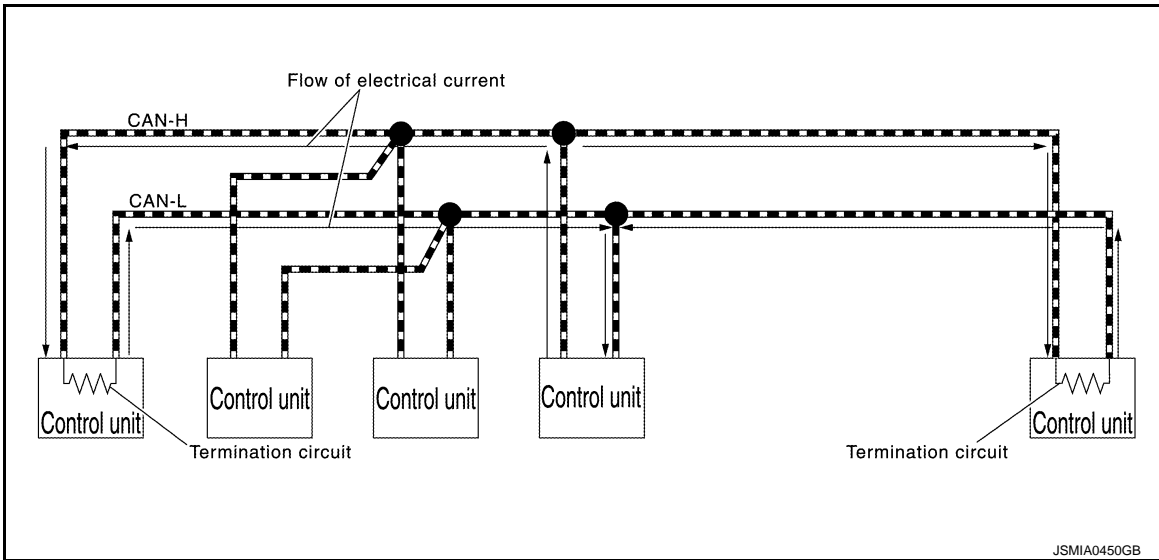
CAN Communication Signal Generation

SYSTEM

[CAN]

< SYSTEM DESCRIPTION >

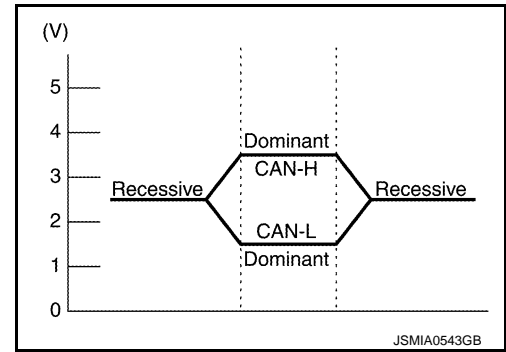
- Termination circuits (resistors) are connected across the CAN communication system. When transmitting a CAN communication signal, each control unit passes a current to the CAN-H line and the current returns to the CAN-L line.



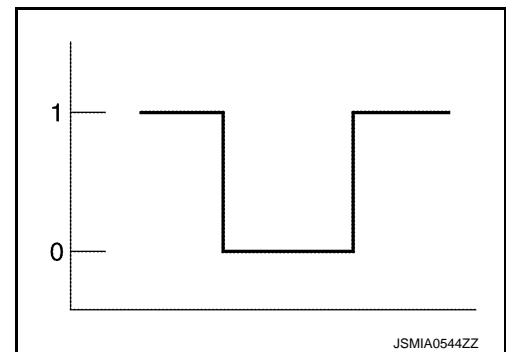
- The current flows separately into the termination circuits connected across the CAN communication system and the termination circuits drop voltage to generate a potential difference between the CAN-H line and the CAN-L line.

NOTE:

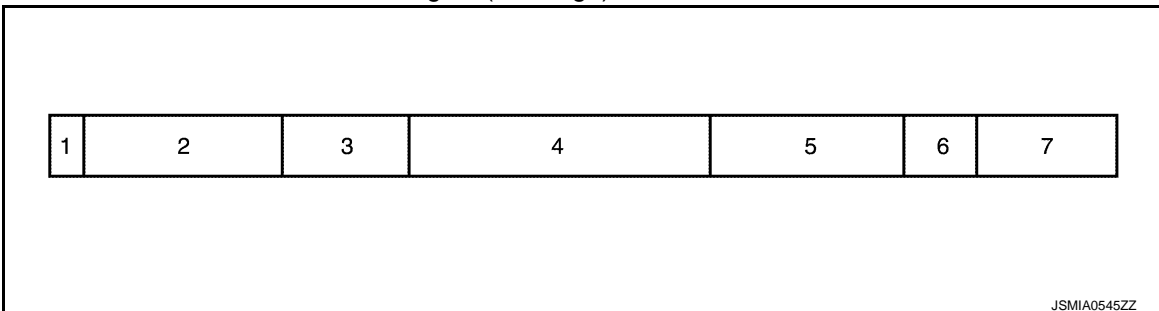
A signal with no current passage is called "Recessive" and one with current passage is called "Dominant".



- The system produces digital signals for signal communications, by using the potential difference.



The Construction of CAN Communication Signal (Message)



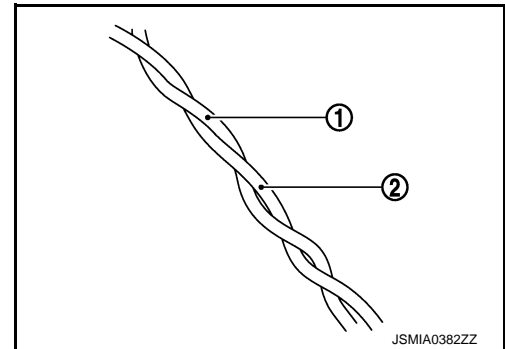
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LAN

No.	Message name	Description
1	Start of frame (1 bit)	Start of message.
2	Arbitration of field (11 bit)	Priorities of message-sending are shown when there is a possibility that multiple messages are sent at the same time.
3	Control field (6 bit)	Signal quantity in data field is shown.
4	Data field (0-64 bit)	Actual signal is shown.
5	CRC field (16 bit)	<ul style="list-style-type: none"> • The transmitting control unit calculates sending data in advance and writes the calculated value in a message. • The receiving control unit calculates received data and judges that the data reception is normal when the calculated value is the same as the value written in the sent data.
6	ACK field (2 bit)	The completion of normal reception is sent to the transmitting unit.
7	End of frame (7 bit)	End of message.

CAN Communication Line

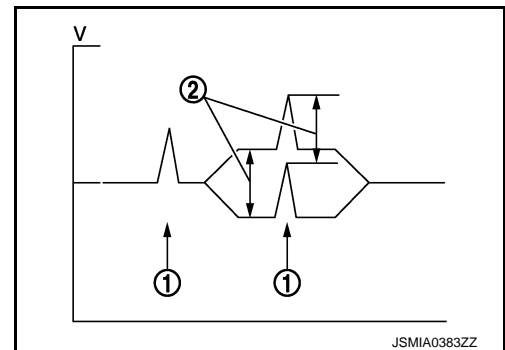
The CAN communication line is a twisted pair wire consisting of strands of CAN-H ① and CAN-L ② and has noise immunity.



NOTE:

The CAN communication system has the characteristics of noise-resistant because this system produces digital signals by using the potential difference between the CAN-H line and the CAN-L line and has the twisted pair wire structure.

Since the CAN-H line and the CAN-L line are always adjacent to each other, the same degree of noise occurs, respectively, when a noise ① occurs. Although the noise changes the voltage, the potential difference ② between the CAN-H line and the CAN-L line is insensitive to noise. Therefore, noise-resistant signals can be obtained.

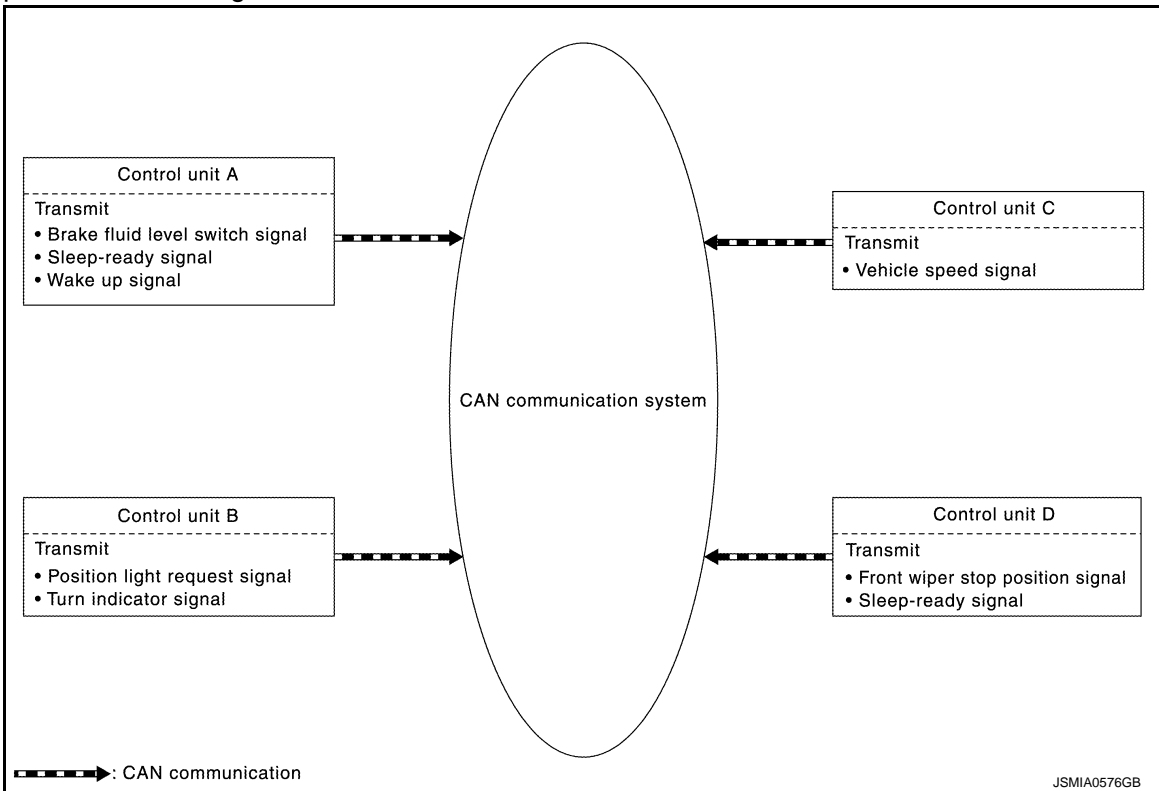


CAN Signal Communications

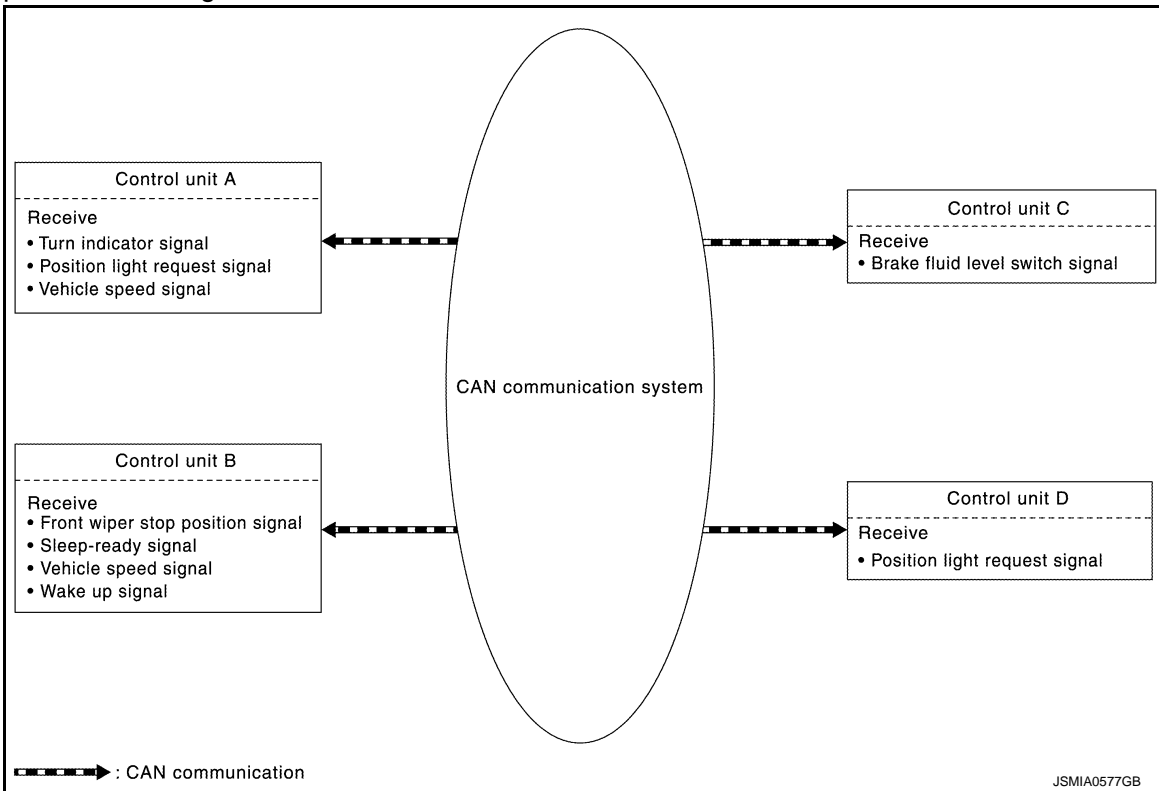
Each control unit of the CAN communication system transmits signals through the CAN communication control circuit included in the control unit and receives only necessary signals from each control unit to perform various kinds of control.

< SYSTEM DESCRIPTION >

• Example: Transmitted signals



• Example: Received signals



NOTE:

The above signal names and signal communications are provided for reference purposes. For CAN communications signals of this vehicle, refer to [LAN-67. "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart \(2.0L Turbo Gasoline Engine Models\)".](#)

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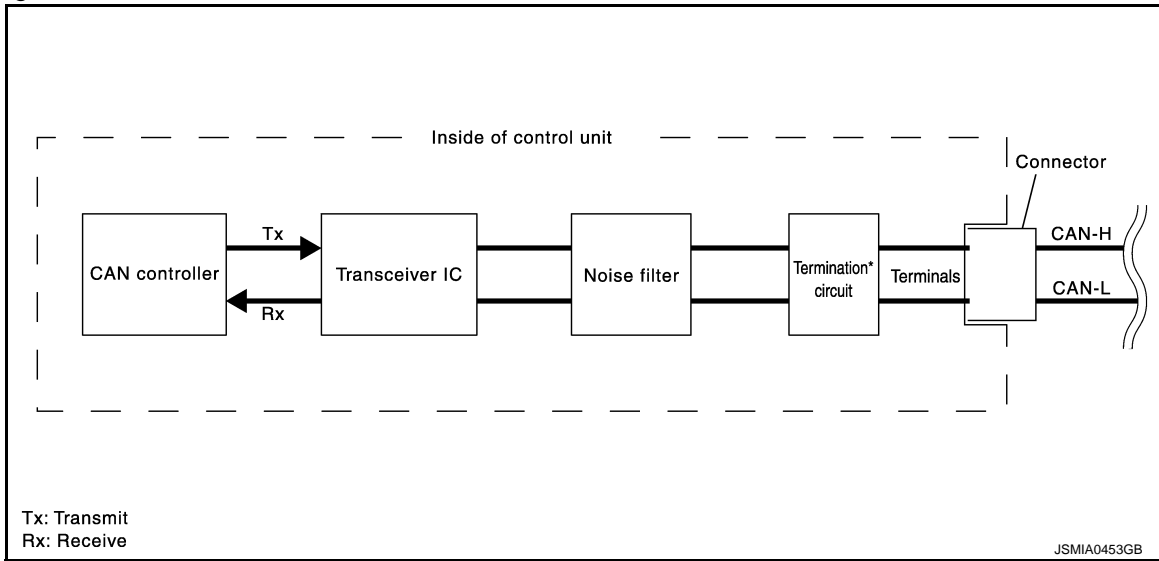
< SYSTEM DESCRIPTION >

[CAN]

CAN COMMUNICATION SYSTEM : CAN Communication Control Circuit

INFOID:000000012795098

CAN communication control circuit is incorporated into the control unit and transmits/receives CAN communication signals.



Component	System description
CAN controller	It controls CAN communication signal transmission and reception, error detection, etc.
Transceiver IC	It converts digital signal into CAN communication signal, and CAN communication signal into digital signal.
Noise filter	It eliminates noise of CAN communication signal.
Termination circuit* (Resistance of approx. 120 Ω)	Generates a potential difference between CAN-H and CAN-L.

*: These are the only control units wired with both ends of CAN communication system.

CAN COMMUNICATION SYSTEM : CAN System Specification Chart

INFOID:000000012795099

Determine CAN system type from the following specification chart.

NOTE:

Refer to [LAN-41, "Trouble Diagnosis Flow Chart"](#) for how to use CAN system specification chart.

Refer to the specification as shown in the chart.

Body type	Sedan			
	2WD		AWD	
Axle				
Engine	2.0L turbo gasoline	VR30DDTT	2.0L turbo gasoline	VR30DDTT
Transmission	A/T			
Brake control	VDC			
Specification chart	A	B	A	B

SPECIFICATION CHART A

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Body type	Sedan														
Axle	2WD							AWD							
Engine	2.0L turbo gasoline engine														
Transmission	A/T														
Brake control	VDC														
BOSE audio system		×		×	×	×	×		×		×	×	×	×	A
Automatic drive positioner			×	×	×	×	×			×	×	×	×	×	B
Telematics system					×	×	×					×	×	×	C
Around view monitor system						×	×						×	×	D
High beam assist system							×							×	E
CAN system type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	E
CAN communication unit															
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	F
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	F
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	G
Power steering control module	×	×	×	×	×	×	×	×	×	×	×	×	×	×	G
Display control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	H
CAN gateway			×	×	×	×	×			×	×	×	×	×	H
A/C auto amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	H
Combination meter	×	×	×	×	×	×	×	×	×	×	×	×	×	×	I
AFS control unit							×							×	I
Air bag diagnosis sensor unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	J
EMCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	J
High beam assist control module							×							×	K
TCU					×	×	×					×	×	×	K
Active noise control unit	×		×					×		×					L
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	L
Driver seat control unit			×	×	×	×	×			×	×	×	×	×	L
Pre-crash seat belt control unit							×							×	L
ADAS control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	LAN
AWD control unit								×	×	×	×	×	×	×	LAN
Chassis control module	×	×	×	×	×	×	×	×	×	×	×	×	×	×	LAN
Steering angle sensor	×	×	×	×	×	×	×	×	×	×	×	×	×	×	N
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	N
ITS communication unit															
ADAS control unit						×	×						×	×	O
Side radar LH						×	×						×	×	O
Side radar RH						×	×						×	×	P
Around view monitor control unit						×	×						×	×	P
Accelerator pedal actuator						×	×						×	×	P
Driver assistance buzzer control module						×	×						×	×	P
Lane camera unit							×							×	P
Sonar control unit						×	×						×	×	P

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Body type	Sedan													
Axle	2WD							AWD						
Engine	2.0L turbo gasoline engine													
Transmission	A/T													
Brake control	VDC													
BOSE audio system		×		×	×	×	×		×		×	×	×	×
Automatic drive positioner			×	×	×	×	×			×	×	×	×	×
Telematics system					×	×	×					×	×	×
Around view monitor system						×	×						×	×
High beam assist system							×							×
CAN system type	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ICC sensor						×	×						×	×
Drivetrain CAN communication control unit														
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Fuel pump control module	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Sub electric oil pump inverter*	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Resistor 1*	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Resistor 2*	×	×	×	×	×	×	×	×	×	×	×	×	×	×

×: Applicable

*: Not applicable to CAN diagnosis on CONSULT

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION

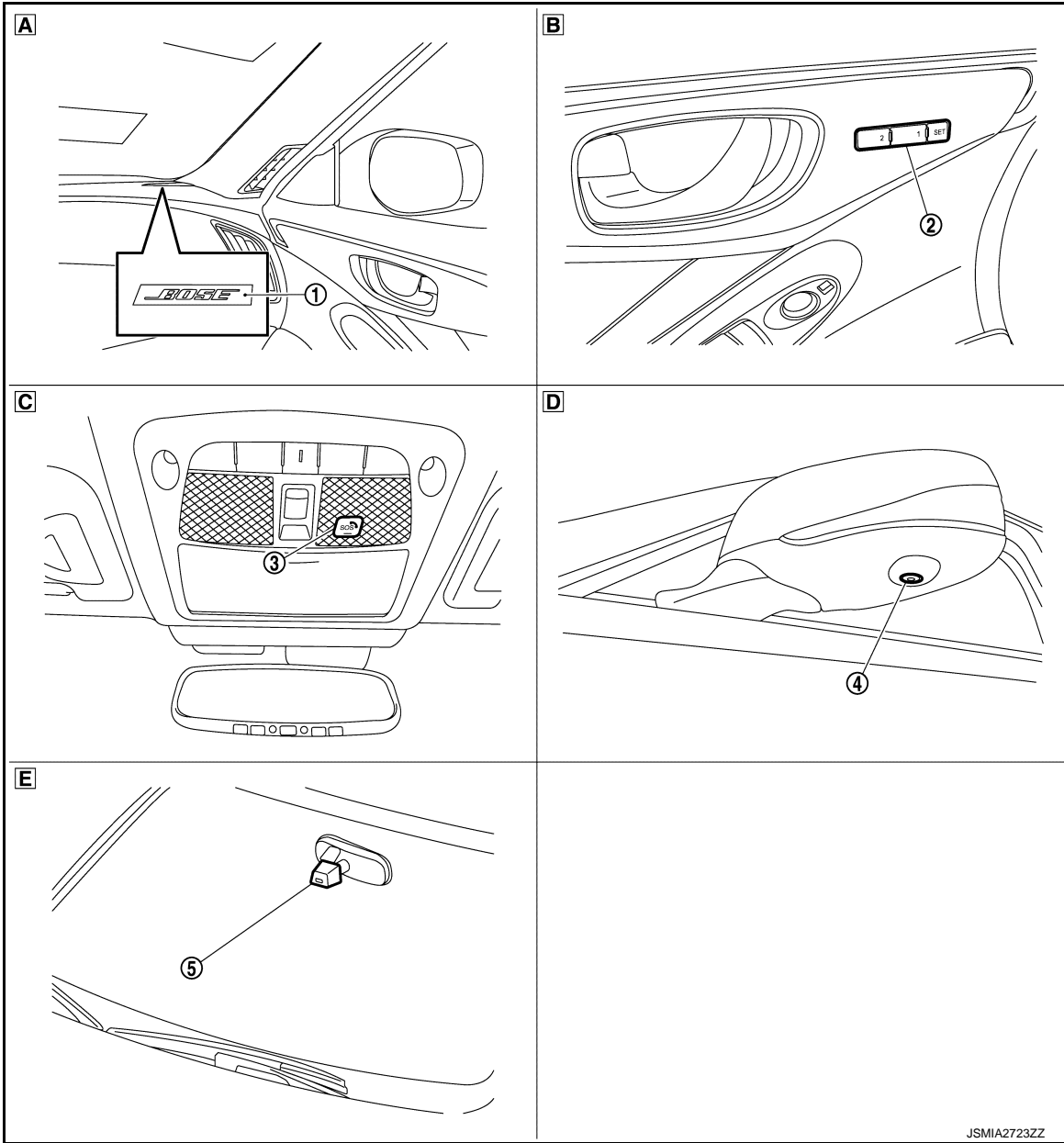
NOTE:

Check CAN system type from the vehicle shape and equipment.

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]



① Front squawker RH

④ Side camera LH

Ⓐ With BOSE audio system

Ⓓ With around view monitor system

② Seat memory switch

⑤ Image sensor
(Inside mirror assembly)

Ⓑ With automatic drive positioner

Ⓔ With high beam assist system

③ Telematics switch

Ⓒ With telematics system

SPECIFICATION CHART B

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SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Body type	Sedan															
Axle	2WD								AWD							
Engine	VR30DDTT															
Transmission	A/T															
Brake control	VDC															
BOSE audio system		×		×	×	×	×	×	×	×	×	×	×	×	×	×
Automatic drive positioner			×	×	×	×	×	×	×	×		×	×	×	×	×
Telematics system					×		×	×		×			×	×	×	×
Around view monitor system						×	×	×	×	×				×	×	×
High beam assist system									×	×						×
Direct adaptive steering						×		×	×	×					×	×
CAN system type	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CAN communication unit																
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Power steering control module	×	×	×	×	×		×				×	×	×	×		
Steering force control module						×		×	×	×					×	×
Display control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN gateway						×	×	×	×	×				×	×	×
A/C auto amp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
AFS control unit									×	×						×
Air bag diagnosis sensor unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
High beam assist control module									×	×						×
TCU					×		×	×		×			×	×	×	×
Active noise control unit	×		×													
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Driver seat control unit			×	×	×	×	×	×	×	×		×	×	×	×	×
Pre-crash seat belt control unit									×	×						×
ADAS control unit							×	×	×	×				×	×	×
AWD control unit											×	×	×	×	×	×
Chassis control module	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Around view monitor control unit						×										
Sonar control unit						×										
ITS communication unit																
ADAS control unit							×	×	×	×				×	×	×
Side radar LH							×	×	×	×				×	×	×
Side radar RH							×	×	×	×				×	×	×

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Body type	Sedan															
Axle	2WD										AWD					
Engine	VR30DDTT															
Transmission	A/T															
Brake control	VDC															
BOSE audio system		×		×	×	×	×	×	×	×	×	×	×	×	×	×
Automatic drive positioner			×	×	×	×	×	×	×	×		×	×	×	×	×
Telematics system					×		×	×		×			×	×	×	×
Around view monitor system						×	×	×	×	×				×	×	×
High beam assist system									×	×						×
Direct adaptive steering						×		×	×	×					×	×
CAN system type	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Around view monitor control unit							×	×	×	×				×	×	×
Accelerator pedal actuator							×	×	×	×				×	×	×
Driver assistance buzzer control module							×	×	×	×				×	×	×
Sonar control unit							×	×	×	×				×	×	×
ICC sensor							×	×	×	×				×	×	×
Chassis communication unit																
Chassis control module						×	×	×	×	×				×	×	×
Steering angle main control module						×		×	×	×					×	×
ADAS control unit							×	×	×	×				×	×	×
Lane camera unit									×	×						×

×: Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION

NOTE:

Check CAN system type from the vehicle shape and equipment.

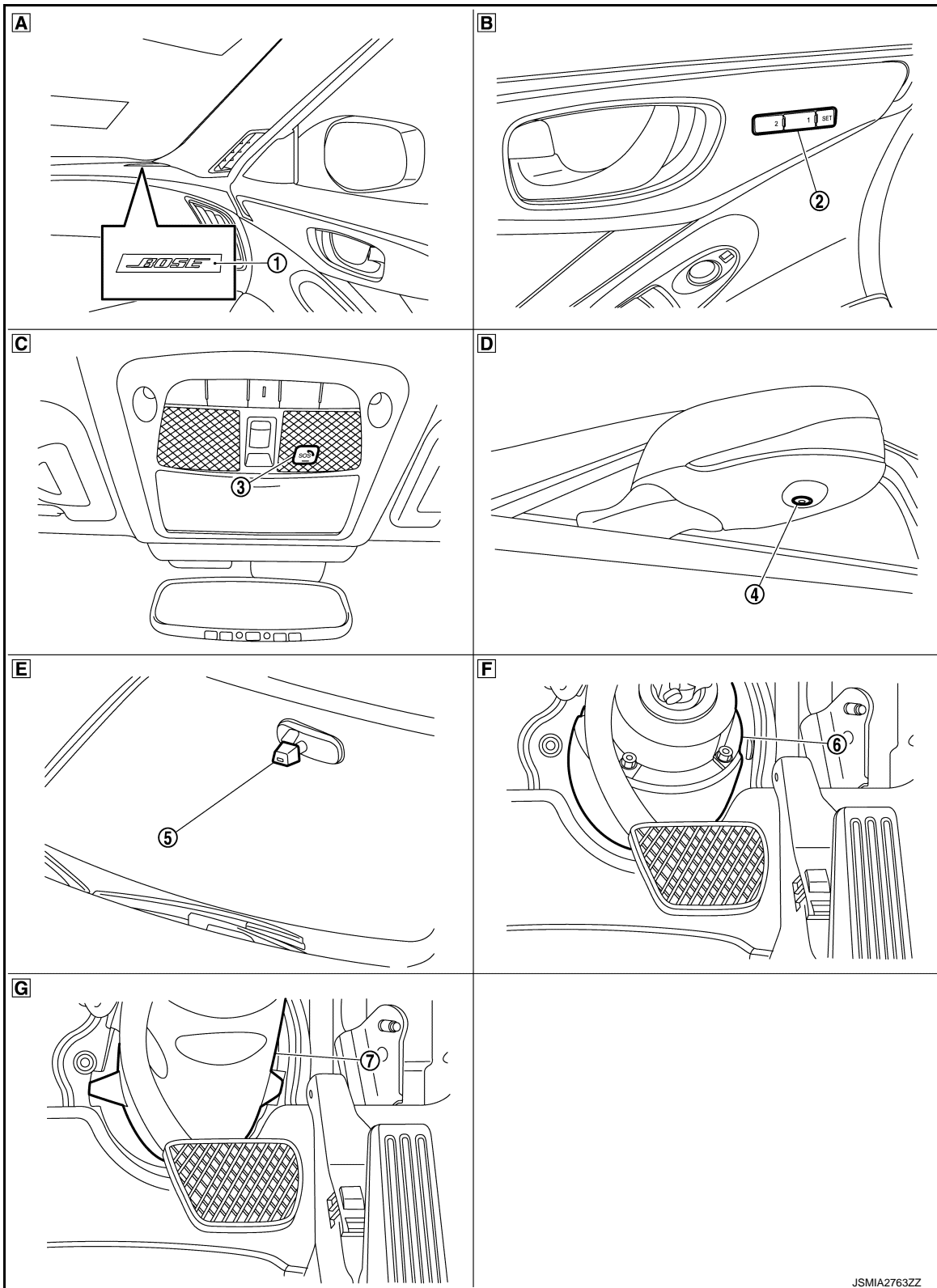
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SYSTEM

< SYSTEM DESCRIPTION >

[CAN]



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|---------------------------------|--|---------------------------------|
| ① Front squawker RH | ② Seat memory switch | ③ Telematics switch |
| ④ Side camera LH | ⑤ Image sensor
(Inside mirror assembly) | ⑥ Steering clutch assembly |
| ⑦ Hole cover | | |
| A With BOSE audio system | B With automatic drive positioner | C With telematics system |

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

- With around view monitor system
 With high beam assist system
 With direct adaptive steering
 Without direct adaptive steering

CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart (2.0L Turbo Gasoline Engine Models)

INFOID:0000000013242153

Refer to [LAN-40, "How to Use CAN Communication Signal Chart"](#) for how to use CAN communication signal chart.

NOTE:

Refer to [LAN-46, "Abbreviation List"](#) for the abbreviations of the connecting units.

T: Transmit R: Receive

Signal name	IPDM-E	ECM	EPS/DAST 3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	AVM	SONAR
A/C compressor feedback signal	T	R				R																	
Front wiper stop position signal	T													R									
Detention switch signal	T													R	R								
High beam status signal	T									R	R												
Hood switch signal	T	R								R				R									
Ignition switch ON signal	R	R												T		R							
	T													R									
Interlock/PNP switch signal	R													T									
	T													R									
Low beam status signal	T						R			R	R												
Oil pressure switch signal							R					R		T									
	T													R									
Push-button ignition switch status signal	T													R									
		R												T									
Rear window defogger control signal	R					R								T									
	T			R						R													
Sleep-ready signal	T													R									
												T		R									
Starter relay status signal	R						R							T									
	T													R									
Steering lock relay signal	R													T									
	T													R									
Steering lock unit status signal	T													R									
														T	R								
Accelerator pedal malfunction signal		T																	R				
Accelerator pedal position signal		T		R									R					R	R	R		R	
ASCD status signal ^{*1}		T					R			R								T					

LAN

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	IPDM-E	ECM	EPS/DAST3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	A/M	SONAR	
Brake hold request signal		T								T												R		
																				T		R		
Charge warning lamp signal		T					R																	
Cooling fan speed request signal	R	T				R																		
Current gear position signal		T															R			R		R		
ECM malfunction signal		T																		R				
ECO drive indicator control signal		T					R																	
Electrical power cut freeze signal		T				R																		
Engine coolant temperature signal		T				R	R			R														
Engine speed signal		T		R		R	R	R					R					R	R	R		R		
Engine status signal		T	R	R			R					R		R										
Engine torque request signal		T																				R		
Engine torque signal		T		R									R							R				
Fuel consumption monitor signal		T		R			R																	
Fuel filler cap warning display signal		T					R																	
ICC prohibition signal*2		T																R						
Idle switch signal		T																		R				
Input speed signal		T																		R				
Intake air temperature sensor signal		T								R														
Kickdown signal		T																		R				
Malfunctioning indicator lamp signal		T					R					R												
Output shaft revolution signal		T																		R				
Remaining distance signal		T					R																	
Shift position signal		T		R			R	R						R	R			R		R		R	R	R
Stop/Start indicator lamp signal		T					R			R														
Stop/Start status signal		T	R				R			R				R								R		
Power steering warning lamp signal			T				R																	
Steering torque signal		R	T																					

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	IPDM-E	ECM	EPS/DAST 3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	AVM	SONAR		
Stop/Start permit signal		R	T																					A	
		R				T																			B
A/C switch operation signal				T		R																			C
AV system malfunction signal				T																R					D
Camera switch signal				T																			R		E
Drive mode characteristics customizing signal				T																R					F
Heated seat switch operation signal				T		R																			G
Rear window defogger switch signal				T										R											H
System selection signal				T													R [*] ₃			R					I
User information signal				T		R	R								R		R			R					J
Voice recognition signal				T		R																			K
A/C compressor request signal		R				T																			L
A/C display signal				R		T																			LAN
A/C system status signal		R				T																			N
Ambient sensor signal		R				T	R																		O
Blower fan ON signal						T				R															P
Heated seat switch indicator signal				R		T																			
Brake fluid level switch signal							T															R			
Combination meter malfunction signal							T													R					
Distance to empty signal				R			T																		
Fuel level low warning signal				R			T																		
Fuel level sensor signal		R					T																		
Fuel level signal		R					T																		
Market information signal							T													R					
Odometer signal							T	R			R			R											
Parking brake switch signal				R			T							R	R		R	R	R		R				

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	IPDM-E	ECM	EPS/DAST3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	A/M	SONAR
Seat belt buckle switch signal		R					T																
Vehicle speed signal	R	R	R	R		R	T	R			R		R	R	R	R							
		R	R	R			R							R	R		R		R		T	R	R
Wake up signal							T							R									
	T													R									
												T		R									
AFS warning signal							R	T															
Car crash information signal									T			R											
Collision detection signal		R							T														
Brake pedal position switch signal		R								T							R						
Brake pedal state signal		R								T													
Brake torque signal		R								T													
Stop lamp switch signal		R								T													
																		R			T		
Stop/Start OFF switch signal		R								T													
Stop/Start system ready signal		R								T													
High beam assist request signal											T			R									
High beam assist system status signal											T			R									
Door lock/unlock request signal												T		R									
BCM malfunction signal														T					R				
Buzzer output signal							R							T									
							R								T								
Daytime running light request signal	R													T									
Dimmer signal							R							T									
Door lock status signal												R		T									
Door switch signal	R	R		R			R						R	T	R	R							R
Door unlock signal														T	R								
Front fog light request signal	R						R							T									
Front wiper request signal	R													T			R [*] ₂						
Handle position signal														T	R								

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	IPDM-E	ECM	EPS/DAST 3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	AVM	SONAR		
Headlamp washer request signal	R													T											A
High beam assist indicator lamp signal							R							T											B
High beam request signal	R					R	R							T											C
Horn reminder signal	R													T											D
Ignition switch signal														T	R	R									E
Key ID signal				R		R	R							T	R		R		R						F
Low beam request signal	R					R	R							T											G
Low tire pressure warning lamp signal				R			R							T											H
Meter display signal							R							T											I
Meter ring illumination request signal							R							T											J
Position light request signal	R						R							T			R								K
Rear fog lamp status signal							R							T											L
Shipping mode status signal						R	R							T			R						R		LAN
System setting signal				T										R	R										
				R										T											
				R											T										
Sleep wake up signal	R			R		R					R		T	R	R										
Starter control relay signal	R													T											
Starting mode signal														T	R										
Theft warning horn request signal	R													T											
Tire pressure data signal				R			R							T											N
TPMS malfunction warning lamp signal				R			R							T											O
Trunk switch signal							R					R		T									R		P
Turn indicator signal							R							T			R ²								
ASCD operation signal ^{*1}										R							T								
Brake fluid pressure control signal ^{*2}																	T		R						
																			T		R				
Driver assistance buzzer signal																	T		R						

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	IPDM-E	ECM	EPS/DAST3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	A/M	SONAR	
FEB operation signal*3																R	T							
FEB warning lamp signal*3							R										T							
ICC operation signal		R								R							T [*] ₂		R					
AWD warning lamp signal							R											T						
Active Trace control signal																			T			R		
Active Trace Control display signal							R												T					
Brake hold status signal																			T			R		
Chassis control malfunction signal							R												T					
Drive mode display signal				R															T					
Drive mode signal		R	R	R			R						R				R		T			R		
Interrupt display signal							R												T					
Key link signal				R		R	R								R		R		T					
Log-in permit signal				R		R	R								R		R		T					
Tire display signal							R												T					
Turn display signal							R												T					
Vehicle display signal							R												T					
Steering angle sensor malfunction signal			R					R								R	R			T		R		
Steering angle sensor signal			R	R				R								R	R		R	T		R	R	
Steering angle speed signal			R													R	R			T				
Steering calibration signal								R								R				T				
ABS malfunction signal																	R		R			T		
ABS operation signal										R						R	R		R			T		
ABS warning lamp signal							R					R					R					T		
Brake booster pressure sensor		R																				T		
Brake fluid pressure signal										R									R			T		
Brake switch signal																			R			T		

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	IPDM-E	ECM	EPS/DAST 3	AV	CGW	HVAC	M&A	AFS	A-BAG	EMCM	HBA	TCU	ANC	BCM	ADP	PSB	ICC	4WD	CCM	STRG	ABS	AVM	SONAR			
Brake warning lamp signal							R															T			A	
							T					R														B
Decel G signal										R										R						C
EBD operation signal																				R						
Front LH wheel speed signal		R																		R	R					D
Front RH wheel speed signal		R																		R	R					E
Rear LH wheel speed signal		R																		R	R					
Rear RH wheel speed signal		R																		R	R					
Side G sensor signal																		R		R						
TCS malfunction signal																		R		R						
TCS operation signal																		R		R						
Torque limit request signal		R																								
VDC malfunction signal																		R		R						
VDC OFF indicator lamp signal							R																			
VDC OFF switch signal																		R		R						
VDC operation signal										R								R		R						
VDC warning lamp signal							R					R														
Yaw rate signal											R							R		R						
MOD beep sound output request signal																								T	R	LAN
View change signal				R																						
Sonar status signal																								R	T	N

*1: Without ICC system

*2: With ICC system

*3: With FEB system

CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart (VR30DDTT Engine Models)

INFOID:000000013613349

Refer to [LAN-40. "How to Use CAN Communication Signal Chart"](#) for how to use CAN communication signal chart.

NOTE:

Refer to [LAN-46. "Abbreviation List"](#) for the abbreviations of the connecting units.

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

T: Transmit R: Receive

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST 3	4WD	CCM	STRG	AVM	SONAR
A/C compressor request signal	T	R																				
Accelerator pedal malfunction signal	T																		R			
Accelerator pedal position signal	T		R										R			R		R	R			
ASCD OD cancel request signal	T		R																			
ASCD operation signal	T		R																			
ASCD status signal	T					R																
Closed throttle position signal	T		R													R						
Cooling fan speed request signal	T	R																				
ECM malfunction signal	T																		R			
ECO drive indicator control signal	T					R																
ECO pedal reaction force control signal	T															R						
ECO pedal reaction force setting signal	T								R													
	R								T													
Engine and A/T integrated control signal	T		R																			
	R		T																			
Engine coolant temperature signal	T				R	R																
Engine speed signal	T		R				R						R			R	R ₁ *	R	R			
			T			R																
Engine status signal	T					R			R		R	R					R					
Engine torque signal	T												R						R			
Fuel consumption monitor signal	T					R			R													
Fuel filler cap warning display signal	T					R			R													
Brake pedal position switch	T															R						
ICC prohibition signal	T															R						
ICC steering switch signal	T															R						
Malfunctioning indicator lamp signal	T					R				R												
Power generation command value signal	T	R																				
Remaining distance signal	T					R																
Stop lamp switch signal	T															R						
			R									T										
													T			R		R				

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST 3	4WD	CCM	STRG	AVM	SONAR	A
Wide open throttle position signal	T		R																				B
A/C compressor feedback signal	R	T			R																		C
Detention switch signal		T										R		R									D
Front wiper stop position signal		T										R											E
High beam status signal	R	T								R													F
Hood switch signal		T										R											G
Low beam status signal	R	T					R			R													H
Push-button ignition switch status signal		T										R											I
A/T CHECK indicator lamp signal			T			R	R																J
ATF temperature signal	R		T																				K
A/T self-diagnosis signal	R		T																				L
Current gear position signal	R		T										R			R			R				M
Input speed signal			T													R							N
Manual mode shift refusal signal			T			R																	O
N range signal			T									R											P
NAVI shift control indication request signal	R		T																				Q
NAVI shift control status signal	T								R														R
Next gear position signal	R		T																				S
Output shaft revolution signal	R		T													R							T
P range signal			T									R											U
Shift position signal			T			R	R		R			R	R	R	R	R	R [*] ₁		R				V
Shift schedule signal	R		T																				W
TCM malfunction signal			T																	R			X
A/C display signal					T				R														Y
A/C evaporator temperature signal	R				T																		Z
A/C ON signal	R				T																		AA
Ambient sensor signal					T	R																	AB
Ambient temperature signal ⁴					T											R			R			R	P
Blower fan ON signal	R				T																		AC
Heated seat switch indicator signal					T				R														AD
Target A/C evaporator temperature signal	R				T																		AE

LAN

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST3	4WD	CCM	STRG	AVM	SONAR
Brake fluid level switch signal						T							R									
Combination meter malfunction signal						T													R			
Distance to empty signal						T			R													
Fuel filler cap warning reset signal	R					T																
Fuel level low warning signal						T			R													
Fuel level sensor signal	R					T																
Manual mode downshift signal			R			T																
Manual mode signal			R			T																
Manual mode upshift signal			R			T																
Market information signal						T													R			
Non-manual mode signal			R			T																
Odometer signal						T	R			R		R										R ₁ *
Oil change counter reset signal	R					T																
Paddle shifter downshift signal			R			T																
Paddle shifter upshift signal			R			T																
Parking brake switch signal						T			R			R	R				R		R	R		
Seat belt buckle switch signal (driver side)						T						R										
Vehicle speed signal	R	R	R		R	T	R		R	R		R		R	R							R ₂ *
						R			R			R	T	R			R	R		R		R
AFS warning signal						R	T															
Car crash information signal								T			R											
A/C switch operation signal					R				T													
AV system malfunction signal									T											R		
Camera switch signal									T													R
Curve signal			R						T													
Drive mode characteristics customizing signal									T											R		
Heated seat switch operation signal					R				T													
NAVI shift control switch signal			R						T													
Rear window defogger switch signal									T			R										
Road data signal			R						T													

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST 3	4WD	CCM	STRG	AVM	SONAR
System selection signal									T							R				R ⁴		
System setting signal									T			R		R								
									R			T										
									R					T								
User information signal					R	R			T			R				R				R		
Voice recognition signal					R				T													
High beam assist request signal										T		R										
High beam assist system status signal										T		R										
Engine start request signal											T	R										
Door lock/unlock request signal											T	R										
Panic alarm request signal											T	R										
Sleep-ready signal						T						R										
		T										R										
											T	R										
Wake up signal						T						R										
		T										R										
BCM malfunction signal												T								R		
Blower fan motor switch signal	R											T										
Buzzer output signal						R						T										
						R								T								
Daytime running light request signal		R										T										
Dimmer signal						R						T				R						
Door lock status signal											R	T										
Door switch signal		R				R						T		R	R							R
Door unlock signal												T		R								
Front fog light request signal		R				R						T										
Front wiper request signal		R										T				R						R ⁴
Handle position signal												T		R								
High beam assist indicator lamp signal						R						T										
High beam request signal		R				R						T										
Horn reminder signal		R										T										
Ignition switch ON signal		R										T			R							
		T										R										
Ignition switch signal												T		R	R							

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SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST3	4WD	CCM	STRG	AVM	SONAR
Interlock/PNP switch signal		R										T										
		T										R										
Low beam request signal		R										T										
Low tire pressure warning lamp signal						R			R			T										
Key ID signal					R	R			R			T		R		R			R			
Meter display signal						R						T										
						R										T						
Meter ring illumination request signal						R						T										
Oil pressure switch signal						R					R	T										
		T										R										
Position light request signal		R				R						T										
Rear window defogger control signal		R										T										
	R	T							R													
Shipping mode status signal						R						T										
Sleep wake up signal		R		R		R					R	T		R	R		R [*] ₁					
Starter control relay signal		R										T										
Starter relay status signal		R				R						T										
		T										R										
Starting mode signal												T		R								
Theft warning horn request signal		R										T										
Tire pressure data signal						R			R			T										
TPMS malfunction warning lamp signal						R			R			T										
Trunk switch signal						R			R			T										R
Turn indicator signal						R						T				R			R [*] ₄			
Turn signal switch signal ^{*4}												T				R			R			R
A/T shift schedule change demand signal			R										T									
ABS malfunction signal													T			R			R			
ABS operation signal			R										T		R	R			R			
ABS warning lamp signal						R					R	T				R						
Brake fluid pressure signal													T						R			
Brake switch signal													T						R			
Brake warning lamp signal						R						T										
						T					R											
Decel G signal													T						R			
EBD operation signal													T						R			

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST 3	4WD	CCM	STRG	AVM	SONAR	A	
Engine torque request signal	R												T										B	
Front LH wheel speed signal													T				R [*] ₁	R	R				C	
Front RH wheel speed signal													T				R [*] ₁	R	R				D	
Rear LH wheel speed signal													T					R	R		R		E	
Rear RH wheel speed signal													T					R	R		R		E	
Side G signal			R										T			R	R [*] ₁		R				F	
Stop lamp switch signal													T						R				F	
TCS gear keep request signal			R										T										G	
TCS malfunction signal													T				R		R				G	
TCS operation signal	R												T				R		R				H	
VDC malfunction signal													T				R		R				H	
VDC OFF indicator lamp signal						R							T										I	
VDC OFF switch signal													T				R		R				I	
VDC operation signal													T				R		R				I	
VDC warning lamp signal						R					R		T										J	
Yaw rate signal													T				R	R [*] ₁		R			J	
Steering angle sensor malfunction signal							R						R		R	R	R [*] ₁			T			K	
Steering angle sensor signal							R		R				R		R	R	R		R	T	R		L	
FEB warning lamp signal						R											T						L	
FEB operation signal																	R	T					LAN	
ICC operation signal	R																		R [*] ₃				N	
ICC sensor signal ^{*4}																			R			R	N	
ICC warning lamp signal						R																	O	
Battery supply current signal ^{*2}	R																	T					O	
Direct Adaptive Steering malfunction signal ^{*1}							R						R [*] ₄				R [*] ₄		T		R [*] ₄		R [*] ₄	P
Power steering warning lamp signal						R																	P	
Steering pinion angle signal ^{*1}							R						R				R [*] ₄		T		R [*] ₄		R [*] ₄	P
Steering torque signal	R																						P	

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	IPDM-E	TCM	CGW	HVAC	M&A	AFS	A-BAG	AV	HBA	TCU	BCM	ABS	ADP	PSB	ICC	EPS/DAST3	4WD	CCM	STRG	AVM	SONAR
AWD warning lamp signal						R												T				
Active Lane Control display signal*4						R													T			
Active Trace Control display signal						R													T			
Active Trace Control signal													R						T			
Brake fluid pressure control signal													R						T			
Brake hold request signal													R						T			
Brake hold status signal													R						T			
Chassis control malfunction signal						R													T			
Drive mode display signal									R										T			
Drive mode signal			R						R				R			R	R		T			
	R		T													R						
Driver assistance buzzer signal																R			T			
Interrupt display signal						R													T			
Key link signal					R	R			R			R					R		T			
Log-in permit signal					R	R			R			R		R					T			
Steering angle value command signal*4																	R		T			
Tire display signal						R													T			
Turn display signal						R													T			
Vehicle display signal						R													T			
Steering angle speed signal															R	R				T		
Steering calibration signal							R								R					T		
MOD beep sound output request signal																					T	R
View change signal									R												T	
Sonar status signal																					R	T

*1: With Direct Adaptive Steering

*2: Without Direct Adaptive Steering

*3: With ICC system

*4: With Active Lane Control

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

WIRING DIAGRAM

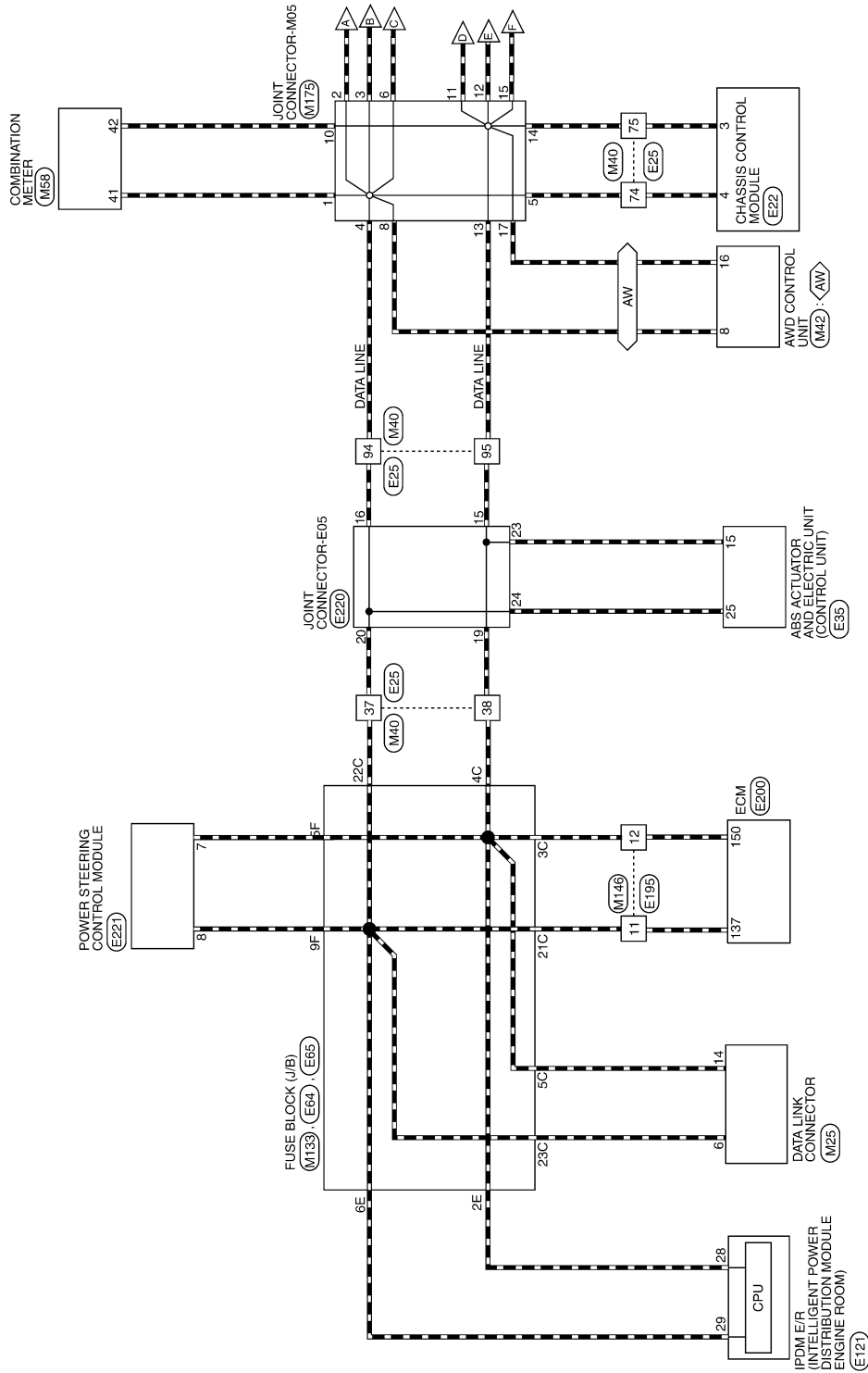
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

Wiring Diagram

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

AWD models



A
B
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D
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LAN

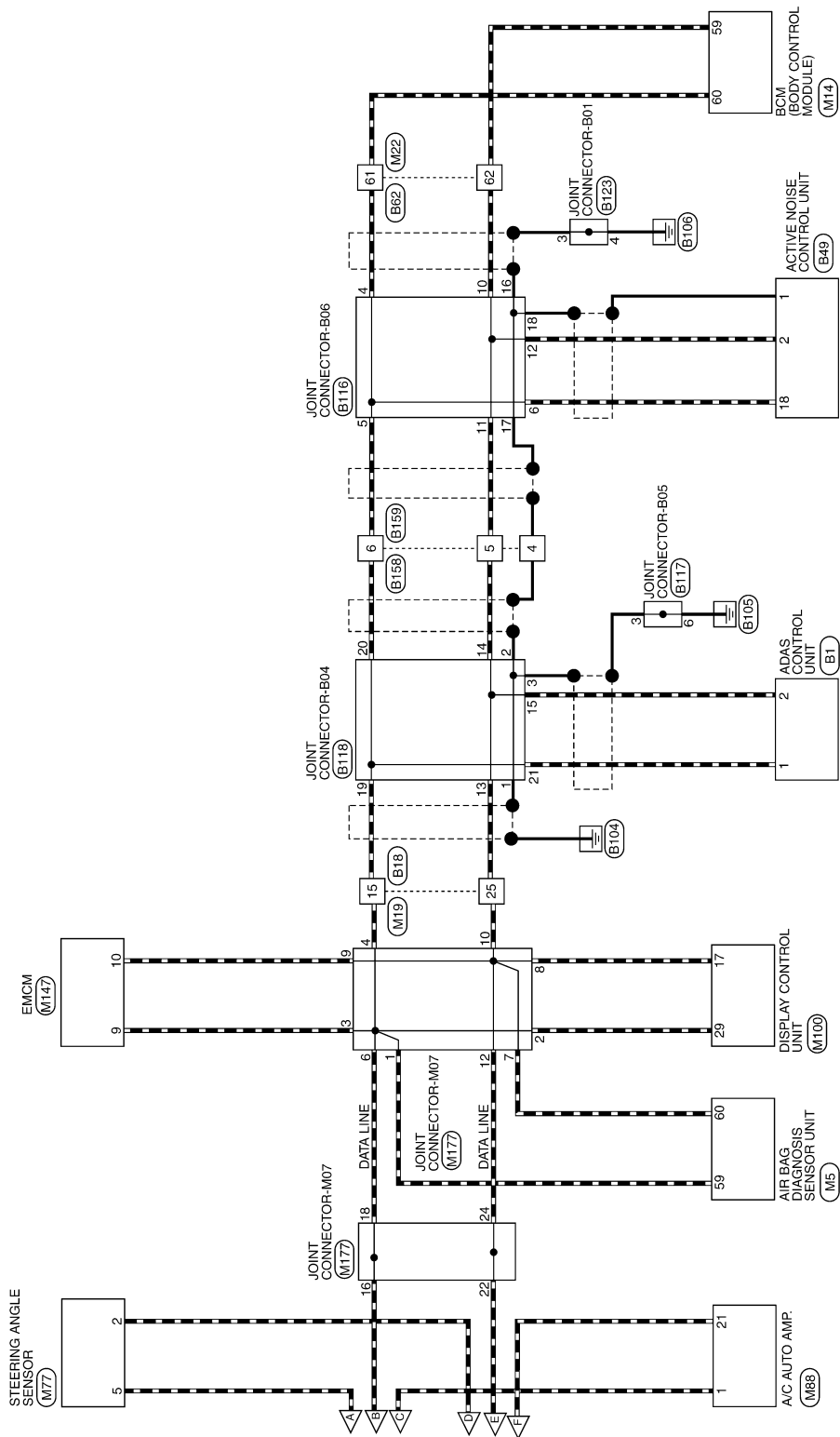
2016/02/15

JRMWJ4952GB

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]



JRMWJ4734GB

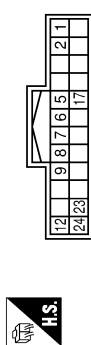
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

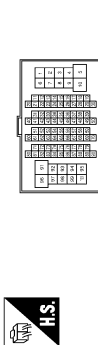
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-AH



Terminal No.	Color Of Wire	Signal Name (Specification)
1	L	CAN-H
2	R	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
8	L	CHASSIS COMM-H
9	R	CHASSIS COMM-L
12	G	IGNITION (Except with VR30 engine and without BS)
13	GR	IGNITION (VR30 engine and without BS)
17	V	BRAKE HOLD RLY DRIVE SIGNAL
23	Y	STEERING SW SIGNAL GROUND
24	SB	STEERING SW SIGNAL

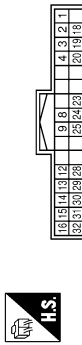
Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	Y	-
2	G	-
3	L	-
4	LG	-
5	Y	-
6	R	-
7	V	-

Terminal No.	Color Of Wire	Signal Name (Specification)
8	LG	-
10	BG	-
11	BG	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	R	-
23	V	-
24	Y	-
25	P	-
25	V	-
26	G	-
27	R	-
28	R	-
31	B	-
31	BR	-
32	B	-
33	B	-
34	LG	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-
41	SB	-
42	BR	-
43	BG	-
44	BG	-
46	R	-
50	W	-
51	SB	-
52	V	-
53	LG	-
54	R	-
55	R	-
57	W	-
58	V	-
59	GR	-
60	G	-
61	G	-
62	BG	-
63	BR	-

Connector No.	B49
Connector Name	ACTIVE NOISE CONTROL UNIT
Connector Type	TH32FM-AH

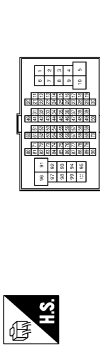


Terminal No.	Color Of Wire	Signal Name (Specification)
1	SHIELD	GROUND
2	P	CAN-L (For 2.0L turbo gasoline engine)
2	R	CAN-L (For VR30 engine)

Terminal No.	Color Of Wire	Signal Name (Specification)
64	Y	-
66	R	-
70	R	-
71	W	-
72	B	-
73	W	-
74	L	-
75	R	-
76	V	-
77	BR	-
78	W	-
79	SB	-
79	V	-
79	W	-
81	B	-
82	R	-
83	BG	-
84	L	-
85	R	-
85	V	-
86	B	-
86	G	-
88	G	-
89	V	-
89	W	-
91	GR	-
94	GR	-
96	Y	-
97	V	-
98	BR	-
98	Y	-

Terminal No.	Color Of Wire	Signal Name (Specification)
3	B	ENGINE TYPE SIGNAL 1
4	B	ENGINE TYPE SIGNAL 2
8	G	FRONT MICROPHONE SIGNAL (+)
9	BG	REAR MICROPHONE SIGNAL (+)
12	G	SOUND SIGNAL FRONT LH (+)
13	R	SOUND SIGNAL FRONT RH (+)
14	LG	SOUND SIGNAL REAR LH (+)
15	B	SOUND SIGNAL REAR RH (+)
16	V	ACC
18	L	CAN-H
19	P	ENGINE SPEED SIGNAL
20	W	IGN
23	B	GROUND
24	R	FRONT MICROPHONE SIGNAL (-)
25	W	REAR MICROPHONE SIGNAL (-)
28	L	SOUND SIGNAL FRONT LH (-)
29	L	SOUND SIGNAL FRONT RH (-)
30	P	SOUND SIGNAL REAR LH (-)
31	W	SOUND SIGNAL REAR RH (-)
32	Y	BAT

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	BR	-
1	LG	-
2	L	-
3	SHIELD	-
3	BR	-
3	R	-
3	W	-
4	SHIELD	-
4	Y	-
5	G	-
5	V	-
6	BG	-

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JRMWJ4735GB

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

Terminal No.	Color Of Wire	Signal Name [Specification]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and with BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
7	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	Y	-
13	R	-
14	BG	-
15	BG	- [With 2.0L turbo gasoline engine]
15	GR	- [With VR30 engine]
21	R	-
22	V	-
23	W	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	LG	- [With 2.0L turbo gasoline engine]
30	P	- [With VR30 engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
34	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]
37	P	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	- [With VR30 engine]
37	W	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	W	- [With VR30 engine and with BOSE system]
40	G	- [With 2.0L turbo gasoline engine]
40	SHIELD	- [With VR30 engine]
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	- [With VR30 engine]
47	G	-
48	BG	-
49	G	-
50	V	-
51	GR	-
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-
58	LG	-
59	P	-
61	L	-
62	P	- [With VR30 engine]
62	V	- [With 2.0L turbo gasoline engine]
63	L	-
64	W	-
66	LG	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	R	-
72	Y	- [With 2.0L turbo gasoline engine]
73	SHIELD	-
74	BG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
75	GR	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	GR	- [With VR30 engine]
76	W	- [With 2.0L turbo gasoline engine]
77	P	- [With 2.0L turbo gasoline engine]
78	L	-
79	R	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BG	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	- [With 2.0L turbo gasoline engine]
86	W	- [With VR30 engine]
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
89	LG	-
90	P	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	-
93	SHIELD	- [With 2.0L turbo gasoline engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	- [With 2.0L turbo gasoline engine and without BOSE system]
98	LG	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine and without BOSE system]
99	Y	- [With VR30 engine]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24242_4GB2A



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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

Connector No.	B117
Connector Name	JOINT CONNECTOR-B05
Connector Type	24342_4GAZA

6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19



Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GAZA

6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19



19	L	-	[With 2.0L turbo gasoline engine]
19	SHIELD	-	[With VR30 engine]
20	L	-	[With 2.0L turbo gasoline engine]
20	SHIELD	-	[With VR30 engine]
21	L	-	[With 2.0L turbo gasoline engine]
21	SHIELD	-	[With VR30 engine]
22	R	-	-
23	R	-	-
24	R	-	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	- [With 2.0L turbo gasoline engine]
1	SHIELD	- [With VR30 engine]
2	B	-
3	B	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	B	-
5	B	-
6	B	-
7	Y	-
8	Y	-
9	P	- [With VR30 engine]
9	Y	- [With 2.0L turbo gasoline engine]
10	P	- [With VR30 engine]
10	Y	- [With 2.0L turbo gasoline engine]
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	B	-
20	B	-
21	B	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	B	- [With 2.0L turbo gasoline engine]
22	SHIELD	- [With VR30 engine]
23	SHIELD	-
24	P	SHIELD

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
1	SHIELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	SHIELD	-
4	LG	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHIELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	R	- [With 2.0L turbo gasoline engine]
7	V	- [Color of wire differs depending on production]
8	LG	- [With VR30 engine and without paddle shift]
8	R	- [With VR30 engine and with paddle shift]
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine and without paddle shift]
9	V	- [With VR30 engine and with paddle shift]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHIELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHIELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	L	- [With 2.0L turbo gasoline engine and without gateway]
13	P	- [With 2.0L turbo gasoline engine and with gateway]
13	R	- [With 2.0L turbo gasoline engine and without gateway]
13	V	- [With 2.0L turbo gasoline engine and with gateway]
14	L	- [With VR30 engine]
14	P	- [With 2.0L turbo gasoline engine and without gateway]
14	R	- [With 2.0L turbo gasoline engine and with gateway]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-

10	P	-
12	R	-
13	SHIELD	-
14	R	-
15	L	-

Connector No.	B159
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-C5



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color Of Wire	Signal Name [Specification]
4	SHIELD	-
5	V	-
6	L	-
10	P	-
12	R	-
13	SHIELD	-
14	R	-
15	L	-

Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-RH



3	4	5	6	7	8	10	11	12
19	23							

Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	Y	DRIVE MODE SELECT SWITCH (DOWN) [With 2.0L turbo gasoline engine]

Connector No.	B123
Connector Name	JOINT CONNECTOR-B01
Connector Type	TK04FW-J



0	4	3	2	1	0
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	B	- [With 2.0L turbo gasoline engine]
3	SHIELD	- [With VR30 engine]
4	B	-

Connector No.	B158
Connector Name	WIRE TO WIRE
Connector Type	NS16AW-C5



1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

Terminal No.	Color Of Wire	Signal Name [Specification]
4	SHIELD	-
5	P	- [Without Gateway]
5	V	- [With Gateway]
6	L	-

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LAN

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

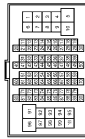
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

6	G	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	Y	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
7	W	CHASSIS COMM-L
8	W	CHASSIS COMM-L
10	BG	IGN [With 2.0L turbo gasoline engine]
11	L	IGN [With VR30 engine]
11	G	CHASSIS COMM-H
12	B	GROUND [With VR30 engine]
12	B/W	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMM-H [With VR30 engine]
19	BR	CHASSIS COMM-H [With 2.0L turbo gasoline engine]
22	G	ESS RELAY [With VR30 engine]
23	R	ESS RELAY [With 2.0L turbo gasoline engine]

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80PW-C516-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	[With VR30 engine] [Color of wire differs depending on production]
9	LG	[With VR30 engine] [Color of wire differs depending on production]
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
67	LG	-
68	BG	-
69	L	-
70	R	- [With 2.0L turbo gasoline engine]
71	G	- [With VR30 engine]
71	LG	- [With 2.0L turbo gasoline engine]
72	L	- [With VR30 engine]
72	V	- [With 2.0L turbo gasoline engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	[With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
75	V	- [With VR30 engine]
76	G	-
77	Y	-
78	LG	- [With 2.0L turbo gasoline engine and with ADAS]
78	P	- [With VR30 engine]
78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	G	-
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-
86	BG	-
87	G	-
89	LG	-
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BG	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E25
Connector Name	RETRACTOR AND ELECTRICITY CONTROL UNIT
Connector Type	SAZ30PFB-S124-U



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GN2
2	B	GN2
3	G	VALVE BATTERY [With VR30 engine]
3	P	VALVE BATTERY [With 2.0L turbo gasoline engine]
4	Y	MOTOR BATTERY
5	LG	STOP LAMP SW SIGNAL [With ADAS]
5	V	STOP LAMP SW SIGNAL [With VR30 engine]
7	GR	RR LH WHEEL SENSOR SIGNAL
8	G	RR LH WHEEL SENSOR SIGNAL
9	BR	FR RH WHEEL SENSOR SIGNAL
10	GR	FR RH WHEEL SENSOR SIGNAL
13	R	VACUUM SENSOR SIGNAL
15	P	CAN-L [Without gateway]
15	R	CAN-L [With gateway]
17	Y	RR RH WHEEL SENSOR SIGNAL
18	LG	FR LH WHEEL SENSOR SIGNAL
18	V	FR LH WHEEL SENSOR SIGNAL [With VR30 engine]
19	G	FR LH WHEEL SENSOR SIGNAL
20	BG	FR LH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	VDC OFF SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

JRMWJ4738GB

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

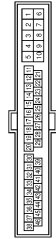
Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS



Connector No.	E121
Connector Name	IPM (IP) INTELLIGENT POWER DISTRIBUTION MODULE ENGINE (BODY)
Connector Type	TH32FW-AH



Connector No.	E195
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10



Terminal No.	45	Y	-
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Connector No.	E200
Connector Name	ECM
Connector Type	ADAS245-AH26



Terminal No.	Color Of Wire	Signal Name (Specification)
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
10F	W	-
11F	G	(Color of wire differs depending on production)
12F	R	(Color of wire differs depending on production)
13F	W	(With VR30 engine)
14F	Y	(With 2.0L turbo gasoline engine)
15F	R	-
16F	BR	-
17F	P	-
18F	L	-
19F	R	-
20F	L	-
21F	L	-
22F	L	-
23F	L	-
24F	L	-
25F	L	-
26F	L	-
27F	L	-
28F	L	-
29F	L	-
30F	L	-
31F	L	-
32F	L	-
33F	L	-
34F	L	-
35F	L	-
36F	L	-
37F	L	-
38F	L	-
39F	L	-
40F	L	-
41F	L	-
42F	L	-
43F	L	-
44F	L	-
45F	L	-

Terminal No.	Color Of Wire	Signal Name (Specification)
19	L	(With 2.0L turbo gasoline engine)
22	P	(With VR30 engine)
23	GR	(With VR30 engine)
25	LG	(With 2.0L turbo gasoline engine and without Am (left model))
27	P	(With 2.0L turbo gasoline engine and with Am (left model))
28	P	-
29	L	-
31	G	-
32	SB	-
33	SB	-
34	Y	-
35	G	-
36	SB	(With VR30 engine)
37	GR	(With 2.0L turbo gasoline engine)
38	BR	-
41	GR	-
43	V	-

Terminal No.	Color Of Wire	Signal Name (Specification)
5	BR	-
8	GR	-
9	P	-
10	R	-
11	L	-
12	P	-
13	GR	-
14	Y	-
15	G	-
16	W	-
17	L	-
18	R	-
19	BR	-
20	SHIELD	-
21	BR	-
22	V	-
23	W	-
24	L	-
25	G	-
26	G	-
30	Y	-
31	GR	-
32	SB	-
33	W	-
34	W	-
35	B	-
36	G	-
37	SHIELD	-
38	R	-
39	L	-
40	GR	-
41	W	-
42	B	-
43	BR	-
44	P	-
45	SB	-

Terminal No.	Color Of Wire	Signal Name (Specification)
97	G	POWER SUPPLY (MAIN)
98	B	ECM GROUND
99	G	POWER SUPPLY (MAIN)
100	B	ECM GROUND
101	G	POWER SUPPLY (MAIN)
102	B	ECM GROUND
103	V	COOLING FAN CONTROL SIGNAL (PWM)
104	Y	SENSOR POWER SUPPLY
105	R	SENSOR POWER SUPPLY
106	W	SENSOR GROUND
109	P	ENGINE SPEED SIGNAL
111	G	POWER SUPPLY
116	LG	STARTER RELAY-L
119	BR	SENSOR RELAY-L
120	BG	SENSOR GROUND
123	BR	MAIN RELAY CONTROL SIGNAL
127	V	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
137	L	CAN-H
138	L	DRIVE/RAIN CAN-H
143	GR	BACK UP LAMP SWITCH
145	LG	REFRIGERANT PRESSURE SENSOR
146	L	ACCELERATOR PEDAL POSITION SENSOR 2
148	L	FUEL TANK PRESSURE SENSOR
150	L	STARTER RELAY-H
151	P	CAN-L
152	B	DRIVE/RAIN CAN-L
153	G	EVAP CANISTER VENT CONTROL VALVE
		EVAP PURGE CONTROL VALVE

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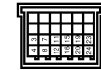
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

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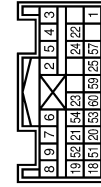
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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

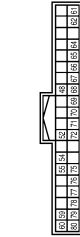
Connector No.	E220
Connector Name	JOINT CONNECTOR-E05
Connector Type	NH24FE-J



Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28FY-EX



Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

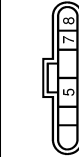


Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-C3.16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	-
4	L	-
7	W	-
8	L	-
11	W	-
12	L	-
15	P	- [Without Gateway]
15	R	- [With Gateway]
16	L	-
19	P	- [Without Gateway]
19	R	- [With Gateway]
20	L	-
23	P	- [Without Gateway]
23	R	- [With Gateway]
24	L	-

Connector No.	E221
Connector Name	POWER STEERING CONTROL MODULE
Connector Type	FEA04EB-FHA2-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	Y/R	DRL (+)
4	Y/B	DRL (-)
5	Y	DR2 (+)
6	Y/R	AST (+)
7	Y/B	AST (-)
8	Y/G	AS2 (+)
9	Y	AS2 (-)
18	Y	ECZS+
19	BR	ECZS-
20	Y/R	ACT_VENT+
21	Y/B	ACT_VENT-
22	SHIELD	GND
23	V	AIRBAG W/L
24	G	-
25	GR	A/B OFF_IND
51	G	SATELLITE RH2 (+)
52	R	SIDE SENS RH2-
53	V	SIDE SENS LH2+
54	L	SIDE SENS LH2-
57	LG	IVCS
59	L	CAN-H
60	P	CAN-L

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW (LL PWR)
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	L-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLY VY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLY VY (IPDM E/R) CONT
71	G	DR DOOR REQ SW
72	S/R	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	B/G	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LUD OPNR SW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	S/R	-
4	BR	-
5	Y	-
6	R	-
7	W	-
8	V	-
10	B/G	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	S/R	-
23	R	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-
34	V	-
35	P	-
36	W	-
37	S/R	-
38	LG	-
40	P	-

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

41	G	-	-
42	BR	-	-
43	BR	-	-
44	BR	-	-
46	BG	-	-
50	W	-	-
51	Y	-	-
52	V	-	-
53	LG	-	-
54	R	-	-
55	R	-	-
57	W	-	-
58	V	-	-
59	BG	-	-
60	G	-	-
61	G	-	-
62	BG	-	-
63	BR	-	-
64	Y	-	-
66	R	-	-
70	LG	-	-
71	W	-	-
72	B	-	-
73	W	-	-
74	L	-	-
75	W	-	-
76	BR	-	-
77	B	-	-
78	SB	-	-
79	P	- [With VR30 engine]	-
79	W	- [With VR30 engine]	-
81	B	-	-
82	R	-	-
83	BG	-	-
84	L	-	-
85	W	-	-
86	B	-	-
88	G	-	-
89	V	- [With 2.0L turbo gasoline engine]	-
91	GR	- [With VR30 engine]	-
94	GR	-	-
96	W	-	-
97	V	-	-
98	BR	- [With VR30 engine and with BOSE system]	-
98	Y	- [Except with VR30 engine and with BOSE system]	-

Connector No.	N22
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CSI46-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	-
2	L	- [With VR30 engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	BR	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
4	Y	- [With VR30 engine]
5	G	- [With 2.0L turbo gasoline engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With VR30 engine]
8	P	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	LG	-
14	LG	-
15	BR	- [With 2.0L turbo gasoline engine]
15	B	- [With VR30 engine]
16	SB	- [With DCU]
16	V	- [Without DCU]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
22	V	-
23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]

65	R	-	-
68	L	-	-
69	P	-	-
71	GR	- [With 2.0L turbo gasoline engine]	-
71	R	- [With VR30 engine]	-
72	G	- [With 2.0L turbo gasoline engine]	-
72	V	- [With VR30 engine]	-
73	LG	- [With 2.0L turbo gasoline engine]	-
73	LG	- [With VR30 engine]	-
74	SHIELD	- [With VR30 engine]	-
74	L	- [With 2.0L turbo gasoline engine]	-
74	LG	- [With VR30 engine]	-
75	P	-	-
76	SB	- [With 2.0L turbo gasoline engine]	-
76	V	- [With VR30 engine]	-
77	Y	-	-
78	L	-	-
79	G	-	-
80	GR	- [With 2.0L turbo gasoline engine]	-
81	W	- [With VR30 engine]	-
81	B	- [With 2.0L turbo gasoline engine]	-
81	R	- [With VR30 engine]	-
82	G	- [With 2.0L turbo gasoline engine]	-
82	G	- [With VR30 engine]	-
82	SHIELD	- [With VR30 engine]	-
83	R	- [With 2.0L turbo gasoline engine]	-
83	W	- [With VR30 engine]	-
84	BR	- [With VR30 engine]	-
84	SHIELD	- [With 2.0L turbo gasoline engine]	-
85	G	- [With VR30 engine]	-
85	R	- [With 2.0L turbo gasoline engine]	-
86	R	- [With VR30 engine]	-
86	V	- [With VR30 engine]	-
87	LG	- [With 2.0L turbo gasoline engine]	-
87	SHIELD	- [With VR30 engine]	-
89	BR	- [With 2.0L turbo gasoline engine]	-
89	LG	- [With VR30 engine]	-
90	SB	- [With 2.0L turbo gasoline engine]	-
90	V	- [With VR30 engine]	-
92	L	- [With 2.0L turbo gasoline engine]	-
92	W	- [With VR30 engine]	-
93	R	- [With VR30 engine]	-
93	SHIELD	- [With 2.0L turbo gasoline engine]	-
94	R	-	-
95	L	- [With 2.0L turbo gasoline engine]	-
95	Y	- [With VR30 engine]	-
96	R	- [With 2.0L turbo gasoline engine]	-
96	W	- [With VR30 engine]	-
97	L	- [With 2.0L turbo gasoline engine]	-
97	R	- [With VR30 engine]	-
98	BR	-	-
99	BR	- [With VR30 engine and with BOSE system]	-

25	SB	- [With VR30 engine]	-
26	G	- [With VR30 engine]	-
26	W	- [With 2.0L turbo gasoline engine]	-
27	R	-	-
29	LG	-	-
30	SB	- [With VR30 engine]	-
30	W	- [With 2.0L turbo gasoline engine]	-
31	SHIELD	-	-
32	L	-	-
33	B	- [With VR30 engine]	-
33	LG	- [With 2.0L turbo gasoline engine]	-
34	SHIELD	-	-
35	LG	- [With VR30 engine]	-
35	W	- [With 2.0L turbo gasoline engine]	-
36	R	- [With VR30 engine]	-
36	V	- [With 2.0L turbo gasoline engine]	-
37	R	- [With VR30 engine]	-
37	V	- [With 2.0L turbo gasoline engine]	-
38	W	-	-
39	P	- [With VR30 engine and without BOSE system]	-
39	R	- [With 2.0L turbo gasoline engine]	-
39	V	- [With VR30 engine and with BOSE system]	-
40	G	-	-
41	L	-	-
42	R	-	-
43	SHIELD	-	-
44	P	-	-
45	B	- [With 2.0L turbo gasoline engine]	-
45	G	- [With VR30 engine]	-
46	SHIELD	-	-
47	G	-	-
48	BG	- [Except with VR30 engine and with BOSE system]	-
49	G	- [With VR30 engine and with BOSE system]	-
50	V	-	-
51	V	-	-
52	L	- [With 2.0L turbo gasoline engine]	-
52	Y	- [With VR30 engine]	-
53	R	-	-
54	GR	-	-
55	L	-	-
56	P	-	-
58	LG	-	-
59	SB	-	-
61	L	-	-
62	P	- [With 2.0L turbo gasoline engine]	-
63	V	- [With VR30 engine]	-
64	W	-	-

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

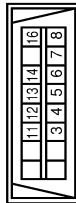
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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

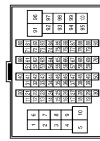
Terminal No.	Color Of Wire	Signal Name [Specification]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	KLINE [With 2.0L turbo gasoline engine]
8	W	KLINE [With VR30 engine]
11	SB	IGN_SW
12	R	M_CAN_H
13	L	CAN-L
14	P	CAN-L
16	W	POWER

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MM-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
49	B	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	B	- [With 2.0L turbo gasoline engine]
50	BR	- [With VR30 engine]
51	L	-
52	W	-
53	G	-
54	SA	- [With 2.0L turbo gasoline engine]
54	BR	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SB	-
61	W/B	-
64	Y	-
65	R	-
66	P	- [Color of wire differs depending on production]
66	V	- [Color of wire differs depending on production]
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	W/B	-
77	SB	-
78	SB	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	G	-
81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-

89	V	-
90	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	-
93	BR	- [With VR30 engine]
94	GR	- [With 2.0L turbo gasoline engine]
94	L	- [With VR30 engine]
95	BR	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	V	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No.	M42
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	AWD_SOL (+)
2	Y	AWD_SOL (-)
3	W/B	FLUID_TEMP (-)
7	G	IGN
8	L	CAN-H
9	BG	AWD_SOL_BAT
10	B	GND
11	B	GND
13	LG	FLUID_TEMP (+)
15	W	BATTERY_POWER_SUPPLY
16	P	CAN-L [Without Gateway]
16	R	CAN-L [With Gateway]

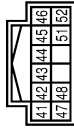
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL (Except with VR30 engine and without ISS)
46	R	IGNITION SIGNAL (With VR30 engine and without ISS)
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-AH



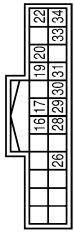
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

Connector No.	M88
Connector Name	A/C AUTO AMP.
Connector Type	TH40FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	W	BATTERY POWER SUPPLY
7	G	AMBIENT SENSOR SIGNAL
9	R	SUNLOAD SENSOR SIGNAL
13	SB	ACC POWER SUPPLY (With 2.0L turbo gasoline engine)
13	V	ACC POWER SUPPLY (With VR30 engine)
16	P	IGN SIGNAL
17	R	DOOR MOTOR POWER SUPPLY
18	P	BLOWER MOTOR CONTROL SIGNAL
20	L	HEATED STEERING WHEEL RELAY CONTROL SIGNAL
21	P	CAN-L
22	B	GROUND
23	R	IGNITION POWER SUPPLY (With VR30 engine and with ISS)
23	W	IGNITION POWER SUPPLY (Except with VR30 engine and with ISS)
26	B	SENSOR GROUND
27	LG	IN-VEHICLE SENSOR SIGNAL
28	BR	INTAKE SENSOR SIGNAL
30	BG	EXHAUST GAS / OUTSIDE OROOR DETECTING SENSOR SIGNAL
37	B	GROUND
38	BG	IGNITER (ON/OFF) CONTROL SIGNAL
40	BG	ECV CONTROL SIGNAL

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
16	LG	AV COM1 (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GNL
26	BR	CAMERA SWITCH SIGNAL
28	SB	AV COM1 (H)
29	L	CAN-H
30	R	IGN [For VR30 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (B-PULSE)
33	SB	ACC [Except for VR30 engine and with ISS]
33	V	ACC [For VR30 engine and with ISS]
34	Y	BAT

Connector No.	M133
Connector Name	FUSE BLOCK (I/B)
Connector Type	TH40FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-

17C	L	-
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
24C	L	-
25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-
6C	G	-
7C	G	-
8C	G	-
9C	V	-

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

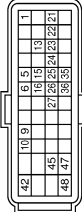
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITHOUT AUTOMATIC DRIVE POSITIONER)

Connector No.	M1146
Connector Name	WIRE TO WIRE
Connector Type	TK36RMW-MS10

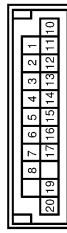



46	B	-
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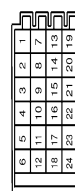
Connector No.	M1147
Connector Name	EMCM
Connector Type	8400FB-R28-RUM-Z




Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC




Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	2434Z_4GA2A




Terminal No.	Color Of Wire	Signal Name [Specification]
5	R	-
8	GR	-
9	V	-
10	BG	-
11	L	-
12	P	-
13	SB	-
14	Y	-
15	G	-
16	BR	-
17	W	-
18	R	-
19	L	-
20	SHIELD	-
21	BR	-
22	B	-
23	G	-
24	L	-
25	R	-
26	G	-
30	Y	-
31	GR	-
32	SB	-
33	BG	-
34	W	-
35	G	-
36	R	-
38	B	-
39	W	-
40	B	-
41	GR	-
42	B	-
43	LG	-
44	B	-
45	SB	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	EMCM RELAY CONTROL (SSOFF)
5	L	IGNITION SWITCH
6	LG	STOP LAMP SWITCH
9	L	CAN-H
10	P	CAN-L
13	W	STOP/START OFF SWITCH
15	Y	ENGINE POWER SUPPLY FOR MAIN BATTERY CURRENT/TEMPERATURE SENSOR
16	W	SENSOR GROUND MAIN BATTERY CURRENT/TEMPERATURE SENSOR
21	V	SUB BATTERY RELAY CONTROL
22	G	ENGINE RESTART BYPASS CONTROL RELAY
23	BR	BRAKE PEDAL POSITION SWITCH
24	GR	MAIN BATTERY CURRENT SENSOR
25	BG	MAIN BATTERY TEMPERATURE SENSOR
26	R	SUB BATTERY CURRENT SENSOR
27	BR	SUB BATTERY TEMPERATURE SENSOR
35	SB	ENGINE POWER SUPPLY FOR MAIN BATTERY CURRENT/TEMPERATURE SENSOR
36	G	SENSOR GROUND MAIN BATTERY CURRENT/TEMPERATURE SENSOR
42	G	EMCM POWER SUPPLY
45	R	SUB BATTERY VOLTAGE MONITOR
47	B	EMCM GROUND
48	B	EMCM GROUND

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
9	P	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	R	- [With VR30 engine]
17	P	- [With VR30 engine]
18	L	-
19	R	- [With 2.0L turbo gasoline engine]
20	W	- [With VR30 engine and with ISS]
21	W	- [With VR30 engine and with ISS]
22	P	- [With VR30 engine and with ISS]
23	P	- [With VR30 engine and with ISS]
24	P	- [With VR30 engine and with ISS]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

JRMWJ4744GB

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

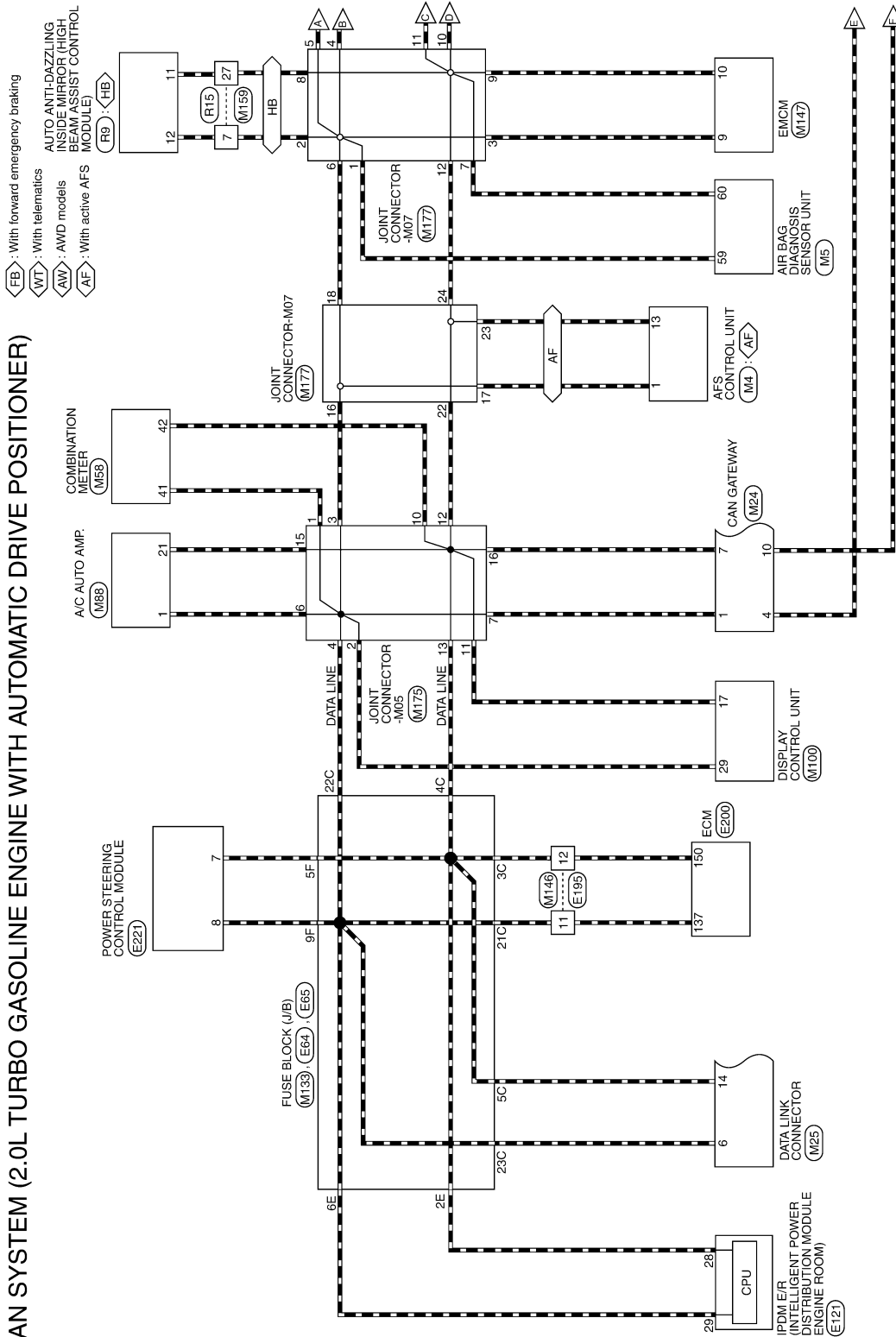
[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Wiring Diagram

INFOID:000000012795102

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)



*: This connector is not shown in "Harness Layout".

2016/02/15

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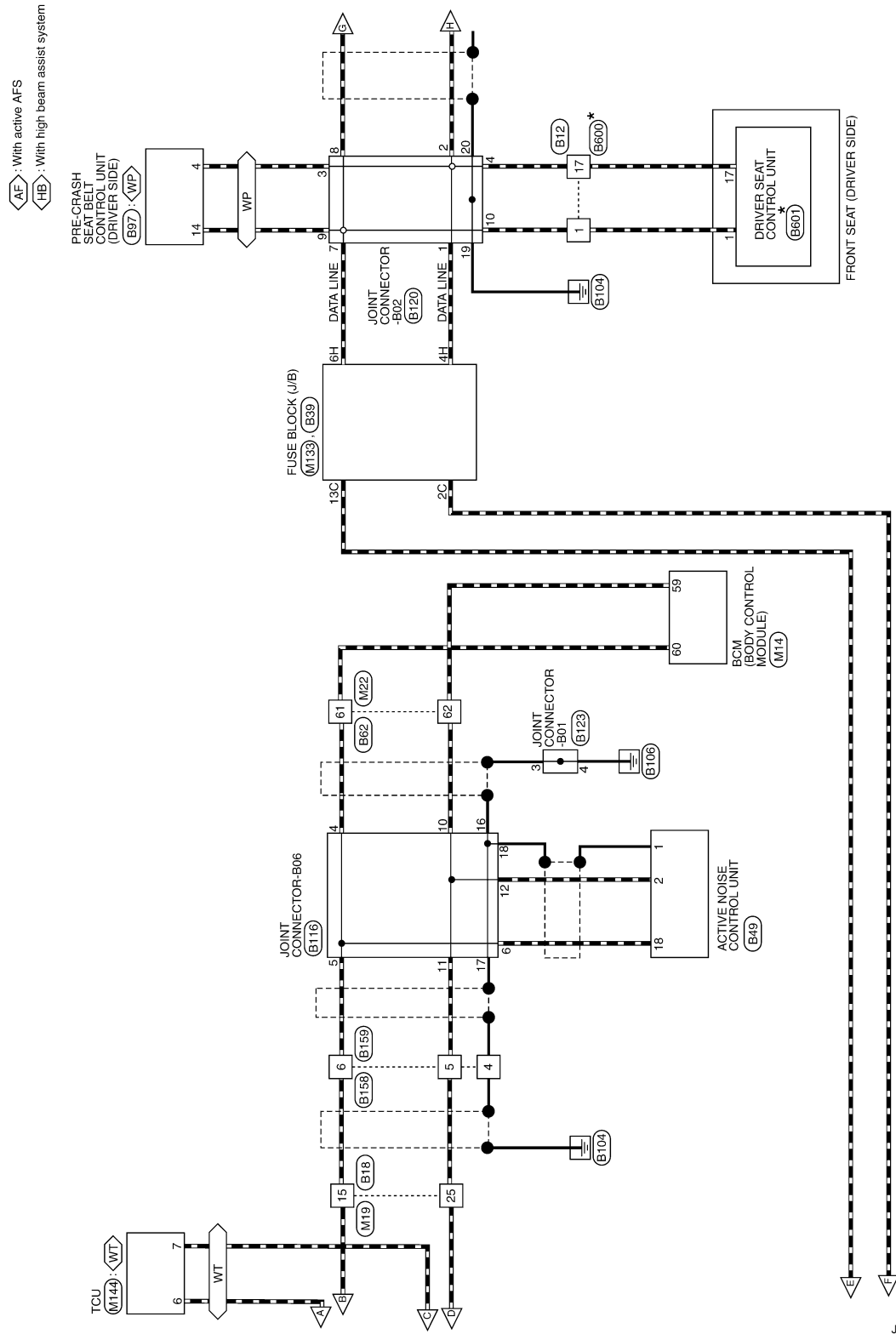
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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

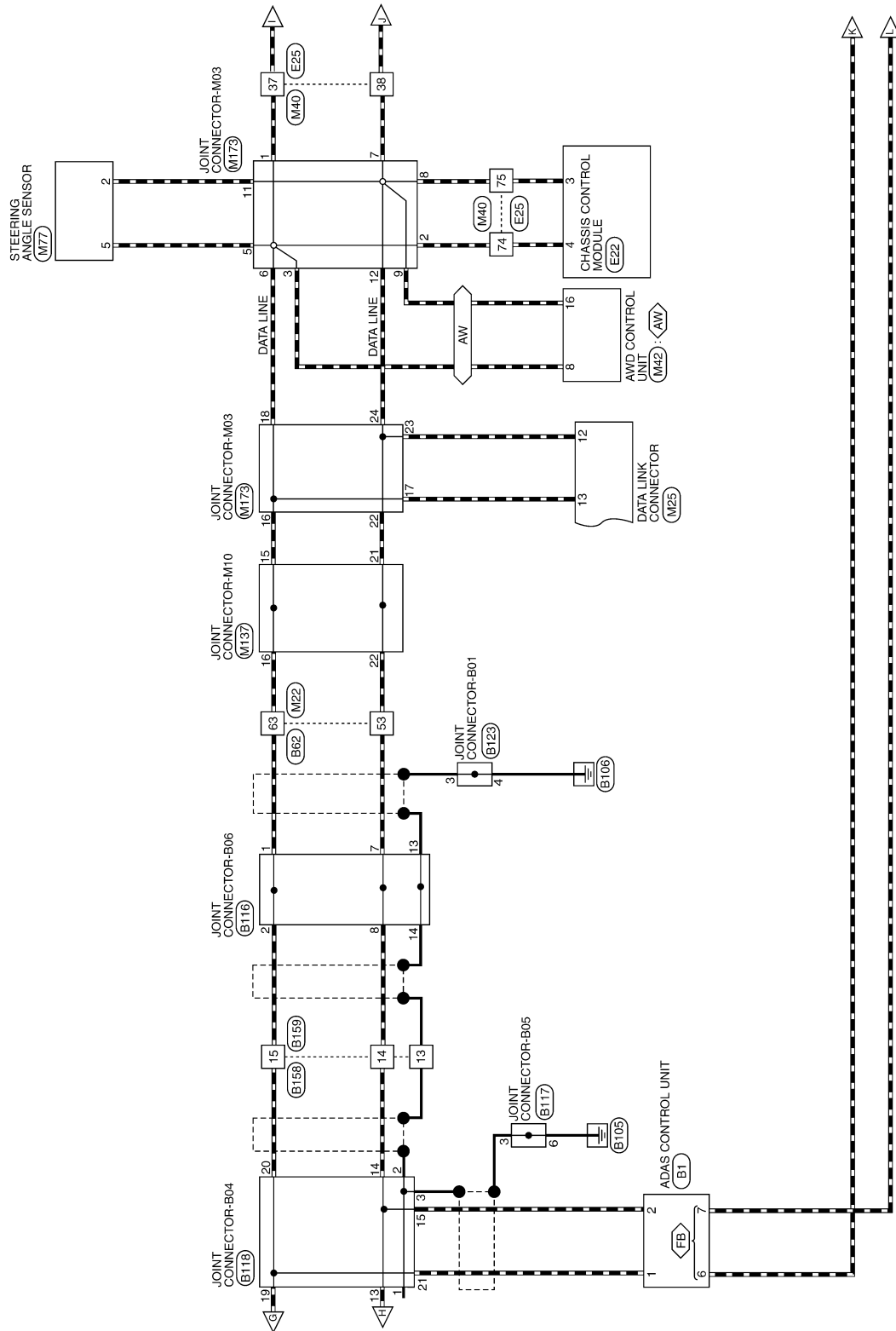


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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]



JRMWJ4747GB

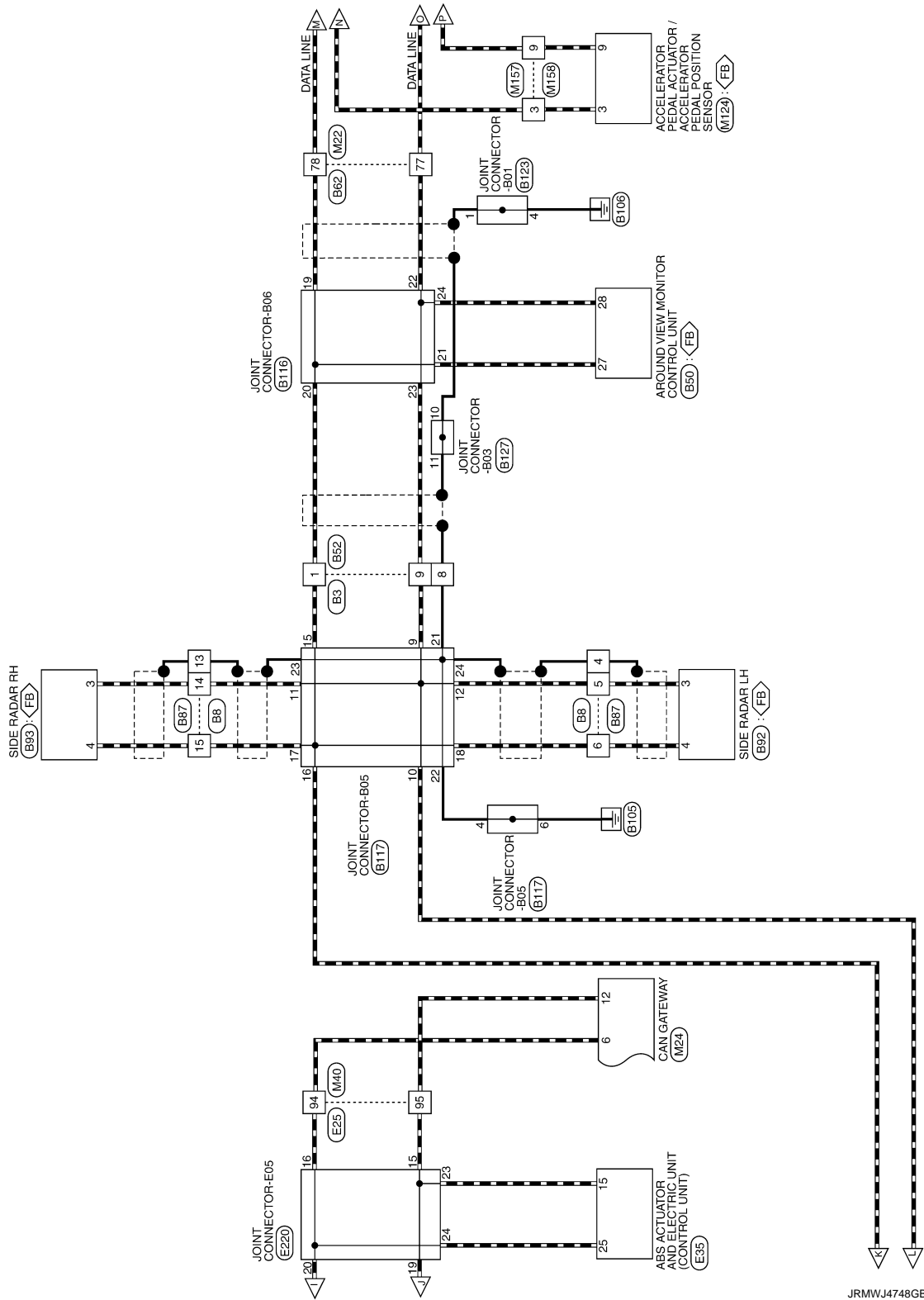
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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

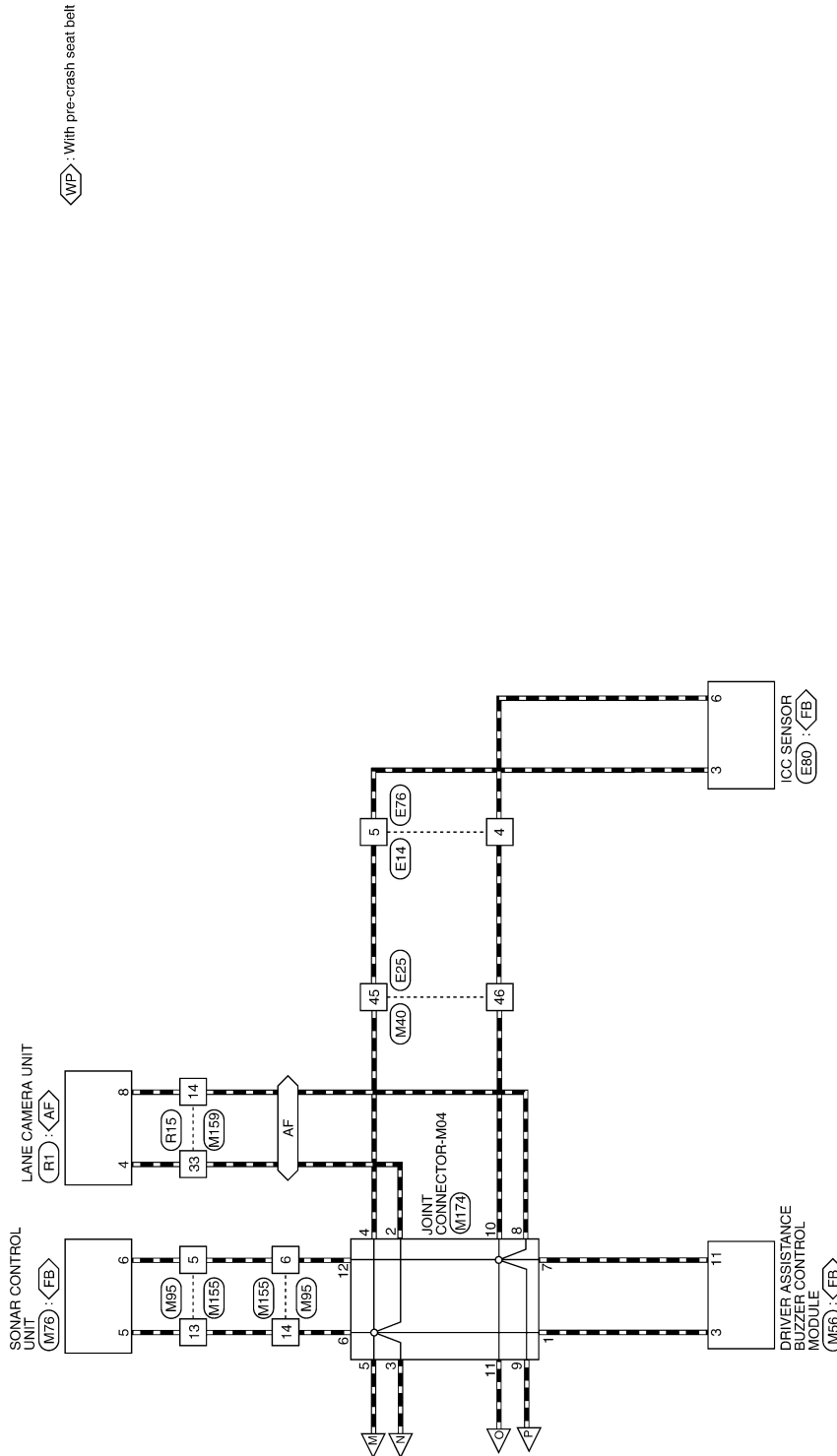


JRMWJ4748GB

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]



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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



12	13	14	15	16	17	18
24	25	26	27	28	29	30

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	R	CAN-L
3	B	GROUND
4	L	ITS COMM-L
5	L	ITS COMM-H
6	L	CHASSIS COMM-H
7	R	CHASSIS COMM-L
8	G	IGNITION [Except with VR30 engine and without BS]
9	G	IGNITION [VR30 engine and without BS]
10	V	IGNITION [VR30 engine and without BS]
11	V	IGNITION [VR30 engine and without BS]
12	V	IGNITION [VR30 engine and without BS]
13	V	IGNITION [VR30 engine and without BS]
14	V	IGNITION [VR30 engine and without BS]
15	V	IGNITION [VR30 engine and without BS]
16	V	IGNITION [VR30 engine and without BS]
17	V	IGNITION [VR30 engine and without BS]
18	V	IGNITION [VR30 engine and without BS]
19	V	IGNITION [VR30 engine and without BS]
20	V	IGNITION [VR30 engine and without BS]
21	V	IGNITION [VR30 engine and without BS]
22	V	IGNITION [VR30 engine and without BS]
23	V	IGNITION [VR30 engine and without BS]
24	V	IGNITION [VR30 engine and without BS]
25	V	IGNITION [VR30 engine and without BS]
26	V	IGNITION [VR30 engine and without BS]
27	V	IGNITION [VR30 engine and without BS]
28	V	IGNITION [VR30 engine and without BS]
29	V	IGNITION [VR30 engine and without BS]
30	V	IGNITION [VR30 engine and without BS]
31	V	IGNITION [VR30 engine and without BS]
32	V	IGNITION [VR30 engine and without BS]
33	V	IGNITION [VR30 engine and without BS]
34	V	IGNITION [VR30 engine and without BS]
35	V	IGNITION [VR30 engine and without BS]
36	V	IGNITION [VR30 engine and without BS]
37	V	IGNITION [VR30 engine and without BS]
38	V	IGNITION [VR30 engine and without BS]
39	V	IGNITION [VR30 engine and without BS]
40	V	IGNITION [VR30 engine and without BS]
41	V	IGNITION [VR30 engine and without BS]
42	V	IGNITION [VR30 engine and without BS]
43	V	IGNITION [VR30 engine and without BS]
44	V	IGNITION [VR30 engine and without BS]
45	V	IGNITION [VR30 engine and without BS]
46	V	IGNITION [VR30 engine and without BS]
47	V	IGNITION [VR30 engine and without BS]
48	V	IGNITION [VR30 engine and without BS]



7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

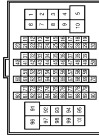


28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	LG	-
3	P	-
4	V	-
5	V	-
6	V	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	-
17	P	-
18	P	-
19	P	-
20	P	-
21	P	-
22	P	-
23	P	-
24	P	-
25	P	-
26	P	-
27	P	-
28	P	-
29	P	-
30	P	-
31	P	-
32	P	-
33	P	-
34	P	-
35	P	-
36	P	-
37	P	-
38	P	-
39	P	-
40	P	-
41	P	-
42	P	-
43	P	-
44	P	-
45	P	-
46	P	-
47	P	-
48	P	-



Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
4	LG	-
5	Y	-
6	R	-
7	V	-
8	LG	-
9	BG	-
10	BG	-
11	BG	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
17	V	-
18	W	-
19	BR	-
20	W	-
21	R	-
22	R	-
23	V	-
24	R	-
25	P	-
26	G	-
27	R	-
28	R	-
29	R	-
30	R	-
31	B	-
32	B	-
33	B	-
34	LG	-
35	P	-
36	W	-
37	SR	-
38	LG	-
39	P	-
40	P	-
41	SR	-
42	BR	-
43	BG	-
44	BG	-
45	R	-
46	R	-
47	W	-
48	V	-
49	V	-
50	V	-
51	SR	-
52	V	-
53	LG	-

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

54	R	-	-	-	-
55	R	-	-	-	-
57	W	-	-	-	-
58	W	-	-	-	-
59	GR	-	-	-	-
60	G	-	-	-	-
61	G	-	-	-	-
62	BG	-	-	-	-
63	BR	-	-	-	-
64	Y	-	-	-	-
66	R	-	-	-	-
70	R	-	-	-	-
71	W	-	-	-	-
72	B	-	-	-	-
73	W	-	-	-	-
74	L	-	-	-	-
75	R	-	-	-	-
75	V	-	-	-	-
76	BR	-	-	-	-
77	B	-	-	-	-
78	SB	-	-	-	-
79	V	-	-	-	-
79	W	-	-	-	-
81	B	-	-	-	-
82	R	-	-	-	-
83	BG	-	-	-	-
84	L	-	-	-	-
85	R	-	-	-	-
85	V	-	-	-	-
86	B	-	-	-	-
88	G	-	-	-	-
89	V	-	-	-	-
89	W	-	-	-	-
91	GR	-	-	-	-
94	GR	-	-	-	-
96	Y	-	-	-	-
97	V	-	-	-	-
98	BR	-	-	-	-
98	Y	-	-	-	-

Connector No.	B39
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH10FE-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
10H	P	-
3H	L	-
4H	R	-
5H	V	-
6H	L	-
7H	LG	-
8H	P	-
9H	GR	-

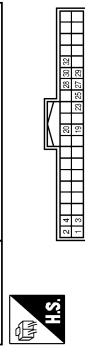
Connector No.	B49
Connector Name	ACTIVE NOISE CONTROL UNIT
Connector Type	TH32F-W-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	GND
2	P	CAN-L [For 2.0L turbo gasoline engine]
3	R	CAN-L [For VR30 engine]
4	B	ENGINE TYPE SIGNAL 1
5	B	ENGINE TYPE SIGNAL 2
8	G	REAR MICROPHONE SIGNAL (+)
9	BG	FRONT MICROPHONE SIGNAL (+)
12	G	SOUND SIGNAL FRONT LH (+)
13	R	SOUND SIGNAL FRONT RH (+)
14	LG	SOUND SIGNAL REAR LH (+)
15	B	SOUND SIGNAL REAR RH (+)
16	V	ACC

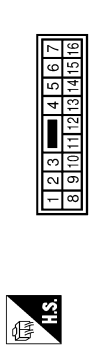
18	L	CAN-H
19	P	ENGINE SPEED SIGNAL
20	W	IGN
23	B	GND
24	R	FRONT MICROPHONE SIGNAL (+)
25	W	REAR MICROPHONE SIGNAL (+)
28	L	SOUND SIGNAL FRONT LH (+)
29	L	SOUND SIGNAL FRONT RH (+)
30	P	SOUND SIGNAL REAR LH (+)
31	W	SOUND SIGNAL REAR RH (+)
32	Y	BAT

Connector No.	B50
Connector Name	ROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40F-W-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y	BAT
3	LG	IGN
4	P	ACC
19	P	AV COMM (RH)
20	LG	AV COMM (LH)
23	SHIELD	AV COMM GND
25	BG	REVERSE SIGNAL
27	L	CAN-H
28	P	CAN-L [Without ADAS] [For VR20 engine]
28	R	CAN-L [With ADAS]
28	Y	CAN-L [Without ADAS] [For 2.0L turbo gasoline engine]
29	B	CAN GND
30	W	RETRACT MOTOR OPERATING SIGNAL (OPEN)
32	G	RETRACT MOTOR OPERATING SIGNAL (CLOSE)

Connector No.	B52
Connector Name	WIRE TO WIRE
Connector Type	NS16MM-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
5	Y	- [Without BOSE system]
7	R	-
8	SHIELD	-
9	P	-
11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80F-W-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE system]
1	LG	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine and with BOSE system]

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

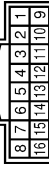
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

3	W	- [With VR30 engine and without BOSE system]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	R	- [With VR30 engine and without BOSE system]
7	BR	- [With VR30 engine and with BOSE system]
7	W	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
8	B	- [With VR30 engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	Y	-
13	R	-
14	BG	-
15	BG	- [With 2.0L turbo gasoline engine]
15	GR	- [With VR30 engine]
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-
21	R	-
22	V	-
23	W	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	- [With 2.0L turbo gasoline engine]
30	P	- [With VR30 engine]
31	SHIELD	- [With VR30 engine]
32	L	-
33	B	- [With VR30 engine]
34	LG	- [With 2.0L turbo gasoline engine]
35	LG	-
35	R	- [With VR30 engine]
36	R	- [With 2.0L turbo gasoline engine]
36	W	- [With 2.0L turbo gasoline engine]

37	P	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	- [With VR30 engine]
37	W	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	W	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	-
49	G	-
50	V	-
51	GR	-
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-
58	LG	-
59	P	-
61	L	-
62	P	- [With VR30 engine]
62	V	- [With 2.0L turbo gasoline engine]
63	L	-
64	W	-
66	LG	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	Y	- [With 2.0L turbo gasoline engine]
73	R	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	BG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
75	GR	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	GR	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
77	P	-

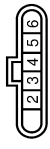
78	L	-
79	R	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With VR30 engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BG	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	- [With 2.0L turbo gasoline engine]
86	W	- [With VR30 engine]
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
89	LG	-
90	P	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	- [With VR30 engine]
93	SHIELD	- [With 2.0L turbo gasoline engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	- [With 2.0L turbo gasoline engine and without BOSE system]
98	LG	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	V	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	BB7
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
2	B	-
3	BR	-
4	SHIELD	-
5	R	-
6	L	-
7	GR	-
10	B	-
11	B	-
12	SB	-
13	SHIELD	-
14	P	-
15	L	-

Connector No.	BB2
Connector Name	SIDE RADAR LH
Connector Type	AAK06FE-WP-5P



Terminal No.	Color Of Wire	Signal Name (Specification)
2	B	GROUND
3	R	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	BR	BUILD-UP WARNING/BLIND SPOT INTERVENTION INDICATOR

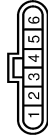
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

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[CAN]

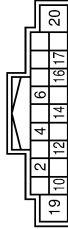
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	B83
Connector Name	SIDE RADAR RH
Connector Type	AAC09FB-WP



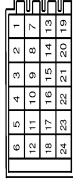
Terminal No.	Wire	Signal Name (Specification)
1	B	RIGHT/LEFT SWITCHING SIGNAL
2	B	GROUND
3	P	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	SB	BUNG SPOT WARNING/BUNG SPOT INTERVENTION INDICATOR

Connector No.	B87
Connector Name	RE-CHARGE (S&T REL) CONTROL UNIT (RECHARGE SW)
Connector Type	NH18FW-CSZ



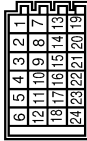
Terminal No.	Wire	Signal Name (Specification)
2	G	OUT 1
4	R	CAN LO
6	W	BACKL SW LH NO
10	R	SENS POWER
12	B	OUT 2
14	L	CAN HI
16	Y	LOCAL COMM 1
17	W	SENS GND
19	BR	MOTOR_BAT (With 2.0L turbo gasoline engine)
19	Y	MOTOR_BAT (With VRS30 engine)
20	B	MOTOR_GND

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GA2A



Terminal No.	Wire	Signal Name (Specification)
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	- [With Gateway]
8	V	- [Without Gateway]
9	R	-
9	V	- [Without Gateway]
10	R	- [With VRS30 engine]
10	V	- [With 2.0L turbo gasoline engine]
11	V	-
12	P	- [With Gateway]
12	R	- [Without Gateway]
13	SHELD	-
14	SHELD	-
15	B	- [With 2.0L turbo gasoline engine]
16	SHELD	- [With VRS30 engine]
16	L	- [With 2.0L turbo gasoline engine]
17	L	-
17	SHELD	- [With VRS30 engine]
17	L	- [With 2.0L turbo gasoline engine]
18	SHELD	- [With 2.0L turbo gasoline engine]
18	SHELD	- [With VRS30 engine]
19	L	- [With 2.0L turbo gasoline engine]
19	SHELD	- [With VRS30 engine]
20	SHELD	- [With 2.0L turbo gasoline engine]
21	L	-
22	P	-
23	P	-
24	P	-
24	Y	- [With VRS30 engine]
24	Y	- [With 2.0L turbo gasoline engine]

Connector No.	B117
Connector Name	JOINT CONNECTOR-B05
Connector Type	24342_4GA2A



Terminal No.	Wire	Signal Name (Specification)
1	B	- [With 2.0L turbo gasoline engine]
1	SHELD	- [With VRS30 engine]
2	B	-
3	B	- [With VRS30 engine]
3	SHELD	- [With 2.0L turbo gasoline engine]
4	B	-
5	B	-
6	B	-
7	Y	-
8	Y	- [With VRS30 engine]
9	P	-
9	V	- [With 2.0L turbo gasoline engine]
10	P	-
10	Y	- [With 2.0L turbo gasoline engine]
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	B	-
20	B	-
21	B	- [With 2.0L turbo gasoline engine]
21	SHELD	- [With VRS30 engine]
22	B	-
22	SHELD	- [With 2.0L turbo gasoline engine]
23	SHELD	- [With VRS30 engine]
24	SHELD	-

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A



Terminal No.	Wire	Signal Name (Specification)
1	LG	- [With VRS30 engine]
1	SHELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VRS30 engine]
2	SHELD	- [With 2.0L turbo gasoline engine]
3	SHELD	-
4	LG	- [With VRS30 engine]
4	SHELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VRS30 engine]
5	SHELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VRS30 engine]
6	SHELD	- [With 2.0L turbo gasoline engine]
7	R	- [Color of wire differs depending on production]
7	V	- [Color of wire differs depending on production]
8	LG	- [With 2.0L turbo gasoline engine]
8	R	- [With VRS30 engine and without paddle shift]
8	V	- [With VRS30 engine and with paddle shift]
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VRS30 engine and without paddle shift]
9	V	- [With VRS30 engine and with paddle shift]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHELD	- [With VRS30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHELD	- [With VRS30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHELD	- [With VRS30 engine]
13	L	- [With 2.0L turbo gasoline engine and without gateway]
13	P	- [With 2.0L turbo gasoline engine and with gateway]
14	L	- [With 2.0L turbo gasoline engine and without gateway]
14	L	- [With 2.0L turbo gasoline engine and with gateway]
14	P	- [With 2.0L turbo gasoline engine and without gateway]
14	P	- [With 2.0L turbo gasoline engine and with gateway]
15	L	- [With VRS30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_46A2A

6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	B123
Connector Name	JOINT CONNECTOR-B01
Connector Type	TG04FV-I

0	4	3	2	1	0
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	B	- [With 2.0L turbo gasoline engine]
4	B	-

Connector No.	B127
Connector Name	JOINT CONNECTOR-B03
Connector Type	NH20F-G-DC

9	8	7	6	5	4	3	2	1	
20	19	18	17	16	15	14	13	11	10

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	SHIELD	-
3	SHIELD	-
4	SHIELD	-
5	P	-
6	P	-
7	P	-
8	P	-

9	P	-
10	LG	- [With VR30 engine]
10	SHIELD	- [With 2.0L turbo gasoline engine]
11	LG	- [With VR30 engine]
11	SHIELD	- [With 2.0L turbo gasoline engine]
13	BG	-
14	BG	-
15	BG	-
17	LG	-
18	LG	-
19	LG	-
20	LG	-

Connector No.	B158
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-C5

1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

Terminal No.	Color Of Wire	Signal Name [Specification]
4	SHIELD	-
5	P	- [Without Gateway]
5	V	- [With Gateway]
6	L	-
10	P	-
12	R	-
13	SHIELD	-
14	R	-
15	L	-

Connector No.	B159
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-C5



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color Of Wire	Signal Name [Specification]
4	SHIELD	-
5	V	-
6	L	-
10	P	-
12	R	-
13	SHIELD	-
14	R	-
15	L	-

Connector No.	B600
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-C5



17	1	43	2	15	21	28		
46	48	47	6	45	22	33	7	23

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
6	-	-
7	-	-
17	-	-
21	-	-
22	-	-
23	-	-
28	-	-
33	-	-
43	-	-

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

45	-	-	-	-	-
46	-	-	-	-	-
47	-	-	-	-	-
48	-	-	-	-	-

Connector No.	8601
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	TH32PW/NH



1	2	3	4	5	6	7	8	9	10	11	12
17	18	19	20	21	22	23	24	25	26	27	28

Terminal No.	Wire	Signal Name [Specification]
1	L	CAN-H
2	BR	UART (TX/RX)
3	R	START SW
4	P	PULSE (RECLINER)
5	V	PULSE (TELESCOPIC)
6	GY	ADDRESS 2
7	G	IND 2
8	V	SLIDE SW (BACKWARD)
9	W	RECLINER SW (BACKWARD)
10	O	TILT SW (DOWNWARD)
11	G	LIFTER SW (DOWNWARD)
12	SB	POWER SUPPLY (ENCODER)
17	P	CAN-L
18	LG	PULSE (SLIDE SENSOR)
19	W	PULSE (LIFTER - FRONT)
20	GY	PULSE (LIFTER - REAR)
21	SB	PULSE (TILT SENSOR)
22	O	ADDRESS 1
23	W	IND
24	P	SLIDE SW (FORWARD)
25	V	RECLINER SW (FORWARD)
26	GY	TILT SW (UPWARD)
27	L	LIFTER SW (UPWARD)
28	Y	SET SW

Connector No.	E14
Connector Name	WIRE TO WIRE
Connector Type	SAA118WB-4S1D-S1Z2



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36

Terminal No.	Wire	Signal Name [Specification]
4	Y	-
5	L	-
6	B	-
7	B	-
8	LG	-
9	R	-
11	GR	-
12	R	-
13	B	-
14	G	-
15	G	-
16	V	-
17	B	-
18	SB	-
21	B	-
22	SHIELD	-
23	P	-
24	L	-
25	V	-
26	B	-
28	B	-

Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-AH



3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	23

Terminal No.	Wire	Signal Name [Specification]
3	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	Y	DRIVE MODE SELECT SWITCH (UP) [With 2.0L turbo gasoline engine]
6	G	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	Y	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
7	W	CHASSIS COMM-L
8	W	CHASSIS COMM-L
10	BG	IGN [With 2.0L turbo gasoline engine]
10	G	IGN [With VR30 engine]
11	L	CHASSIS COMM-H
12	B	GROUND [With VR30 engine]
12	B/W	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMM-H [With VR30 engine]
19	L	CHASSIS COMM-H [With 2.0L turbo gasoline engine]
23	G	ESS RELAY [With VR30 engine]
23	R	ESS RELAY [With 2.0L turbo gasoline engine]

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	THBDFW-CS16-TIM4



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36

Terminal No.	Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	Y	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
34	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]
38	P	- [With 2.0L turbo gasoline engine and with gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
44	Y	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

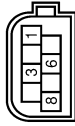
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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	E80
Connector Name	ICC SENSOR
Connector Type	AZ08FB



Terminal No.	Color	Wire	Signal Name [Specification]
1	R	R	IGNITION
3	L	L	ITS COMM-H
6	Y	Y	ITS COMM-L
8	B	B	GROUND

37	GR	-	-
38	BR	-	-
41	GR	-	-
43	V	-	-

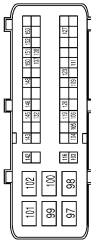
Connector No.	E195
Connector Name	WIRE TO WIRE
Connector Type	TK35FH-N51D



Terminal No.	Color	Wire	Signal Name [Specification]
5	BR	-	-
8	GR	-	-
9	P	-	-
10	R	-	-
11	L	-	-
12	P	-	-
13	GR	-	-
14	Y	-	-
15	G	-	-
16	W	-	-
17	L	-	-
18	R	-	-
19	BR	-	-
20	SHIELD	-	-
21	BR	-	-
22	V	-	-
23	W	-	-
24	L	-	-
25	G	-	-
26	G	-	-
30	Y	-	-
31	GR	-	-
32	SB	-	-
33	W	-	-
34	W	-	-
35	B	-	-
36	G	-	-
37	SHIELD	-	-
38	R	-	-
39	L	-	-

40	GR	-	-
41	W	-	-
42	B	-	-
43	BR	-	-
44	P	-	-
45	SB	-	-
46	Y	-	-

Connector No.	E200
Connector Name	ECM
Connector Type	ADA52FB-AM26



Terminal No.	Color	Wire	Signal Name [Specification]
97	G	G	POWER SUPPLY (MAIN)
98	B	B	ECM GROUND
99	G	G	POWER SUPPLY (MAIN)
100	B	B	ECM GROUND
101	G	G	POWER SUPPLY (MAIN)
102	B	B	ECM GROUND
103	V	V	COOLING FAN CONTROL SIGNAL (PWM)
104	Y	Y	SENSOR POWER SUPPLY
105	R	R	SENSOR GROUND
106	W	W	SENSOR GROUND
109	P	P	ENGINE SPEED SIGNAL
111	G	G	POWER RELAY
116	LG	LG	STARTER RELAY
119	BR	BR	SENSOR GROUND
120	BG	BG	SENSOR GROUND
123	BR	BR	MAIN RELAY CONTROL SIGNAL
127	V	V	FUEL PUMP ON SIGNAL
132	G	G	ACCELERATOR PEDAL POSITION SENSOR 1
137	L	L	CAN-H
138	L	L	DRIVETRAIN CAN-L
142	GR	GR	BACK-UP LAMP SWITCH
143	LG	LG	REFRIGERANT PRESSURE SENSOR
145	L	L	ACCELERATOR PEDAL POSITION SENSOR 2
146	L	L	FUEL TANK PRESSURE SENSOR
148	L	L	STARTER RELAY-H
150	P	P	CAN-L
151	P	P	DRIVETRAIN CAN-L

152	B	B	EVAP CANISTER VENT CONTROL VALVE
153	G	G	EVAP PURGE CONTROL VALVE

Connector No.	E220
Connector Name	JOINT CONNECTOR-E05
Connector Type	NH24FB-J



Terminal No.	Color	Wire	Signal Name [Specification]
3	W	W	-
4	L	L	-
7	W	W	-
8	L	L	-
11	W	W	-
12	L	L	-
15	P	P	- [Without Gateway]
15	R	R	- [With Gateway]
16	L	L	-
19	P	P	- [Without Gateway]
19	R	R	- [With Gateway]
20	L	L	-
23	P	P	- [Without Gateway]
23	R	R	- [With Gateway]
24	L	L	-

Connector No.	E271
Connector Name	POWER STEERING CONTROL MODULE
Connector Type	FEAD4FB-FHA2-LC



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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

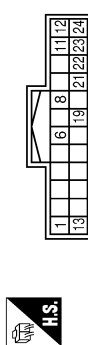
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[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

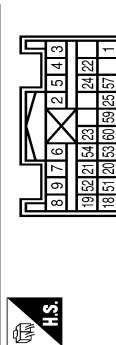
Terminal No.	Color Of Wire	Signal Name [Specification]
5	V	IGNITION POWER SUPPLY
7	P	CAN-L
8	L	CAN-H

Connector No.	M14
Connector Name	AFS CONTROL UNIT
Connector Type	TH24FW-NH



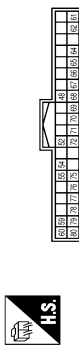
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
6	BR	HEIGHT SENSOR SIGNAL
8	GR	SWIVEL ACTUATOR LIN SIGNAL
11	B	GROUND
12	R	IGNITION POWER SUPPLY [With VR30 engine] IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
13	W	CAN-L
19	P	SWIVEL ACTUATOR GROUND
21	LG	HEIGHT SENSOR POWER SUPPLY
22	S8	AIMING MOTOR DRIVE SIGNAL
23	GR	HEIGHT SENSOR GROUND
24	B	AIMING MOTOR GROUND

Connector No.	M15
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28FYEX



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	BRL (+)
3	Y/R	BRL (-)
4	Y/B	DR2 (+)
5	Y	DR2 (-)
6	Y/R	AS1 (+)
7	Y/B	AS1 (-)
8	Y/G	AS2 (+)
9	Y	AS2 (-)
18	V	ECES*
19	BR	ECES*
20	Y/R	ACT_VENT+
21	Y/B	ACT_VENT-
22	SHIELD	GROUND
23	V	AIRBAG W/L
24	G	-
25	GR	A/R_OFF_IND
51	G	SATELLITE RH2 (+)
52	R	SIDE SENS RH2-
53	V	SIDE SENS LH2+
54	L	SIDE SENS LH2-
57	LG	IVCS
59	L	CAN-H
60	P	CAN-L

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW LL PWR
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT

64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLY/VAY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLY/VAY (R/DIM E/R) CONT
71	G	DR DOOR REQ SW
72	S8	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNRS SW

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CSI6-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	S8	-
4	BR	-
5	V	-
6	R	-
7	W	-
8	V	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-

22	S8	-
23	R	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	V	-
34	V	-
35	P	-
36	W	-
37	S8	-
38	LG	-
40	P	-
41	G	-
42	BR	-
43	BR	-
44	BR	-
46	BG	-
50	W	-
51	Y	-
52	V	-
53	LG	-
54	R	-
55	R	-
57	W	-
58	V	-
59	BG	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	LG	-
71	W	-
72	B	-
73	W	-
74	L	-
75	W	-
76	BR	-
77	B	-
78	S8	-
79	P	- [With VR30 engine]
79	W	- [With 2.0L turbo gasoline engine]
81	B	-

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P

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

82	R	-	-
83	BG	-	-
84	L	-	-
85	W	-	-
86	B	-	-
88	G	-	-
89	V	-	-
89	W	[With 2.0L turbo gasoline engine]	
91	GR	-	-
94	GR	-	-
96	W	-	-
97	V	-	-
98	BR	-	-
98	Y	[With VR30 engine and with BOSE system]	
		[Except with VR30 engine and with BOSE system]	

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MM-CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	-
2	L	[With VR30 engine]
3	SHIELD	[With 2.0L turbo gasoline engine]
3	BR	[With 2.0L turbo gasoline engine]
4	R	[With VR30 engine]
4	SHIELD	[With 2.0L turbo gasoline engine]
5	Y	[With VR30 engine]
5	G	[With VR30 engine and without BOSE system]
6	BG	[With 2.0L turbo gasoline engine]
6	BR	[With VR30 engine]
7	LG	[With 2.0L turbo gasoline engine]
7	P	[With VR30 engine]
8	G	[With 2.0L turbo gasoline engine]
8	P	[With VR30 engine]
9	LG	[With 2.0L turbo gasoline engine]
9	SHIELD	[With VR30 engine]
10	V	-
11	GR	-
12	V	-

13	LG	-	-
14	LG	-	-
15	BR	[With 2.0L turbo gasoline engine]	
15	P	[With VR30 engine]	
16	SB	[With DCM]	
16	V	[Without DCM]	
17	Y	-	-
18	L	-	-
19	G	-	-
20	GR	-	-
21	R	-	-
22	V	-	-
23	L	-	-
24	BG	[With 2.0L turbo gasoline engine]	
24	V	[With VR30 engine]	
25	L	[With 2.0L turbo gasoline engine]	
25	SB	[With VR30 engine]	
26	G	[With VR30 engine]	
26	W	[With 2.0L turbo gasoline engine]	
27	R	-	-
29	LG	-	-
30	SB	[With VR30 engine]	
30	W	[With 2.0L turbo gasoline engine]	
31	SHIELD	-	-
32	L	-	-
33	B	[With VR30 engine]	
34	LG	[With 2.0L turbo gasoline engine]	
34	SHIELD	-	-
35	LG	[With VR30 engine]	
35	W	[With 2.0L turbo gasoline engine]	
36	R	[With VR30 engine]	
36	V	[With 2.0L turbo gasoline engine]	
37	R	[With VR30 engine]	
37	V	[With 2.0L turbo gasoline engine]	
38	W	-	-
39	P	[With VR30 engine and without BOSE system]	
39	R	[With 2.0L turbo gasoline engine]	
39	V	[With VR30 engine and with BOSE system]	
40	G	-	-
41	L	-	-
42	R	-	-
43	SHIELD	-	-
44	P	-	-
45	B	-	-
45	G	[With 2.0L turbo gasoline engine]	
46	SHIELD	-	-
47	G	-	-
48	BG	[Except with VR30 engine and with BOSE system]	
48	BR	[With VR30 engine and with BOSE system]	
49	G	-	-

50	V	-	-
51	V	[With 2.0L turbo gasoline engine]	
52	L	[With VR30 engine]	
53	R	[With VR30 engine]	
54	GR	-	-
55	L	-	-
56	P	-	-
57	R	-	-
58	LG	-	-
59	SR	-	-
61	L	-	-
62	P	[With 2.0L turbo gasoline engine]	
62	V	[With VR30 engine]	
63	L	-	-
64	W	-	-
66	R	-	-
68	L	-	-
69	P	-	-
71	GR	[With 2.0L turbo gasoline engine]	
71	R	[With VR30 engine]	
72	G	-	-
72	V	[With 2.0L turbo gasoline engine]	
73	LG	[With VR30 engine]	
73	SHIELD	[With 2.0L turbo gasoline engine]	
74	L	[With VR30 engine]	
74	LG	[With 2.0L turbo gasoline engine]	
75	P	-	-
76	SR	[With 2.0L turbo gasoline engine]	
76	V	[With VR30 engine]	
77	Y	-	-
78	L	-	-
79	G	-	-
80	GR	[With 2.0L turbo gasoline engine]	
80	W	[With VR30 engine]	
81	R	[With VR30 engine]	
81	B	[With 2.0L turbo gasoline engine]	
82	G	[With 2.0L turbo gasoline engine]	
82	SHIELD	[With VR30 engine]	
83	R	[With 2.0L turbo gasoline engine]	
83	W	[With VR30 engine]	
84	BR	[With 2.0L turbo gasoline engine]	
84	SHIELD	[With VR30 engine]	
85	BR	[With 2.0L turbo gasoline engine]	
85	G	[With VR30 engine]	
86	R	[With 2.0L turbo gasoline engine]	
86	V	[With VR30 engine]	
87	LG	[With 2.0L turbo gasoline engine]	
87	SHIELD	[With VR30 engine]	
89	BR	[With 2.0L turbo gasoline engine]	

89	LG	[With 2.0L turbo gasoline engine]	
90	SR	[With 2.0L turbo gasoline engine]	
90	V	[With VR30 engine]	
92	L	[With 2.0L turbo gasoline engine]	
92	W	[With VR30 engine]	
93	R	[With 2.0L turbo gasoline engine]	
93	SHIELD	[With VR30 engine]	
94	R	[With 2.0L turbo gasoline engine]	
95	L	[With 2.0L turbo gasoline engine]	
95	Y	[With VR30 engine]	
96	R	[With 2.0L turbo gasoline engine]	
96	W	[With VR30 engine]	
97	L	[With 2.0L turbo gasoline engine]	
97	R	[With VR30 engine]	
98	BR	[With 2.0L turbo gasoline engine]	
98	BR	[With VR30 engine and with BOSE system]	
99	P	[With 2.0L turbo gasoline engine]	
99	Y	[With VR30 engine and without BOSE system]	
100	BR	[With VR30 engine]	
100	W	[With 2.0L turbo gasoline engine]	

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
2	W	BATTERY POWER SUPPLY
3	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
4	L	GROUND
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY (With VR30 engine and without BS)
9	W	IGNITION POWER SUPPLY (With VR30 engine and without BS)
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)



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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

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[CAN]

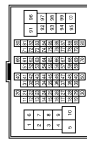
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name (Specification)
3	LG	M-CAN-L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	KLIVE [With 2.0L turbo gasoline engine]
8	W	IGN SW
11	SB	M-CAN-H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

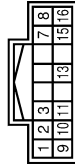


Terminal No.	Color Of Wire	Signal Name (Specification)
1	BG	-
6	W/B	-
7	V	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-

Terminal No.	Color Of Wire	Signal Name (Specification)
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SA	-
61	W/B	-
64	Y	-
65	R	-
66	P	- [Color of wire differs depending on production]
66	V	- [Color of wire differs depending on production]
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	W/B	-
77	SB	-
78	G	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	G	-
81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-
89	V	-
89	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	-
93	BR	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BR	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]

95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	Y	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No.	M42
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
1	BR	AWD SOL (+)
2	Y	AWD SOL (-)
3	W/B	FLUID TEMP (-)
7	G	IGN
8	L	CAN-H
9	BG	AWD SOL BAT
10	B	GND
11	B	GND
13	LG	FLUID TEMP (+)
15	W	BATTERY POWER SUPPLY
16	P	CAN-L [Without Gateway]
16	R	CAN-L [With Gateway]

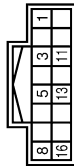
CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

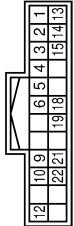
[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	M56
Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type	TH16FW-AH



Connector No.	M75
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

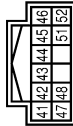
Connector No. M85

Connector Name	A/C AUTO AMP.
Connector Type	TH40FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	IGNITION
3	L	ITS COMM-H
5	B	GROUND
8	R	WARNING BUZZER SIGNAL
11	Y	ITS COMM-L
13	B	GROUND
16	G	WARNING BUZZER SIGNAL GROUND

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-AH



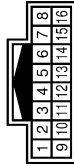
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	CENTER SENSOR SIGNAL FRONT RH
2	LG	CENTER SENSOR SIGNAL FRONT LH
3	W	CORNER SENSOR SIGNAL FRONT LH
4	GR	CORNER SENSOR SIGNAL FRONT RH
5	L	CAN-H
6	P	CAN-L [Without Gateway]
9	R	CAN-L [With Gateway]
10	BG	CENTER SENSOR SIGNAL REAR RH
12	R	CORNER SENSOR SIGNAL REAR RH
12	W	IGN [For VR30 engine]
13	B	IGN [For 2.0L turbo gasoline engine]
14	B	FRONT SENSOR GND
15	B	REAR SENSOR GND
18	GR	FRONT BUZZER DRIVE SIGNAL
19	P	BUZZER POWER SUPPLY
21	BR	CENTER SENSOR SIGNAL REAR LH
22	W	CORNER SENSOR SIGNAL REAR LH

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [Except with VR30 engine and without IS]
46	R	IGNITION SIGNAL [With VR30 engine and without IS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M95
Connector Name	WIRE TO WIRE
Connector Type	TH16AW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	BR	-
3	BR	-
5	P	- [Without Gateway]
6	R	- [With Gateway]
7	P	-
9	R	- [Without Gateway]
10	R	-
11	SHIELD	-
13	L	-
14	L	-
15	L	-

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
16	LG	AV COMM (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GND
26	BR	CAMERA SWITCH SIGNAL

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

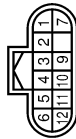
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

28	SB	AV COMM (H)
29	L	CAN-H
30	R	IGN [For V630 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (8-PULSE)
33	SB	ACC [Except for V630 engine and with ISS]
33	V	ACC [For V630 engine and with ISS]
34	Y	BAT

Connector No.	M124
Connector Name	IGNITION/VEHICLE SPEED SIGNAL/VEHICLE POSITION SWITCH
Connector Type	RH12PB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	BATTERY
2	G	IGNITION
3	L	ITS COMM-H
4	W	
5	G	
6	Y	
7	B	GROUND
9	Y	ITS COMM-L
10	L	
11	R	
12	BR	

Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	
12C	L	
13C	L	
14C	Y	
15C	R	
16C	R	
17C	L	
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	
1C	R	
20C	W	
21C	L	
22C	L	
23C	L	
25C	LG	
26C	SB	
27C	P	
28C	W	
29C	W	
2C	R	
30C	R	
31C	W	
32C	R	
33C	B	- [With V630 engine]
34C	B	- [With 2.0L turbo gasoline engine]
35C	W/B	
36C	SB	
37C	R	
38C	SB	
39C	V	
3C	P	
40C	G	
4C	P	
5C	P	

6C	G	-
7C	G	-
8C	G	-
9C	V	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342_4G2A



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	
2	B	
3	B	
4	B	
5	B	
7	B	
8	B	
9	B	
10	B	
11	B	
13	L	
14	L	
15	L	
16	L	
19	R	
20	R	
21	R	
22	R	

Connector No.	M144
Connector Name	TCU
Connector Type	TH40FB-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BAT
2	SB	ACC [for 2.0L turbo gasoline engine]
2	V	ACC [for V630 engine]
3	SB	ACC OUTPUT
5	BR	SOS SWITCH LED SIGNAL
6	L	CAN-H
7	P	CAN-L
10	R	IGN [for V630 engine]
10	W	IGN [for 2.0L turbo gasoline engine]
11	SHIELD	MICROPHONE SIGNAL GND
12	R	MICROPHONE OUTPUT SIGNAL
16	SHIELD	SHIELD
17	G	MICROPHONE SIGNAL
18	L	MICROPHONE VCC
26	SB	AV COMM (H)
27	LG	AV COMM (L)
28	B	GROUND
29	B	GROUND
30	SHIELD	SHIELD
31	B	SOUND SIGNAL (+)
32	W	SOUND SIGNAL (-)
37	G	SOS CALL SWITCH SIGNAL

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	M146
Connector Name	WIRE TO WIRE
Connector Type	TH361MW-AS1D



Terminal No.	5	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
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Connector No.	M155
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-AH

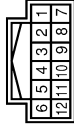


Terminal No.	5	6	7	9	10	11	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
Color Of Wire	BR	G	G	Y	B	Y	L	L	R	L	L	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Signal Name [Specification]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]	- [With VR30 engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
5	R	-
8	GR	-
9	V	-
10	BG	-
11	L	-
12	P	-
13	SB	-
14	Y	-
15	G	-
16	BR	-
17	W	-
18	R	-
19	L	-
20	SHIELD	-
21	BR	-
22	B	-
23	G	-
24	L	-
25	R	-
26	G	-
30	Y	-
31	GR	-
32	SB	-
33	BG	-
34	W	-
35	G	-
36	Y	-
37	SHIELD	-
38	B	-
39	W	-
40	B	-
41	GR	-
42	B	-
43	LG	-
44	B	-
45	SB	-

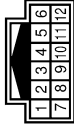
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
3	R	-
5	P	- [Without ADAS and without Gateway]
6	Y	- [Without ADAS]
7	Y	- [Without Gateway]
9	R	-
10	R/W	-
11	SHIELD	-
13	L	-
14	L	-
15	L	-

Connector No.	M157
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	G	-
3	L	-
4	W	-
5	G	-
6	Y	-
7	B	-
9	Y	-
10	L	-
11	R	-
12	BR	-

Connector No.	M158
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

Connector No.	M159
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-NH



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Connector No.	M174
Connector Name	JOINT CONNECTOR-M04
Connector Type	24342_4GA2A



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	N142DF-DC



8	7	6	5	4	3	2	1			
20	19	18	17	16	15	14	13	12	11	10

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	BR	-
4	R	-
5	GR	-
6	R	- [With VR30 engine and with ISS]
7	W	- [Except with VR30 engine and with ISS]
8	L	-
9	SHIELD	-
10	W	-
11	R	-
12	L	-
13	G	-
14	Y	-
15	B	-
17	B	-
19	R	-
20	BG	- [Except with VR30 engine and with BOSE system]
20	BR	- [With VR30 engine and with BOSE system]
21	R	-
22	G	-
24	B	-
25	W	-
26	R	-
27	P	-
28	B	-
29	G	-
30	L	-
31	W	-
32	W	-
33	L	-
36	V	-
38	LG	-
40	W	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
16	L	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
18	L	-
18	SB	- [With 2.0L turbo gasoline engine]
19	BR	- [With VR30 engine]
19	LG	- [With 2.0L turbo gasoline engine]
20	BR	- [With VR30 engine]
20	LG	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
21	LG	- [With 2.0L turbo gasoline engine]
22	R	- [With 2.0L turbo gasoline engine]
22	SB	- [With VR30 engine and without ISS]
22	V	- [With VR30 engine and with ISS]
23	R	- [With 2.0L turbo gasoline engine]
23	SB	- [With VR30 engine and without ISS]
23	V	- [With VR30 engine and with ISS]
24	R	- [With 2.0L turbo gasoline engine]
24	SB	- [With VR30 engine and without ISS]
24	V	- [With VR30 engine and with ISS]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	Y	-
8	Y	-
9	Y	-
10	Y	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	-
16	R	- [With 2.0L turbo gasoline engine]
17	P	-
17	R	- [With 2.0L turbo gasoline engine]
19	R	-
19	W	- [Except with VR30 engine and with ISS]
20	R	-
20	W	- [Except with VR30 engine and with ISS]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	-
16	R	- [With 2.0L turbo gasoline engine]
17	P	-
17	R	- [With 2.0L turbo gasoline engine]
19	R	-
19	W	- [Except with VR30 engine and with ISS]
20	R	-
20	W	- [Except with VR30 engine and with ISS]

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CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (2.0L TURBO GASOLINE ENGINE WITH AUTOMATIC DRIVE POSITIONER)


Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GAZA




Connector No.	R1
Connector Name	LANE CAMERA UNIT
Connector Type	TH08FW-AH




Connector No.	R15
Connector Name	WIRE TO WIRE
Connector Type	TH40MWA-AH




Terminal No.	Color Of Wire	Signal Name (Specification)
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

Terminal No.	Color Of Wire	Signal Name (Specification)
1	B	GND
4	L	ITS COMM-H
5	B	GND
7	G	IGNITION
8	Y	ITS COMM-L

Connector No.	R9
Connector Name	AUTO ANTI-DAZZLING INSIDE MIRROR
Connector Type	TH12FW-AH-B




Terminal No.	Color Of Wire	Signal Name (Specification)
3	B	GROUND
4	BG	AUTO ANTI-DAZZLING OUTSIDE MIRROR CONTROL SIGNAL
6	GR	IGNITION POWER SUPPLY
9	BR	AUTO ANTI-DAZZLING OUTSIDE MIRROR GROUND
10	BG	Ignition Power (Color of wire differs depending on production)
10	P	Ignition Power (Color of wire differs depending on production)
11	GR	CAN-L
12	BR	CAN-H

Terminal No.	Color Of Wire	Signal Name (Specification)
1	G	-
2	LG	-
3	BR	-
4	V	-
5	BG	-
6	GR	-
7	BR	-
9	SHIELD	-
10	GR	-
11	R	-
12	L	-
13	G	-
14	Y	-
15	B	-
17	SB	-
19	BG	-
20	BG	- [Without BOSE system]
20	BR	- [With BOSE system]
21	R	-
22	G	-
24	B	-
25	BG	- [Color of wire differs depending on production]
25	P	- [Color of wire differs depending on production]
26	BR	-
27	GR	-
28	B	-
29	R	-
30	L	-
31	V	-
32	W	-
33	L	-
36	BR	-
38	SB	-
40	W	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

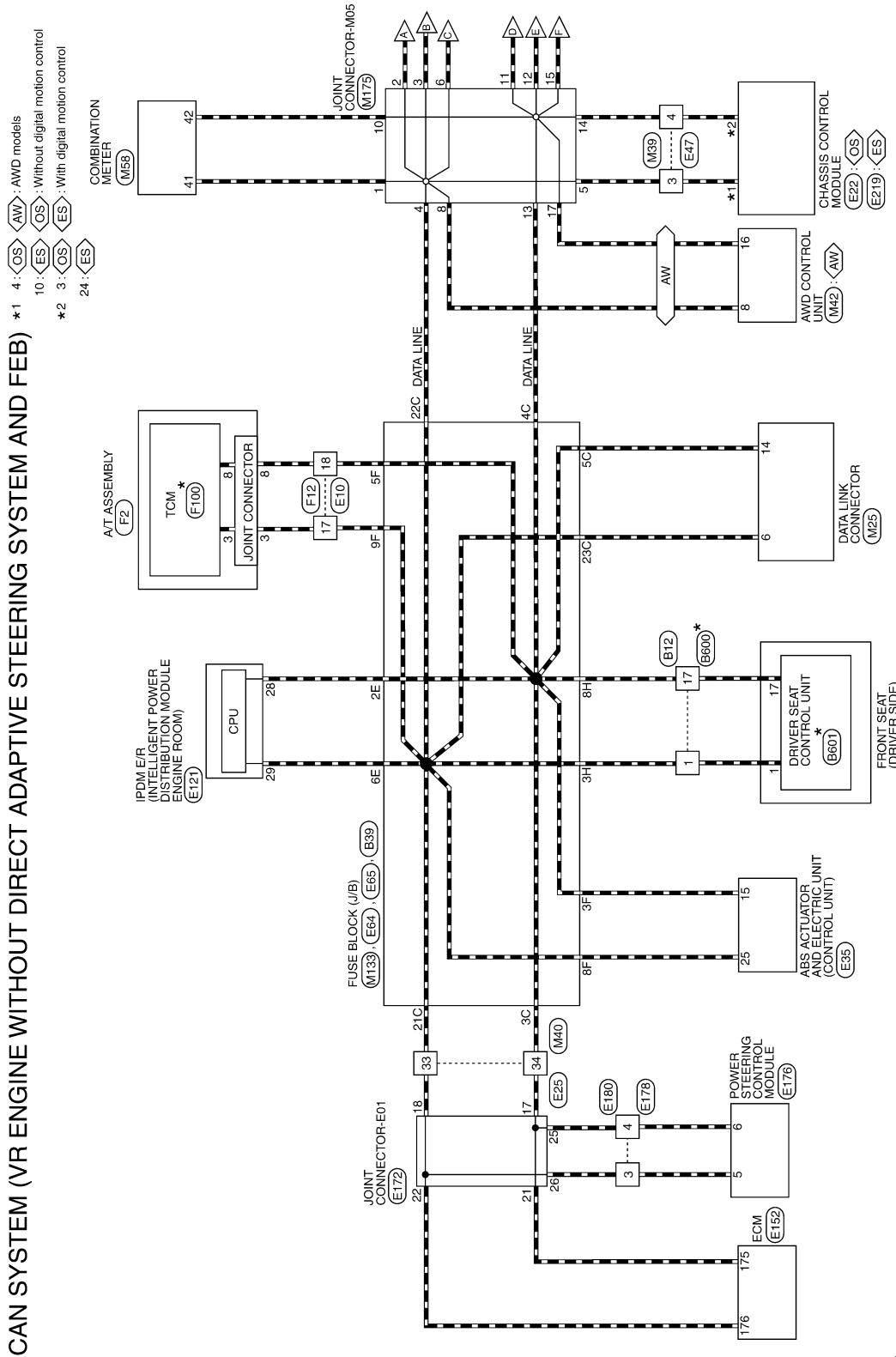
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Wiring Diagram

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*: This connector is not shown in "Harness Layout".

2016/02/15

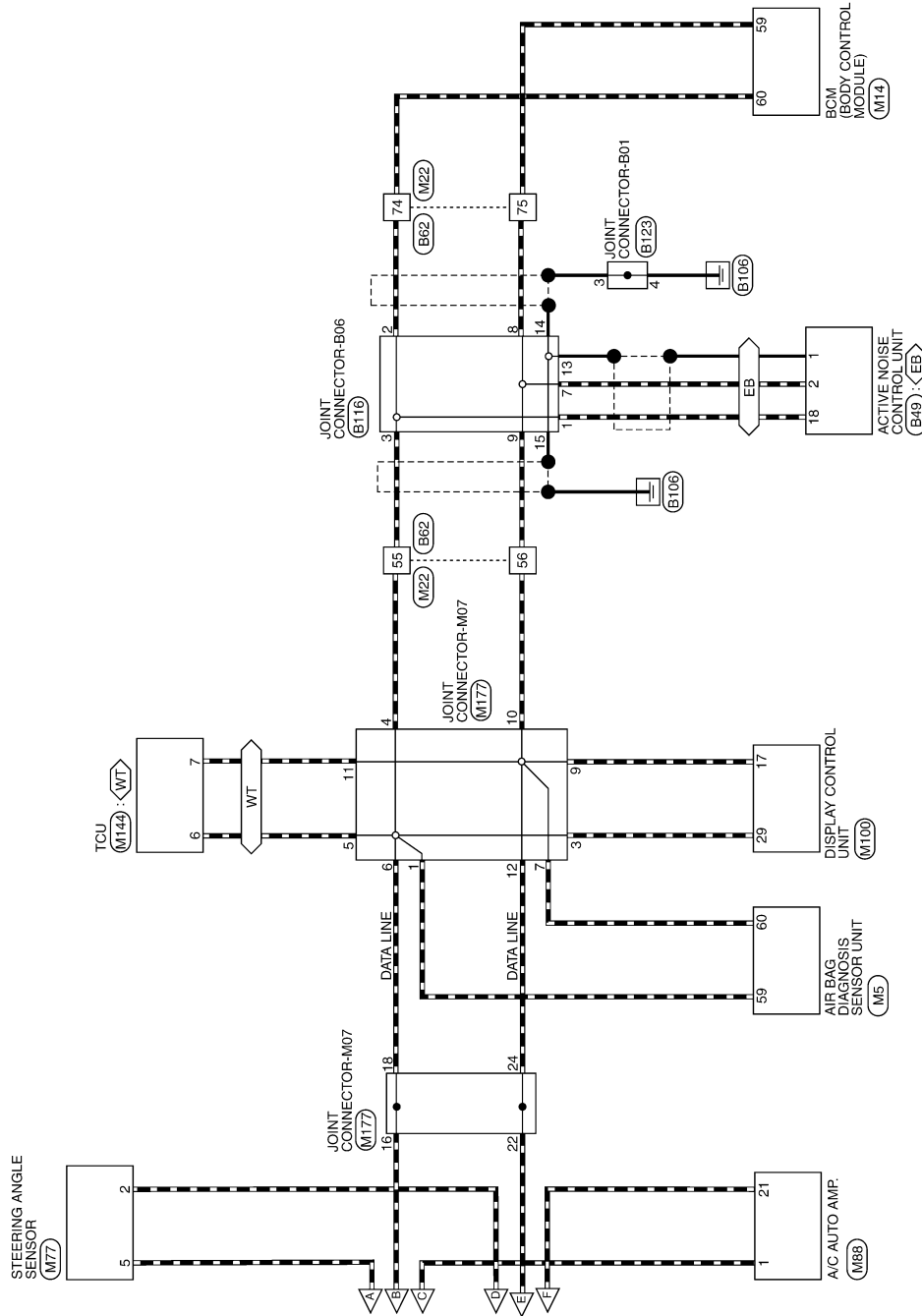
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

◁WT▷ : With telematics
 ▷EB◁ : Without BOSE system



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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

Signal Name [Specification]

10H	P	-
3H	L	-
4H	R	-
5H	V	-
6H	L	-
7H	LG	-
8H	P	-
9H	GR	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Signal Name [Specification]

1	LG	-
2	L	-
3	BR	-
4	Y	-
5	G	-
6	BG	-
7	B	-
8	Y	-
9	LG	-
10	SHIELD	-
11	GR	-
12	V	-
13	R	-
14	BG	-
15	GR	-
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE system]
1	LG	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine and with BOSE system]
3	W	- [With VR30 engine and without BOSE system]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and with BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
7	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	R	-
14	BG	-
15	GR	- [With 2.0L turbo gasoline engine]
15	Y	- [With VR30 engine]
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	LG	-
5	P	-
6	V	-
7	P	-
17	P	- [Without Gateway]
17	R	- [With Gateway]
21	BG	-
22	BR	-
23	BG	-
28	R	-
33	L	-
43	B	-
45	G	-
46	BG	-
47	R	-
48	GR	-

Signal Name [Specification]

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

Connector No.	B49
Connector Name	ACTIVE NOISE CONTROL UNIT
Connector Type	TH2FW-NH

Signal Name [Specification]

1	LG	-
2	L	-
3	BR	-
4	Y	-
5	G	-
6	BG	-
7	B	-
8	Y	-
9	LG	-
10	SHIELD	-
11	GR	-
12	V	-
13	R	-
14	BG	-
15	GR	-
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	GND
2	P	CAN-L [For 2.0L turbo gasoline engine]
3	R	CAN-L [For VR30 engine]
4	B	ENGINE TYPE SIGNAL 1
4	B	ENGINE TYPE SIGNAL 2
8	G	FRONT MICROPHONE SIGNAL (+)
9	BG	REAR MICROPHONE SIGNAL (+)
12	G	SOUND SIGNAL FRONT LH (+)
13	R	SOUND SIGNAL FRONT RH (+)
14	LG	SOUND SIGNAL REAR LH (+)
15	B	SOUND SIGNAL REAR RH (+)
16	V	ACC
18	L	CAN-H
19	P	ENGINE SPEED SIGNAL
20	W	IGN
23	B	GND
24	R	FRONT MICROPHONE SIGNAL (-)
25	W	REAR MICROPHONE SIGNAL (-)
28	L	SOUND SIGNAL FRONT LH (-)
29	L	SOUND SIGNAL FRONT RH (-)
30	P	SOUND SIGNAL REAR LH (-)
31	W	SOUND SIGNAL REAR RH (-)
32	Y	BAT

Connector No.	B39
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH10FB-NH

Signal Name [Specification]

5H	4H	3H	2H	1H
10H	9H	8H	7H	6H

21	R	-
22	V	-
23	W	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SR	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	LG	- [With 2.0L turbo gasoline engine]
30	IP	- [With VR30 engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]
37	P	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	- [With VR30 engine]
37	W	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	W	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	-
49	C	-
50	V	-
51	GR	-
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-

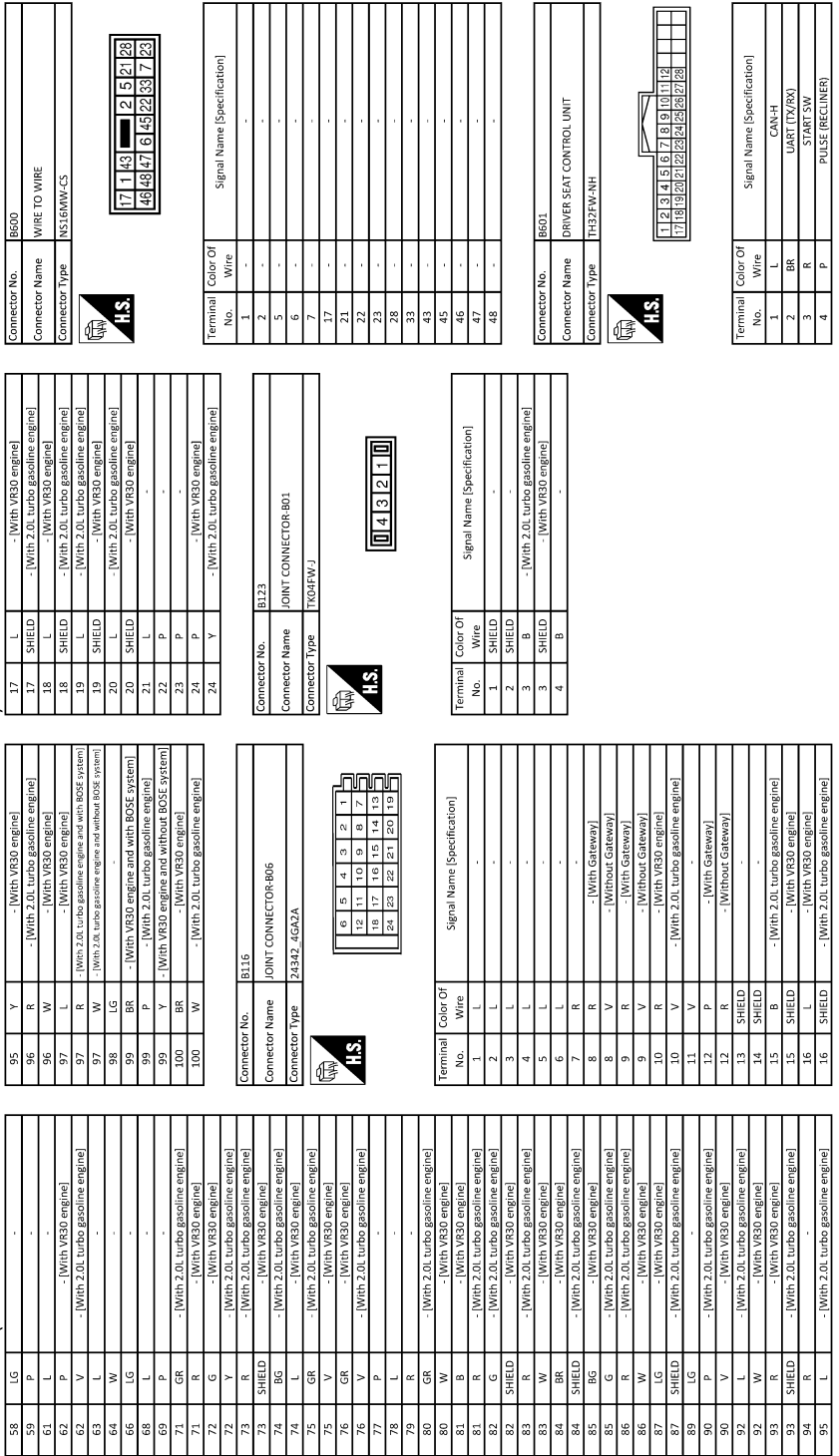
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)



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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

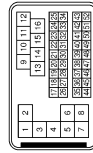
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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

5	V	PULSE (TELESCOPIC)
6	GY	ADDRESS 2
7	G	IND 2
8	V	SLIDE SW (BACKWARD)
9	W	RECLINER SW (BACKWARD)
10	O	TILT SW (DOWNWARD)
11	G	LIFTER SW (DOWNWARD)
12	SB	POWER SUPPLY (ENCODER)
17	P	CAN-L
18	LG	PULSE (SLIDE SENSOR)
19	W	PULSE (LIFTER - FRONT)
20	GY	PULSE (LIFTER - REAR)
21	SB	PULSE (TILT SENSOR)
22	O	ADDRESS 1
23	W	IND 1
24	P	SLIDE SW (FORWARD)
25	Y	RECLINER SW (FORWARD)
26	GY	TILT SW (UPWARD)
27	L	LIFTER SW (UPWARD)
28	Y	SET SW

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Type	SAAS36MB-RS8-SH28



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	LG	-
4	R	-
5	G	-
7	V	-
8	W	-
9	W	-
10	BG	-
11	LG	-
12	BG	-
13	L	-
14	Y	-
15	LG	-

Terminal No.	Color Of Wire	Signal Name [Specification]
16	G	-
17	L	-
18	P	-
19	GR	-
20	G	-
21	GR	-
22	W	-
23	V	-
24	BG	-
25	V	-
26	BR	-
27	W	-
28	BG	-
29	LG	-
30	G	-
31	Y	-
32	R	-
33	B	-
34	V	-
35	LG	-
36	W	-
37	V	-
38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
44	SHIELD	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-WH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	G	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	Y	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
7	W	CHASSIS COMM-L
8	W	CHASSIS COMM-L
10	BG	IGN [With 2.0L turbo gasoline engine]
10	G	IGN [With VR30 engine]
11	L	CHASSIS COMM-H
12	B/W	GROUND [With VR30 engine]
12	B	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMM-H [With VR30 engine]
19	L	CHASSIS COMM-H [With 2.0L turbo gasoline engine]
23	G	ESS RELAY [With VR30 engine]
23	R	ESS RELAY [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine] (Color of wire differs depending on production)
9	LG	- [With VR30 engine] (Color of wire differs depending on production)
10	BR	-
11	G	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	Y	-
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	Y	- [With 2.0L turbo gasoline engine]
31	W	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]
38	P	- [With 2.0L turbo gasoline engine] (without gateway)
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	BR	- [With 2.0L turbo gasoline engine]
39	B	- [With VR30 engine]
40	SB	-
41	LG	-
44	Y	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

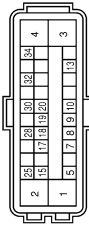
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

48	SHIELD	-	-	-
49	R	-	-	-
50	BR	-	[With VR30 engine]	-
51	GR	-	[With 2.0L turbo gasoline engine]	-
51	L	-	-	-
52	W	-	-	-
53	V	-	-	-
54	P	-	[With VR30 engine]	-
54	W	-	[With 2.0L turbo gasoline engine]	-
55	B	-	[With 2.0L turbo gasoline engine]	-
55	W	-	[With VR30 engine]	-
56	BG	-	[With 2.0L turbo gasoline engine]	-
56	S8	-	[With VR30 engine]	-
57	BG	-	[With VR30 engine]	-
57	W	-	[With 2.0L turbo gasoline engine]	-
58	B	-	[Color of wire differs depending on production]	-
58	B/W	-	[Color of wire differs depending on production]	-
59	W	-	-	-
61	R	-	-	-
64	Y	-	-	-
65	BR	-	[Color of wire differs depending on production]	-
65	GR	-	[Color of wire differs depending on production]	-
66	GR	-	-	-
67	LG	-	-	-
68	BG	-	-	-
69	L	-	-	-
70	R	-	-	-
71	LG	-	[With 2.0L turbo gasoline engine]	-
71	LG	-	[With VR30 engine]	-
72	L	-	[With 2.0L turbo gasoline engine]	-
72	V	-	[With VR30 engine]	-
73	G	-	-	-
73	W	-	[With 2.0L turbo gasoline engine]	-
74	BR	-	[With VR30 engine]	-
74	L	-	[With 2.0L turbo gasoline engine]	-
75	P	-	[With 2.0L turbo gasoline engine and without gateway]	-
75	R	-	[With 2.0L turbo gasoline engine and with gateway]	-
76	V	-	[With VR30 engine]	-
76	G	-	-	-
77	V	-	-	-
78	LG	-	[With 2.0L turbo gasoline engine and with ADAS]	-
78	P	-	[With VR30 engine]	-
78	V	-	[With 2.0L turbo gasoline engine and without ADAS]	-
79	S8	-	-	-
80	G	-	-	-
81	R	-	-	-
82	V	-	-	-
83	BR	-	[With 2.0L turbo gasoline engine]	-
83	R	-	[With VR30 engine]	-
84	LG	-	-	-

86	BG	-	-	-
87	G	-	-	-
89	LG	-	-	-
90	G	-	[With VR30 engine]	-
90	GR	-	[With 2.0L turbo gasoline engine]	-
91	G	-	-	-
93	BG	-	[With VR30 engine]	-
94	GR	-	[With 2.0L turbo gasoline engine]	-
94	L	-	[With VR30 engine]	-
95	BG	-	[With VR30 engine]	-
95	P	-	[With 2.0L turbo gasoline engine and without gateway]	-
95	R	-	[With 2.0L turbo gasoline engine and with gateway]	-
96	W	-	-	-
97	LG	-	-	-
98	L	-	-	-
99	LG	-	[With 2.0L turbo gasoline engine]	-
99	P	-	[With VR30 engine]	-
100	SHIELD	-	-	-

Connector No.	E45
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	SAZ30FB-S1Z4-U



18	V	RR RH WHEEL SENSOR POWER SUPPLY (With VR30 engine)
19	S8	FR LH WHEEL SENSOR SIGNAL
20	BG	FR LH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	VOLC CREE SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

Connector No.	E47
Connector Name	WIRE TO WIRE
Connector Type	TH22MM-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	[Color of wire differs depending on production]
1	Y	[Color of wire differs depending on production]
2	V	-
3	L	-
4	P	[Without Gateway]
4	R	[With Gateway]
5	W	-
6	S8	-
7	L	[Color of wire differs depending on production]
8	W	[Color of wire differs depending on production]
9	BG	-
9	V	[Without BOSE system]
10	V	[With BOSE system]
11	S8	-
12	G	-
13	G	-
15	BR	-
16	P	-
17	SHIELD	-
18	L	-
19	Y	-
20	W	-
21	G	-
22	R	-
23	BR	-

24	R	-
25	L	-
26	BG	-
27	LG	-
28	BR	-
29	W	-
30	Y	-
31	G	-
32	GR	-

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-C5



Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	[Color of wire differs depending on production]
11F	R	[Color of wire differs depending on production]

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

12F	W	- [With VR30 engine]
12F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E121
Connector Name	FOR INTELLIGENT POWER DISTRIBUTION MODULE ENGINE
Connector Type	TH32PW-AH



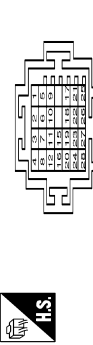
Terminal No.	Color Of Wire	Signal Name [Specification]
19	L	- [With 2.0L turbo gasoline engine]
19	P	- [With VR30 engine]
22	BG	-
23	GR	- [With VR30 engine]
23	LG	- [With 2.0L turbo gasoline engine and without Anti theft (dual)]
23	P	- [With 2.0L turbo gasoline engine and with Anti theft (dual)]
27	GR	-
28	P	-
29	L	-
31	G	-
32	SB	-
33	SB	-
34	Y	-
35	G	-
36	SB	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]
37	GR	-
38	BR	-
41	GR	-
43	V	-

Connector No.	E152
Connector Name	ECM
Connector Type	RH24FB-R28-L-RH



Terminal No.	Color Of Wire	Signal Name [Specification]
173	SB	FUEL TANK PRESSURE SENSOR
175	P	CAN-L
176	L	CAN-H
177	G	SENSOR POWER SUPPLY (FUEL TANK PRESSURE SENSOR)
178	V	TACHO METER SIGNAL
180	P	FUEL TANK TEMPERATURE SENSOR
182	W	FUEL PUMP CONTROL MODULE (FPCM) CHECK
185	SB	IGNITION SWITCH
186	SB	ASC-D STEERING SWITCH
187	BG	SENSOR GROUND (ASC-D STEERING SWITCH)
188	Y	FUEL PUMP CONTROL MODULE (FPCM)
189	Y	ENGINE COMMUNICATION LINE-L
190	L	ENGINE COMMUNICATION LINE-H
191	P	STOP LAMP SWITCH
192	BG	BRAKE PEDAL POSITION SWITCH
193	GR	- [With VR30 engine]
193	LG	- [With 2.0L turbo gasoline engine and without Anti theft (dual)]
194	W	SENSOR POWER SUPPLY
195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
196	R	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
197	R	ECM POWER SUPPLY
198	L	ECM GROUND
199	B	SENSOR POWER SUPPLY
200	V	ECM GROUND
201	B	SENSOR GROUND
202	V	ACCELERATOR PEDAL POSITION SENSOR 1
203	G	SENSOR GROUND
204	B	ECM GROUND

Connector No.	E172
Connector Name	JOINT CONNECTOR-E01
Connector Type	SGA28F1BR-J



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	W	-
4	L	-
5	GR	-
6	Y	-
7	W	-
8	L	-
9	GR	-
10	Y	-
11	W	-
12	L	-
15	W	-
16	BG	-
17	P	-
18	L	-
19	W	-
20	BG	-
21	P	-
22	L	-
23	SB	- [Color of wire differs depending on production]
23	W	- [Color of wire differs depending on production]
24	BG	- [Color of wire differs depending on production]
24	LG	- [Color of wire differs depending on production]
25	P	-
26	L	-
27	Y	-
28	L	-

Connector No.	E176
Connector Name	POWER STEERING CONTROL MODULE
Connector Type	RS04FB-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
4	R	IGNITION POWER SUPPLY
5	L	CAN-H
6	P	CAN-L

Connector No.	E178
Connector Name	WIRE TO WIRE
Connector Type	RS04FB-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	-
3	L	-
4	P	-

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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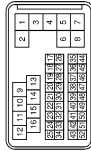
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	E180
Connector Name	WIRE TO WIRE
Connector Type	RS04MB



22	V	DRIVE MODE SELECT SWITCH (UP)
23	B	GROUND
24	P	CAN-L (Without Gateway)
24	R	CAN-L (With Gateway)
25	G	IGN
26	V	ACTUATOR (RL-H)
28	R	ACTUATOR (FR-L)



Connector No.	F12
Connector Name	WIRE TO WIRE
Connector Type	SAA36FB-4S3-SH28

38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

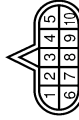


Connector No.	F2
Connector Name	A/T ASSEMBLY
Connector Type	RK1DFC-DGY



Terminal No.	Color Of Wire	Signal Name (Specification)
1	R	-
2	GR	-
3	BG	-
4	R	-
5	G	-
7	L	-
8	W	-
9	W	-
10	BG	-
11	R	-
12	LG	-
13	L	-
14	Y	-
15	LG	-
16	Y	-
17	L	-
18	P	-
19	GR	-
20	BG	-
21	GR	-
22	W	-
23	G	-
24	SB	-
25	V	-
26	W	-
27	V	-
28	W	-
29	Y	-
30	R	-
31	P	-
32	R	-
33	P	-
34	BG	-
35	LG	-
36	SB	-
37	V	-

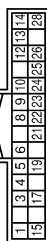
Connector No.	F100
Connector Name	TCM
Connector Type	SPTDFG



Terminal No.	Color Of Wire	Signal Name (Specification)
1	GR	IGNITION POWER SUPPLY (With 2.0L turbo gasoline engine)
1	L	IGNITION POWER SUPPLY (With VR30 engine)
2	P	BATTERY POWER SUPPLY (MEMORY BACK-UP)
3	L	CAN-H
4	R	K-LINE
5	B	GROUND (With 2.0L turbo gasoline engine)
5	BR	GROUND (With VR30 engine)
7	BG	IGNITION POWER SUPPLY
8	P	BACK-UP LAMP RELAY
9	V	CAN-L
10	B	STARTER RELAY



Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	ACTUATOR (FL-H)
3	BR	ACTUATOR (RR-H)
4	BG	IGN
5	W	CHASSIS COMM-L
6	B	GROUND
8	BR	CHASSIS COMM-L (Color of wire depends on production)
8	L	CHASSIS COMM-L (Color of wire depends on production)
9	G	CHASSIS COMM-L (Color of wire depends on production)
9	Y	CHASSIS COMM-L (Color of wire depends on production)
10	L	CAN-H
12	G	ACTUATOR (FR-H)
13	G	ESS RELAY
14	L	ACTUATOR (RL-L)
15	Y	ACTUATOR (RR-L)
17	V	ACTUATOR (FL-H)
19	L	CHASSIS COMM-H
21	W	CHASSIS COMM-L



Connector No.	E219
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH-28FW

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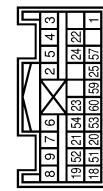
CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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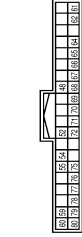
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	M15
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28FY-EX



Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FE-NH



Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	Y/R	DRL (+)
4	Y/B	DRL (-)
5	Y	DRZ (+)
6	Y/R	AS1 (+)
7	Y/B	AS1 (-)
8	Y/G	AS2 (+)
9	Y	AS2 (-)
18	Y	EC25+
19	BR	EC25-
20	Y/R	ACT_VENT+
21	Y/B	ACT_VENT-
22	SHIELD	GND
23	V	AIRBAG W/L
24	G	A/B OFF IND
25	GR	SATELLITE RH2 (+)
51	G	SIDE SENS_LH2-
52	R	SIDE SENS_LH2+
53	L	SIDE SENS_LH2-
54	L	SIDE SENS_LH2+
57	LG	IMCS
59	L	CANH
60	P	CAN-L

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW (L PWR)
52	G	DONGLE LINK
54	V	COMB LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CANH
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	H-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT (WITH VR30 engine)
66	Y	BLOWER FAN RLY CONT (WITH 2.0L turbo gasoline engine)
67	W/B	IGN RLY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLY (P/DW L/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LED OPNRS SW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	L	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With 2.0L turbo gasoline engine]
8	P	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	LG	-
14	LG	-
15	P	- [With 2.0L turbo gasoline engine]
15	P	- [With VR30 engine]
16	SB	- [With DCM]
16	V	- [Without DCM]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
22	V	-
23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]

25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
34	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	V	- [With 2.0L turbo gasoline engine]
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [Except with VR30 engine and with BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
49	G	-
50	V	-
51	V	-
52	L	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
54	L	-
56	P	-
57	R	-
58	LG	-
59	SB	-
61	L	-
62	P	- [With 2.0L turbo gasoline engine]
62	V	- [With VR30 engine]
63	L	-
64	W	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Terminal No.	Color Of Wire	Signal Name [Specification]
66	R	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
72	G	- [With VR30 engine]
73	LG	- [With 2.0L turbo gasoline engine]
74	SHIELD	- [With 2.0L turbo gasoline engine]
75	L	- [With VR30 engine]
76	P	- [With 2.0L turbo gasoline engine]
77	V	- [With VR30 engine]
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
81	B	- [With VR30 engine]
82	G	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	BR	- [With VR30 engine]
85	BR	- [With VR30 engine]
86	R	- [With 2.0L turbo gasoline engine]
87	LG	- [With VR30 engine]
88	BR	- [With VR30 engine]
89	LG	- [With 2.0L turbo gasoline engine]
90	SB	- [With 2.0L turbo gasoline engine]
91	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
93	R	- [With VR30 engine]
94	R	- [With 2.0L turbo gasoline engine]
95	L	- [With 2.0L turbo gasoline engine]
96	R	- [With VR30 engine]
97	L	- [With VR30 engine]
98	BR	- [With 2.0L turbo gasoline engine]
99	BR	- [With VR30 engine and with BOSE system]

Terminal No.	Color Of Wire	Signal Name [Specification]
99	P	- [With 2.0L turbo gasoline engine]
100	BR	- [With VR30 engine and without BOSE system]
101	W	- [With VR30 engine]
102	W	- [With 2.0L turbo gasoline engine]

Connector No.	Connector Name	Connector Type
M25	DATA LINK CONNECTOR	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	KLINE [With 2.0L turbo gasoline engine]
8	W	IGN_SW
11	SB	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	Connector Name	Connector Type
M39	WIRE TO WIRE	THZ2FM-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/B	-
2	SB	-
3	L	- [Without Gateway]
4	P	- [With Gateway]
5	BR	-
6	SB	-
7	L	-
8	W	-
9	P	- [Without BOSE system]
10	V	- [With BOSE system]
11	SB	-
12	G	-
13	G	-
15	R	-
16	SB	-
17	SHIELD	-
18	W	-
19	Y	-
20	L	-
21	G	-
22	R	-
23	BR	-
24	R	-
25	L	-
26	Y	-
27	LG	-
28	BR	-
29	W/B	-
30	Y	-
31	W	-
32	L	- [With Anti-theft device]
32	LG	- [Without Anti-theft device]

Connector No.	Connector Name	Connector Type
M40	WIRE TO WIRE	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BC	-
6	W/B	-
7	V	-
8	BC	- [With VR30 engine]
9	BR	- [With 2.0L turbo gasoline engine]
10	LG	- [With VR30 engine]
11	P	- [With 2.0L turbo gasoline engine]
12	W	-
13	W	-
14	Y	- [With VR30 engine]
15	Y	- [With 2.0L turbo gasoline engine]
16	B	- [With VR30 engine]
17	LG	- [With 2.0L turbo gasoline engine]
18	B	- [With VR30 engine]
19	W/B	- [With 2.0L turbo gasoline engine]
20	Y	-
21	W	-
22	G	- [With VR30 engine]
23	R	- [With 2.0L turbo gasoline engine]
24	R	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
26	Y	-
27	LG	- [With 2.0L turbo gasoline engine]
28	BR	- [With VR30 engine]
29	W/B	-
30	Y	-
31	W	-
32	L	- [With VR30 engine]
33	W	-
34	G	- [With 2.0L turbo gasoline engine]
35	BC	-
36	G	-
37	B	- [With VR30 engine]
38	L	- [With 2.0L turbo gasoline engine]
38	P	- [With VR30 engine]
38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >


[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

39	R	- [With 2.0L turbo gasoline engine]
40	GR	- [With VR30 engine]
41	L	- [With 2.0L turbo gasoline engine]
44	BR	- [With VR30 engine]
45	W	- [With 2.0L turbo gasoline engine]
46	G	- [With VR30 engine]
47	BG	- [With 2.0L turbo gasoline engine]
48	SHIELD	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	BR	- [With 2.0L turbo gasoline engine]
51	L	- [With VR30 engine]
52	W	- [With VR30 engine]
53	G	- [With 2.0L turbo gasoline engine]
54	SB	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
56	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	- [With VR30 engine]
59	SB	- [With VR30 engine]
61	W/B	- [With VR30 engine]
64	Y	- [With VR30 engine]
65	R	- [With VR30 engine]
66	P	- [Color of wire differs depending on production]
67	LG	- [Color of wire differs depending on production]
68	RG	- [With VR30 engine]
70	R	- [With VR30 engine]
71	V	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
73	R	- [With VR30 engine]
74	BR	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	W/B	- [With VR30 engine]

77	SB	- [With VR30 engine]
78	G	- [With 2.0L turbo gasoline engine]
79	R	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
83	BR	- [With VR30 engine]
84	V	- [With VR30 engine]
86	V	- [With VR30 engine]
87	G	- [With VR30 engine]
90	G	- [With 2.0L turbo gasoline engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	- [With 2.0L turbo gasoline engine and with gateway]
92	G	- [With VR30 engine]
93	BR	- [With VR30 engine]
94	GR	- [With VR30 engine]
95	P	- [With VR30 engine]
95	R	- [With 2.0L turbo gasoline engine and without gateway]
96	W	- [With 2.0L turbo gasoline engine and with gateway]
97	LG	- [With VR30 engine]
98	Y	- [With VR30 engine]
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	- [With VR30 engine]

Connector No.	M42
Connector Name	AWD CONTROL UNIT
Connector Type	TH3BFW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	AWD SOL (+)
2	Y	AWD SOL (-)
3	W/B	FLUID TEMP (-)
7	G	IGN
8	L	CAN-H

9	BG	AWD SOL BAT
10	B	GND
11	B	GND
13	LG	FLUID TEMP (+)
15	W	BATTERY POWER SUPPLY
16	P	CAN-L [Without Gateway]
16	R	CAN-L [With Gateway]

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [Except with VR30 engine and without IS]
46	R	IGNITION SIGNAL [With VR30 engine and without IS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH3BFW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

Connector No.	M88
Connector Name	A/C AUTO AMP.
Connector Type	TH4DFW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	W	BATTERY POWER SUPPLY
7	G	AMBIENT SENSOR SIGNAL
9	B	SUNLOAD SENSOR SIGNAL
13	SB	ACC POWER SUPPLY [With 2.0L turbo gasoline engine]
13	V	ACC POWER SUPPLY [With VR30 engine]
16	P	IGN SIGNAL
17	R	DOOR MOTOR POWER SUPPLY
20	L	HEATED STEERING WHEEL RELAY CONTROL SIGNAL
21	P	CAN-L
22	B	GROUND
23	R	IGNITION POWER SUPPLY [With VR30 engine and with IS]
23	W	IGNITION POWER SUPPLY [Except with VR30 engine and with IS]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

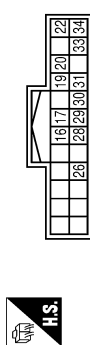
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

26	B	SENSOR GROUND
27	LG	IN-VEHICLE SENSOR SIGNAL
28	BR	INTAKE SENSOR SIGNAL
30	BG	EXHAUST GAS / OUTSIDE COLOR DETECTING SENSOR SIGNAL
37	B	GROUND
38	BG	IONIZER (ON/OFF) CONTROL SIGNAL
40	BG	ECV CONTROL SIGNAL

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-AH

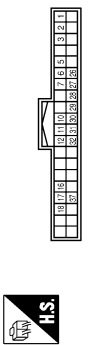


Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-AH

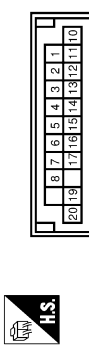


6C	G	-
7C	G	-
8C	G	-
9C	V	-

Connector No.	M144
Connector Name	TCU
Connector Type	TH40FB-AH



Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
19C	P	- [With DRPO]
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	W	-
7C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
34C	W/B	- [With 2.0L turbo gasoline engine]
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
40C	G	-
4C	P	-
5C	P	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BAT
2	SB	ACC [For 2.0L turbo gasoline engine]
3	SB	ACC OUTPUT
5	BR	SOS SWITCH-LED SIGNAL
6	L	CAN-H
7	P	CAN-L
10	R	IGN [For VR30 engine]
11	SHIELD	IGN [For 2.0L turbo gasoline engine]
12	R	MICROPHONE SIGNAL GND
16	SHIELD	MICROPHONE OUTPUT SIGNAL
17	SHIELD	SHIELD
18	G	MICROPHONE SIGNAL
19	L	MICROPHONE/VCC
26	SB	AV COMM (H)
27	LG	AV COMM (L)
28	B	GROUND
29	B	GROUND
30	SHIELD	SHIELD
31	B	SOUND SIGNAL (+)
32	W	SOUND SIGNAL (-)
37	G	SOS CALL SWITCH SIGNAL

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	- [With VR30 engine]
16	R	- [With 2.0L turbo gasoline engine]
17	P	- [With VR30 engine]
17	R	- [With 2.0L turbo gasoline engine]
19	R	- [With VR30 engine and with SS]
19	W	- [Except with VR30 engine and with SS]
20	R	- [With VR30 engine and with SS]
20	W	- [Except with VR30 engine and with SS]

Terminal No.	Color Of Wire	Signal Name [Specification]
16	LG	AV COMM (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GROUND
26	BR	CAMERA SWITCH SIGNAL
28	SB	AV COMM (H)
29	L	CAN-H
30	R	IGN [For VR30 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (8-PULSE)
33	SB	ACC [Except for VR30 engine and with SS]
33	V	ACC [For VR30 engine and with SS]
34	Y	BAT

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GAZA



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

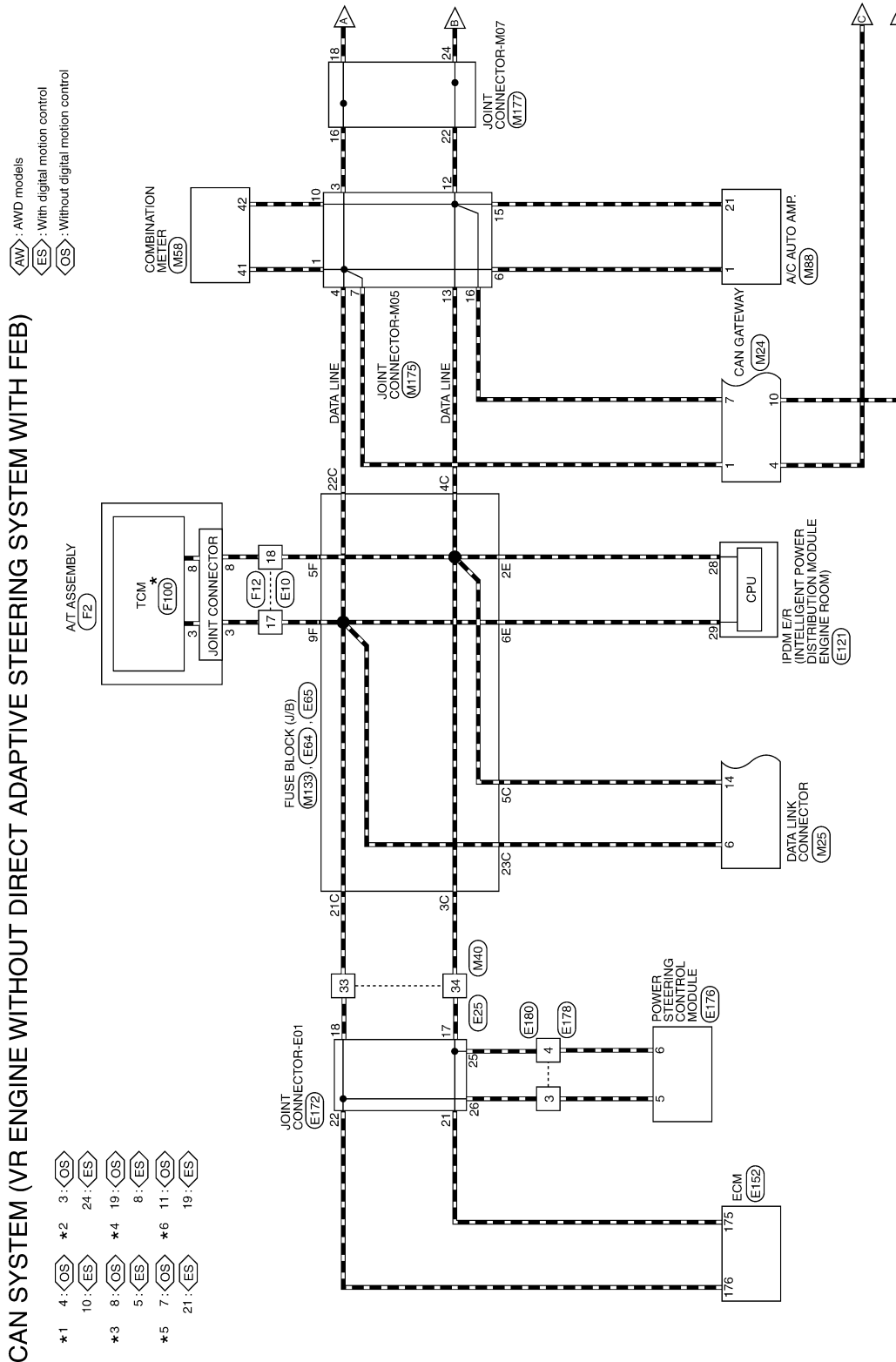
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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Wiring Diagram

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

AW: AMD models
 ES: With digital motion control
 OS: Without digital motion control

- *1: OS
- *2: OS
- *3: OS
- *4: OS
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- *6: OS
- *7: OS
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- *21: OS
- *22: OS
- *23: OS
- *24: ES
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- *50: OS

*: This connector is not shown in "Harness Layout".

2016/02/15

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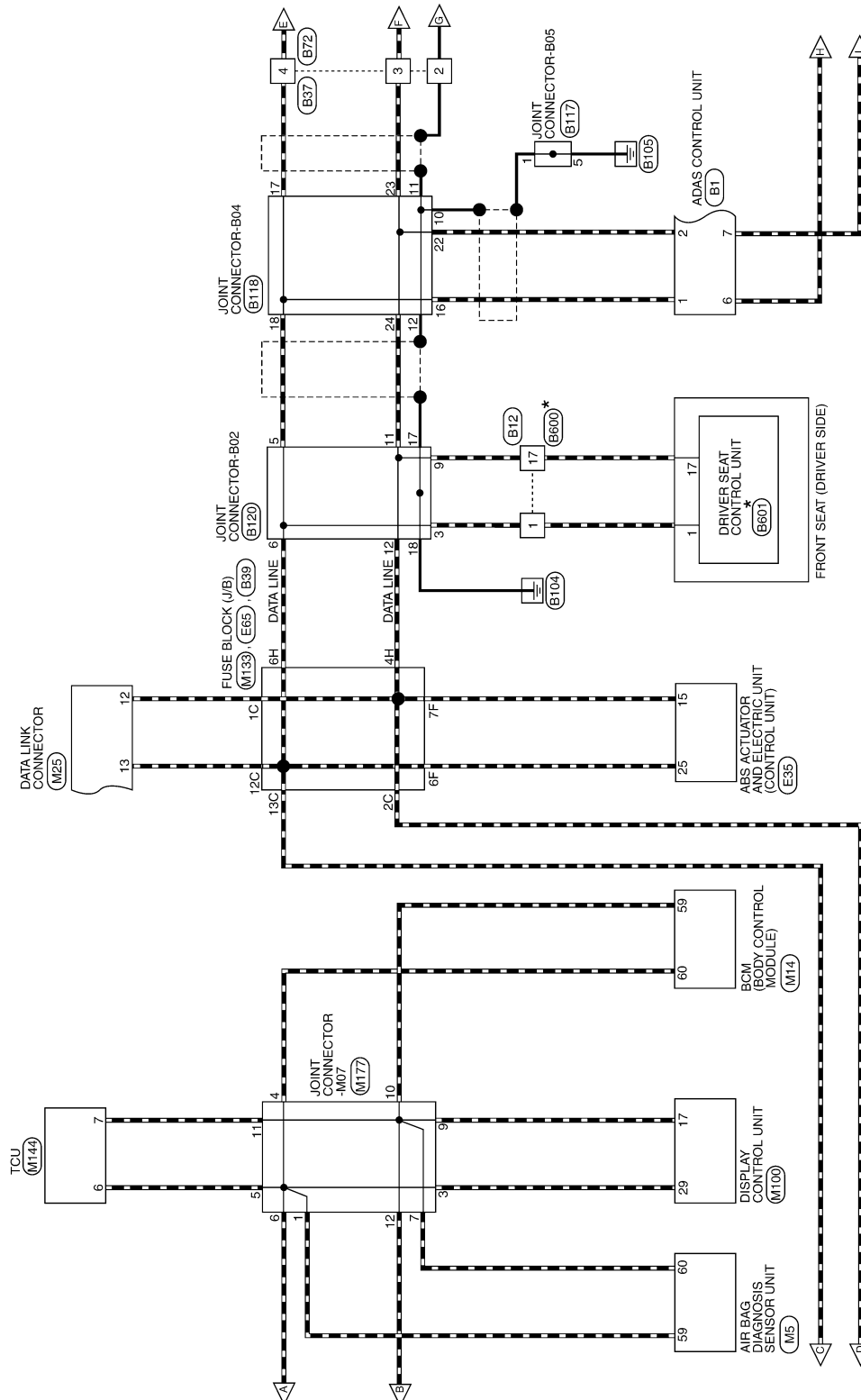
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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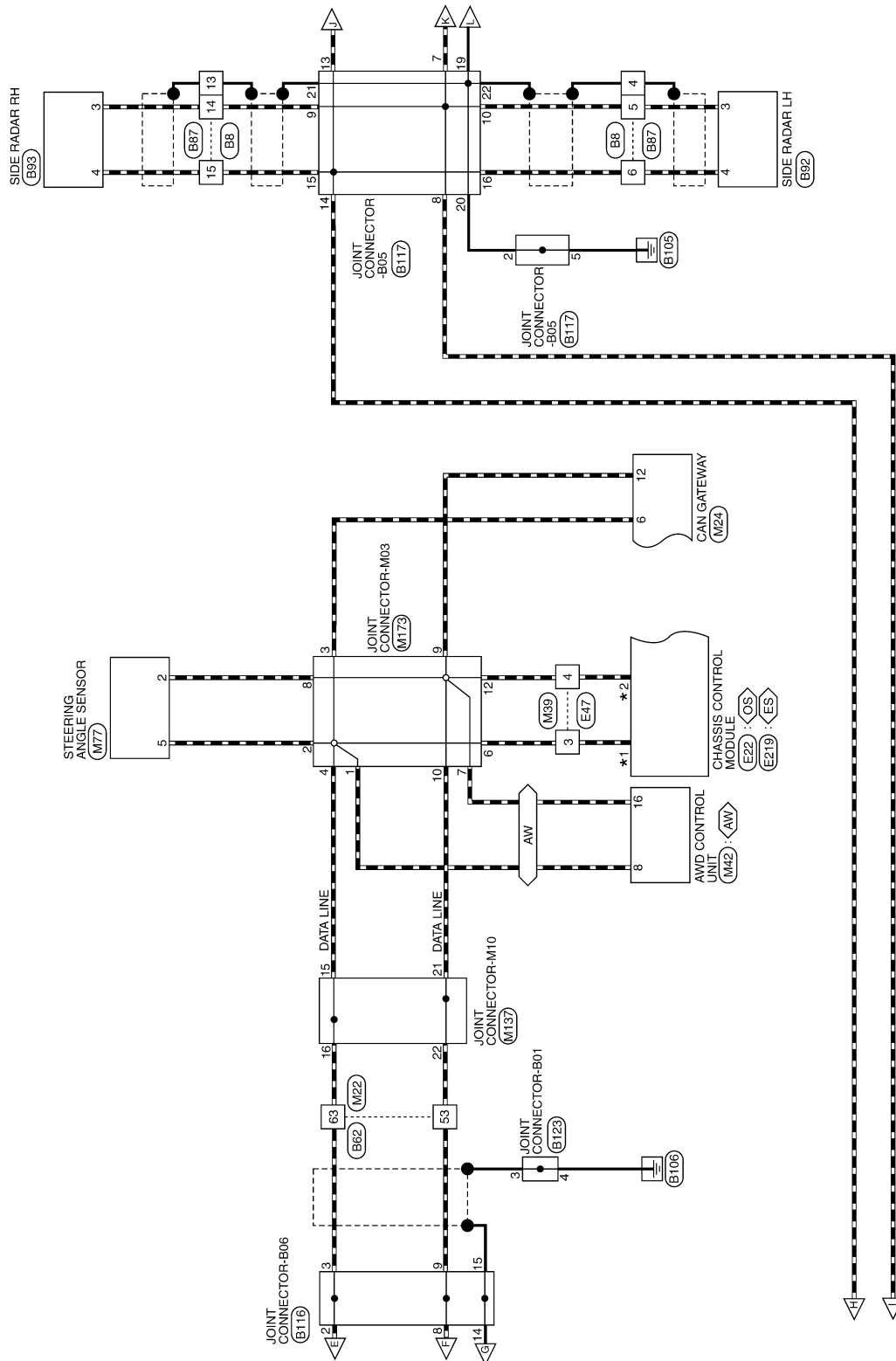


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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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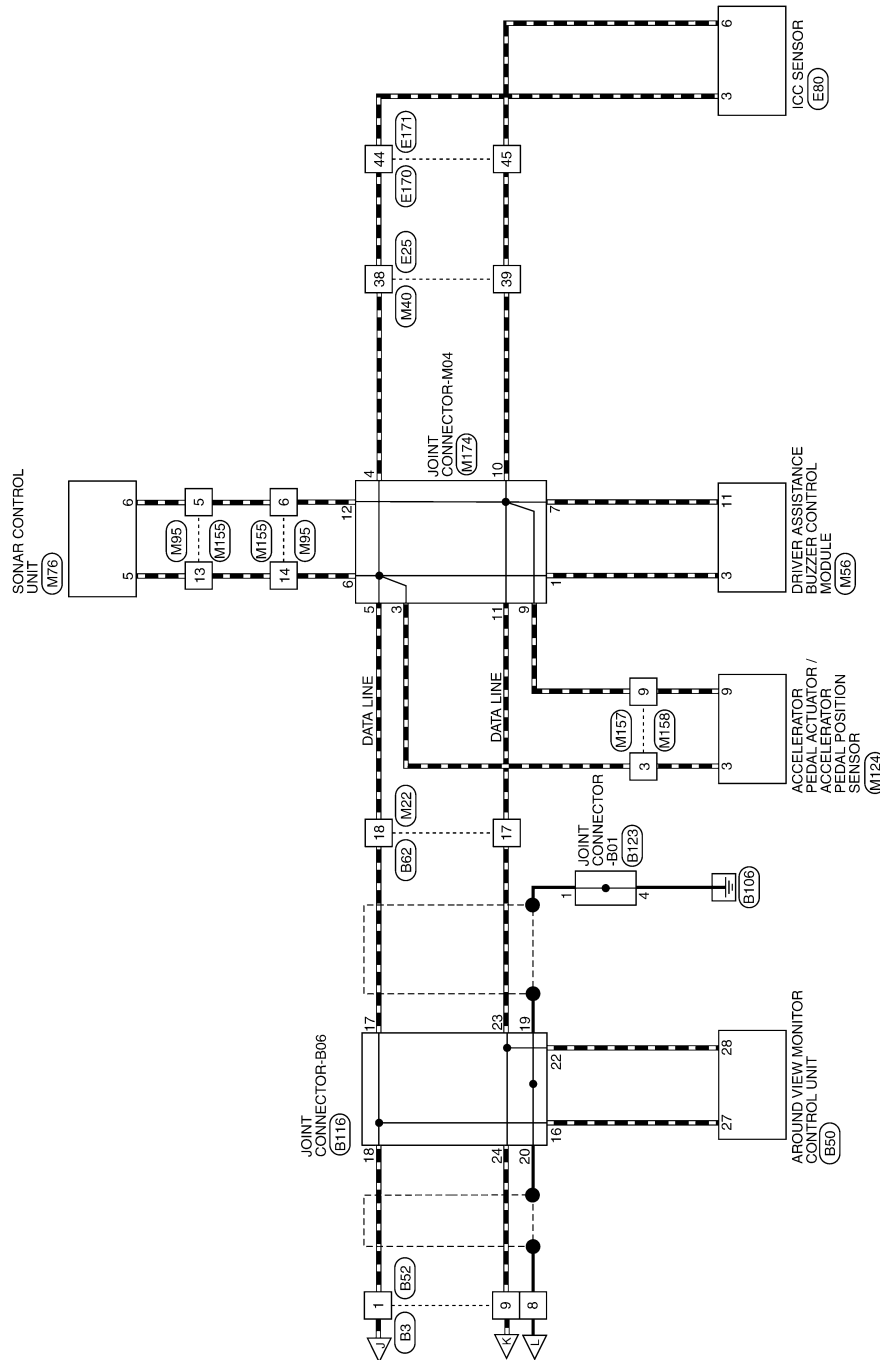
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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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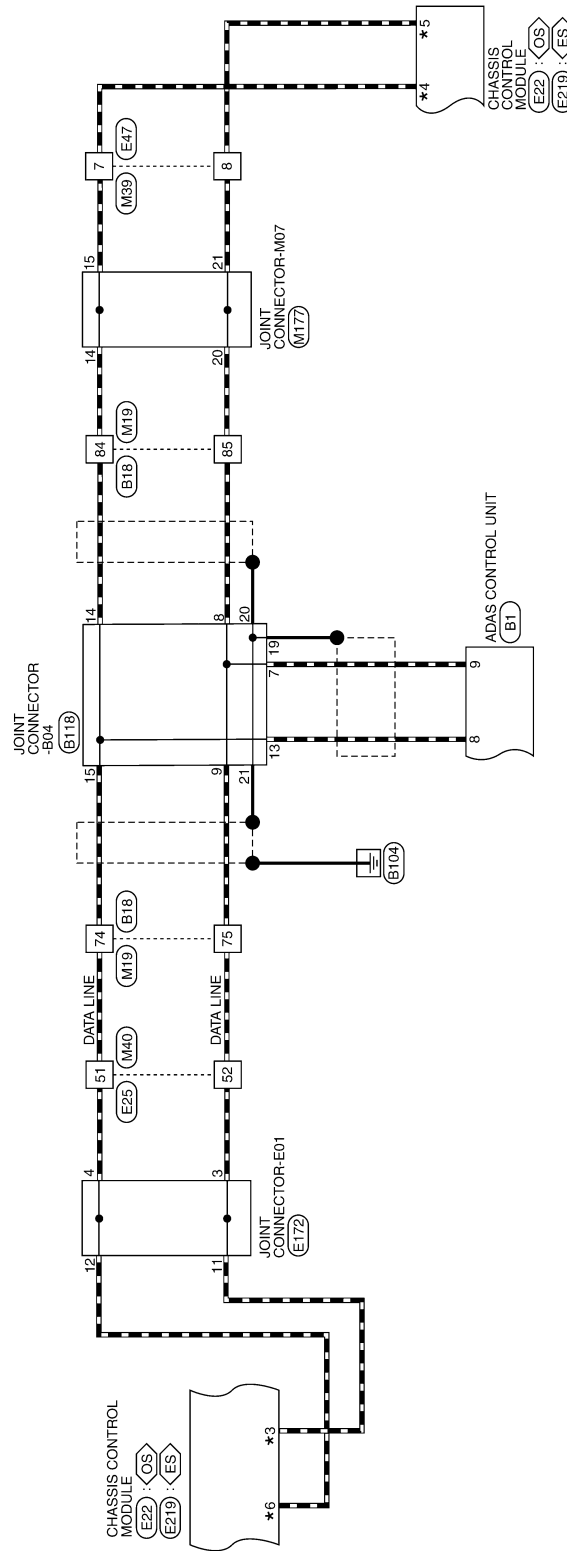


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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



12	9	8	7	6	5	2	1
24	23						

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	R	CAN-L
3	B	GROUND
4	L	ITS COMM-H
5	L	ITS COMM-L
6	L	CHASSIS COMM-H
7	R	CHASSIS COMM-L
8	G	IGNITION [Except with VR30 engine and without BS]
9	G	IGNITION [VR30 engine and without BS]
10	R	BRAKE HOLD RLY DRIVE SIGNAL
11	V	STEERING SW SIGNAL GROUND
12	V	STEERING SW SIGNAL
13	B	- [With VR30 engine]
14	P	- [With VR30 engine]
15	L	-

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



7	6	5	4	3	2	1
16	15	14	13	12	11	10
9	8					

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
7	Y	- [Without BOSE system]
8	B	-
9	Y	-

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



28	21	5	2	43	1	17
23	7	33	22	45	6	47
48						

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	LG	-
5	P	-
6	V	-
7	P	- [Without Gateway]
17	P	- [With Gateway]
17	R	-
21	BG	-
22	BR	-
23	BG	-
28	R	-
33	L	-
43	B	-
45	G	-
46	BG	-
47	R	-
48	GR	-

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
4	LG	-
5	Y	-
6	R	-
7	V	-
8	LG	-
10	BG	-
11	BG	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	R	-
23	V	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine and without gateway]
25	V	- [With 2.0L turbo gasoline engine and with gateway]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	B	- [With VR30 engine]
32	B	- [With 2.0L turbo gasoline engine]
33	B	-
34	LG	-
35	P	-
36	W	-
37	S8	-
38	LG	-
40	P	-
41	S8	-
42	BR	-
43	BG	-
44	BG	-
46	R	-
50	W	-
51	S8	-
52	V	-
53	LG	-

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

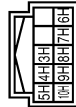
54	R	-	-	-	-
55	R	-	-	-	-
57	W	-	-	-	-
58	V	-	-	-	-
59	GR	-	-	-	-
60	G	-	-	-	-
61	G	-	-	-	-
62	BG	-	-	-	-
63	BR	-	-	-	-
64	Y	-	-	-	-
66	R	-	-	-	-
70	R	-	-	-	-
71	W	-	-	-	-
72	B	-	-	-	-
73	W	-	-	-	-
74	L	-	-	-	-
75	R	-	-	-	-
75	V	-	-	-	-
76	BR	-	-	-	-
77	B	-	-	-	-
78	SB	-	-	-	-
79	V	-	-	-	-
79	W	-	-	-	-
81	B	-	-	-	-
82	R	-	-	-	-
83	BG	-	-	-	-
84	L	-	-	-	-
85	R	-	-	-	-
85	V	-	-	-	-
86	B	-	-	-	-
86	G	-	-	-	-
89	V	-	-	-	-
89	W	-	-	-	-
91	GR	-	-	-	-
94	GR	-	-	-	-
96	V	-	-	-	-
97	V	-	-	-	-
98	BR	-	-	-	-
98	Y	-	-	-	-

Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	TH08MW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	SHIELD	-
3	R	-
4	L	-
5	R	-
7	P	-

Connector No.	B39
Connector Name	FUSE BLOCK (I/B)
Connector Type	TH10FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
10H	P	-
3H	L	-
4H	R	-
5H	V	-
6H	L	-
7H	LG	-
8H	P	-
9H	GR	-

Connector No.	B50
Connector Name	AROUND VIEW MIRROR CONTROL UNIT
Connector Type	TH40FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y	BAT
3	LG	IGN
4	P	ACC
19	P	AV COMM (H)
20	LG	AV COMM (L)
23	SHIELD	AV COMM GND
25	BG	REVERSE SIGNAL
27	L	CAN-H
28	P	CAN-L [Without ADAS] [For VR30 engine]
28	R	CAN-L [With ADAS]
29	Y	CAN-L [Without ADAS] [For 2.0L turbo gasoline engine]
29	B	CAN GND
30	W	RETRACT MOTOR OPERATING SIGNAL (OPEN)
32	G	RETRACT MOTOR OPERATING SIGNAL (CLOSE)

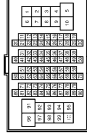
Connector No.	B52
Connector Name	WIRE TO WIRE
Connector Type	HS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	-
5	Y	-
7	R	-

8	SHIELD	-
9	P	-
11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE system]
1	LG	- [With VR30 engine]
2	L	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine and with BOSE system]
3	W	- [With VR30 engine and without BOSE system]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and with BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
8	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
10	V	-
11	GR	-
12	Y	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

13	R	-	-
14	BG	-	- [With 2.0L turbo gasoline engine]
15	BG	-	- [With 2.0L turbo gasoline engine]
16	GR	-	- [With VR30 engine]
17	P	-	-
18	L	-	-
19	R	-	-
20	GR	-	-
21	R	-	-
22	V	-	-
23	W	-	- [With VR30 engine]
24	BG	-	- [With 2.0L turbo gasoline engine]
24	V	-	- [With VR30 engine]
25	L	-	- [With 2.0L turbo gasoline engine]
25	SB	-	- [With VR30 engine]
26	G	-	- [With VR30 engine]
26	W	-	- [With 2.0L turbo gasoline engine]
27	R	-	-
29	LG	-	- [With 2.0L turbo gasoline engine]
30	LG	-	- [With VR30 engine]
30	P	-	- [With VR30 engine]
31	SHIELD	-	-
32	L	-	-
33	B	-	- [With VR30 engine]
33	LG	-	- [With 2.0L turbo gasoline engine]
34	SHIELD	-	-
35	LG	-	- [With VR30 engine]
36	R	-	- [With VR30 engine]
36	W	-	- [With 2.0L turbo gasoline engine]
37	P	-	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	-	- [With VR30 engine]
37	W	-	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-	-
39	P	-	- [With VR30 engine and without BOSE system]
39	R	-	- [With 2.0L turbo gasoline engine]
39	W	-	- [With VR30 engine and with BOSE system]
40	G	-	-
41	L	-	-
42	R	-	-
43	SHIELD	-	-
44	P	-	-
45	B	-	- [With 2.0L turbo gasoline engine]
45	G	-	- [With VR30 engine]
46	SHIELD	-	-
47	G	-	-
48	BG	-	-
49	G	-	-
50	V	-	-

51	GR	-	-
52	W	-	- [With 2.0L turbo gasoline engine]
52	Y	-	- [With VR30 engine]
53	R	-	-
54	GR	-	-
55	L	-	-
56	V	-	-
57	R	-	-
58	LG	-	-
59	P	-	-
61	L	-	-
62	B	-	- [With VR30 engine]
62	V	-	- [With 2.0L turbo gasoline engine]
63	L	-	-
64	W	-	-
66	LG	-	-
68	L	-	-
69	P	-	-
71	GR	-	- [With 2.0L turbo gasoline engine]
71	R	-	- [With VR30 engine]
72	G	-	- [With VR30 engine]
72	Y	-	- [With 2.0L turbo gasoline engine]
73	R	-	- [With 2.0L turbo gasoline engine]
73	SHIELD	-	-
74	BG	-	- [With 2.0L turbo gasoline engine]
74	L	-	- [With VR30 engine]
75	GR	-	- [With 2.0L turbo gasoline engine]
75	V	-	- [With VR30 engine]
76	GR	-	- [With 2.0L turbo gasoline engine]
76	V	-	- [With 2.0L turbo gasoline engine]
77	P	-	-
78	L	-	-
79	R	-	- [With 2.0L turbo gasoline engine]
80	GR	-	- [With VR30 engine]
80	W	-	- [With VR30 engine]
81	B	-	- [With VR30 engine]
81	R	-	- [With 2.0L turbo gasoline engine]
82	G	-	- [With 2.0L turbo gasoline engine]
82	SHIELD	-	- [With VR30 engine]
83	R	-	- [With 2.0L turbo gasoline engine]
83	W	-	- [With VR30 engine]
84	BR	-	- [With VR30 engine]
84	SHIELD	-	- [With 2.0L turbo gasoline engine]
85	BG	-	- [With VR30 engine]
85	G	-	- [With 2.0L turbo gasoline engine]
86	R	-	- [With 2.0L turbo gasoline engine]
86	W	-	- [With VR30 engine]
87	LG	-	- [With VR30 engine]
87	SHIELD	-	- [With 2.0L turbo gasoline engine]
89	LG	-	-

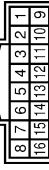
90	P	-	- [With 2.0L turbo gasoline engine]
90	V	-	- [With VR30 engine]
92	L	-	- [With 2.0L turbo gasoline engine]
92	W	-	- [With VR30 engine]
93	R	-	- [With VR30 engine]
93	SHIELD	-	- [With 2.0L turbo gasoline engine]
94	R	-	-
95	L	-	- [With 2.0L turbo gasoline engine]
95	Y	-	- [With VR30 engine]
96	R	-	- [With 2.0L turbo gasoline engine]
96	W	-	- [With VR30 engine]
97	L	-	- [With VR30 engine]
97	R	-	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	-	- [With 2.0L turbo gasoline engine and without BOSE system]
98	LG	-	-
99	BR	-	- [With VR30 engine and with BOSE system]
99	P	-	- [With 2.0L turbo gasoline engine]
99	Y	-	- [With VR30 engine and without BOSE system]
100	BR	-	- [With VR30 engine]
100	W	-	- [With 2.0L turbo gasoline engine]

Connector No.	B72
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-AH



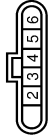
Terminal No.	Color Of Wire	Signal Name [Specification]
2	SHIELD	-
3	R	-
4	L	-
5	R	-
7	P	-

Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	-
3	BR	-
4	SHIELD	-
5	R	-
6	L	-
7	GR	-
10	B	-
11	B	-
12	SB	-
13	SHIELD	-
14	P	-
15	L	-

Connector No.	B92
Connector Name	SIDE RADAR LH
Connector Type	AAK06FE-WP-5P



Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	GROUND
3	R	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	BR	BUILD-UP WARNING/BLIND SPOT INTERVENTION INDICATOR

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	B83
Connector Name	SIDE RADAR RH
Connector Type	AAC0FBWP



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	RIGHT/LEFT SWITCHING SIGNAL
2	B	GROUND
3	P	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	SB	BIND SPOT WARNING/BIND SPOT INTERVENTION INDICATOR

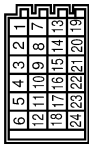
Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	- [With Gateway]
8	V	- [Without Gateway]
9	R	- [With Gateway]
10	R	- [Without Gateway]
11	V	- [With VR30 engine]
12	V	- [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
12	P	- [With Gateway]
13	R	- [Without Gateway]
14	SHIELD	-
15	B	- [With 2.0L turbo gasoline engine]
16	SHIELD	- [With VR30 engine]
17	SHIELD	- [With 2.0L turbo gasoline engine]
18	SHIELD	- [With VR30 engine]
19	L	- [With 2.0L turbo gasoline engine]
20	L	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
22	P	-
23	P	-
24	Y	- [With VR30 engine]

Connector No.	B117
Connector Name	JOINT CONNECTOR-B05
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	- [With 2.0L turbo gasoline engine]
2	SHIELD	- [With VR30 engine]
3	B	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	SHIELD	- [With VR30 engine]
6	B	-
7	B	-
8	Y	-
9	P	- [With VR30 engine]
10	P	- [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
10	Y	- [With 2.0L turbo gasoline engine]
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	B	-
20	B	-
21	B	- [With 2.0L turbo gasoline engine]
22	SHIELD	- [With VR30 engine]
23	SHIELD	- [With 2.0L turbo gasoline engine]
24	SHIELD	- [With VR30 engine]

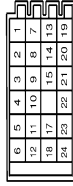
Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	SHIELD	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	R	- [With VR30 engine]
8	R	- [Color of wire differs depending on production]
9	R	- [With VR30 engine and without paddle shift]
10	V	- [With VR30 engine and with paddle shift]
11	LG	- [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
9	R	- [With VR30 engine and without paddle shift]
10	V	- [With VR30 engine and with paddle shift]
11	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
14	LG	- [With VR30 engine]
15	LG	- [With 2.0L turbo gasoline engine]
16	SHIELD	- [With VR30 engine]
17	SHIELD	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	R	- [With 2.0L turbo gasoline engine and without gateway]
20	R	- [With 2.0L turbo gasoline engine and with gateway]
21	L	- [With VR30 engine]
22	R	- [With VR30 engine]
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]
4	L	- [With 2.0L turbo gasoline engine]
5	L	- [With VR30 engine]
6	R	- [With 2.0L turbo gasoline engine]

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

5	L	-	
6	L	-	
7	L	-	
8	L	-	
9	L	-	
9	R	- [With 2.0L turbo gasoline engine]	
10	L	- [With VR30 engine]	
10	R	- [With 2.0L turbo gasoline engine]	
10	R	- [With VR30 engine]	
11	R	-	
12	R	-	
13	W	-	
14	W	-	
15	W	-	
17	SHIELD	-	
18	B	-	
19	B	- [With 2.0L turbo gasoline engine]	
19	GR	- [With VR30 engine]	
20	GR	- [With VR30 engine]	
20	SHIELD	- [With 2.0L turbo gasoline engine]	
21	B	- [With 2.0L turbo gasoline engine]	
21	GR	- [With VR30 engine]	
22	W	-	
23	W	-	
24	W	-	

Connector No.	B123
Connector Name	JOINT CONNECTOR-801
Connector Type	TKCAFWJ



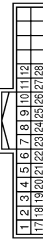
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	B	- [With 2.0L turbo gasoline engine]
3	SHIELD	- [With VR30 engine]
4	B	-

Connector No.	B600
Connector Name	WIRE TO WIRE
Connector Type	N516MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
5	-	-
6	-	-
7	-	-
17	-	-
21	-	-
22	-	-
23	-	-
28	-	-
33	-	-
43	-	-
45	-	-
46	-	-
47	-	-
48	-	-

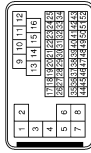
Connector No.	B601
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	TH82FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	BR	UART (TX/RX)
3	R	START SW
4	P	PULSE (RECLINER)

5	V	PULSE (TELESCOPIC)
6	GY	ADDRESS 2
7	G	IND 2
8	V	SLIDE SW (BACKWARD)
9	W	RECLINER SW (BACKWARD)
10	O	TILT SW (DOWNWARD)
11	G	LIFTER SW (DOWNWARD)
12	SA	POWER SUPPLY (ENCODER)
17	P	CAN-L
18	LG	PULSE (SLIDE SENSOR)
19	W	PULSE (LIFTER - FRONT)
20	GY	PULSE (LIFTER - REAR)
21	S8	PULSE (TILT SENSOR)
22	O	ADDRESS 1
23	W	IND 1
24	P	SLIDE SW (FORWARD)
25	Y	RECLINER SW (FORWARD)
26	GY	TILT SW (UPWARD)
27	L	LIFTER SW (UPWARD)
28	Y	SET SW

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Type	SAA36MB-RS8-SHZ8



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	LG	-
4	R	-
5	G	-
7	V	-
8	W	-
9	W	-
10	B6	-
11	LG	-
12	B6	-
13	L	-
14	Y	-
15	LG	-

16	G	-
17	L	-
18	P	-
19	GR	-
20	G	-
21	GR	-
22	W	-
23	G	-
24	B6	-
25	V	-
26	BR	-
27	W	-
28	B6	-
29	LG	-
30	G	-
31	Y	-
32	R	-
33	B	-
34	V	-
35	LG	-
36	W	-
37	V	-
38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
44	SHIELD	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	B6	-
50	SHIELD	-
51	W	-
52	G	-

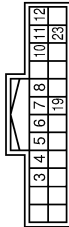
CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW/AH



Terminal No.	Color Of Wire	Signal Name (Specification)
3	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	Y	DRIVE MODE SELECT SWITCH (DOWN) [With 2.0L turbo gasoline engine]
6	G	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	Y	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
7	W	CHASSIS COMM-L
8	W	CHASSIS COMM-L
10	BG	IGN [With 2.0L turbo gasoline engine]
10	G	IGN [With VR30 engine]
11	L	CHASSIS COMM-H
12	B	GROUND [With VR30 engine]
12	B/W	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMM-H [With VR30 engine]
19	L	CHASSIS COMM-H [With 2.0L turbo gasoline engine]
23	R	ESS RELAY [With VR30 engine]
23	G	ESS RELAY [With 2.0L turbo gasoline engine]

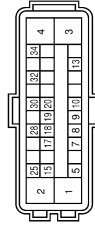
Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80PW/CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
48	SHIELD	SHIELD
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
53	BG	- [With VR30 engine]
54	P	- [With 2.0L turbo gasoline engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B	- [Color of wire differs depending on production]
58	B/W	- [Color of wire differs depending on production]
59	W	-
61	R	-
64	Y	- [Color of wire differs depending on production]
65	BR	- [Color of wire differs depending on production]
66	GR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With 2.0L turbo gasoline engine]
73	W	- [With VR30 engine]
74	BR	- [With 2.0L turbo gasoline engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	V	- [With VR30 engine]
76	G	-
77	V	-
78	LG	- [With 2.0L turbo gasoline engine and with ADAS]
78	P	- [With VR30 engine]
78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	G	-
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-

86	BG	-
87	G	-
89	LG	- [With VR30 engine]
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
93	BG	- [With VR30 engine]
94	GR	- [With 2.0L turbo gasoline engine]
94	L	- [With VR30 engine]
95	BG	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E35
Connector Name	ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	SAZ30F/SJ24-U



Terminal No.	Color Of Wire	Signal Name (Specification)
1	B	GND
2	B	GND
3	G	VALVE BATTERY [With VR30 engine]
3	P	VALVE BATTERY [With 2.0L turbo gasoline engine]
4	Y	IGNITOR BATTERY
5	LG	STOP LAMP SW SIGNAL [With ADAS]
5	V	STOP LAMP SW SIGNAL [With ASCD]
7	GR	RR LH WHEEL SENSOR SIGNAL
8	G	RR RH WHEEL SENSOR POWER SUPPLY
9	BR	FR RH WHEEL SENSOR SIGNAL
10	GR	FR RH WHEEL SENSOR POWER SUPPLY
13	R	VACUUM SENSOR SIGNAL
15	P	CAN-L [Without Gateway]
15	R	CAN-L [With Gateway]
17	Y	RR RH WHEEL SENSOR SIGNAL
18	LG	RR RH WHEEL SENSOR POWER SUPPLY [With 2.0L turbo gasoline engine]

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

18	V	RR RH WHEEL SENSOR POWER SUPPLY (WITH VR30 engine)
19	SB	FR LH WHEEL SENSOR SIGNAL
20	BG	FR LH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	WDC OFF SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

Connector No.	E47
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH



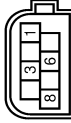
24	R	-
25	L	-
26	BG	-
27	LG	-
28	BR	-
29	W	-
30	Y	-
31	G	-
32	GR	-

Connector No.	E64
Connector Name	FUSE BLOCK (I/B)
Connector Type	MS58FM-CS



12F	W	- (With VR30 engine)
1F	R	- (With 2.0L turbo gasoline engine)
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E80
Connector Name	ICC SENSOR
Connector Type	AA208FB



Terminal No.	Color Of Wire	Signal Name (Specification)
1	G	- (Color of wire differs depending on production)
1	Y	- (Color of wire differs depending on production)
2	V	-
3	L	-
4	P	- (Without Gateway)
4	R	- (With Gateway)
5	W	-
6	SB	-
7	BR	- (Color of wire differs depending on production)
7	L	- (Color of wire differs depending on production)
8	W	-
9	BG	- (Without BOSE system)
9	V	- (With BOSE system)
10	V	-
11	SB	-
12	G	-
13	G	-
15	BR	-
16	P	-
17	SHIELD	-
18	L	-
19	Y	-
20	W	-
21	G	-
22	R	-
23	BR	-



Terminal No.	Color Of Wire	Signal Name (Specification)
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

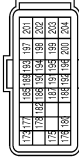
Connector No.	E65
Connector Name	FUSE BLOCK (I/B)
Connector Type	TH32FM-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
10F	W	-
11F	G	- (Color of wire differs depending on production)
11F	R	- (Color of wire differs depending on production)

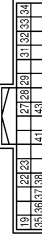
23	LG	- (With 2.0L turbo gasoline engine and without AHS (AHS check circuit))
23	P	- (With 2.0L turbo gasoline engine and with AHS (AHS check circuit))
27	GR	-
28	P	-
29	L	-
31	G	-
32	SB	-
33	SR	-
34	Y	-
35	G	-
36	SB	- (With VR30 engine)
36	W	- (With 2.0L turbo gasoline engine)
37	GR	-
38	BR	-
41	GR	-
43	V	-

Connector No.	E152
Connector Name	ECM
Connector Type	RH24FB-R28-LRH



Terminal No.	Color Of Wire	Signal Name (Specification)
173	SR	FUEL TANK PRESSURE SENSOR
175	P	CAN-L
176	L	CAN-H
177	G	SENSOR POWER SUPPLY (FUEL TANK PRESSURE SENSOR)
178	V	TACHO METER SIGNAL
180	P	FUEL TANK TEMPERATURE SENSOR
182	W	FUEL PUMP CONTROL MODULE (FPCM) CHECK IGNITION SWITCH
186	SB	RSCD STEERING SWITCH
188	BG	SENSOR GROUND (RSCD STEERING SWITCH)
188	Y	FUEL PUMP CONTROL MODULE (FPCM)
189	Y	ENGINE COMMUNICATION LINE-L
190	L	ENGINE COMMUNICATION LINE-H
191	P	STOP LAMP SWITCH
192	BG	BRAKE PEDAL POSITION SWITCH
193	GR	-
193	LG	-
194	W	SENSOR POWER SUPPLY

Terminal No.	Color Of Wire	Signal Name (Specification)
19	L	- (With 2.0L turbo gasoline engine)
19	P	- (With VR30 engine)
22	BG	-
23	GR	- (With VR30 engine)



Connector No.	E121
Connector Name	FUEL INJECTION POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	TH32FM-NH

Terminal No.	Color Of Wire	Signal Name (Specification)
1	R	IGNITION
3	L	ITS COMM-H
6	Y	ITS COMM-L
8	B	GROUND

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
196	R	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
197	R	ECM POWER SUPPLY
198	L	SENSOR POWER SUPPLY
199	B	ECM GROUND
200	V	SENSOR GROUND
201	B	ECM GROUND
202	Y	ACCELERATOR PEDAL POSITION SENSOR 1
203	G	SENSOR GROUND
204	B	ECM GROUND

Connector No.	E170
Connector Name	WIRE TO WIRE
Connector Type	SAAS6MB-RS10-S12Z



Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	-
11	GR	-
19	V	-
20	S8	-
22	B	-
24	B	-
26	L	-
27	P	-
28	SHIELD	-
29	B	-
30	B	-
31	P	-
32	B	-
33	V	-
34	G	-
35	R	-
36	B	-
37	B	-
38	GR	-
39	V	-
40	GR	-
41	L	-
42	W	-
43	B	-
37	R	-
38	V	-
39	Y	-
40	P	-
41	L	-
42	W	-
43	B	-

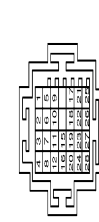
44	L	-
45	Y	-
47	BG	-
48	GR	-

Connector No.	E171
Connector Name	WIRE TO WIRE
Connector Type	SAAS36FB-RS10-S12Z



Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	-
11	GR	-
19	V	-
20	S8	-
22	B	-
24	B	-
26	L	-
27	P	-
28	SHIELD	-
29	B	-
30	B	-
31	P	-
32	B	-
33	V	-
34	G	-
35	R	-
36	B	-
37	B	-
38	GR	-
39	V	-
40	P	-
41	L	-
42	W	-
43	B	-
44	L	-
45	Y	-
47	BG	-
48	GR	-

Connector No.	E172
Connector Name	JOINT CONNECTOR-E01
Connector Type	SGA28FUB8J



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	W	-
4	L	-
5	GR	-
6	Y	-
7	W	-
8	L	-
9	GR	-
10	Y	-
11	W	-
12	L	-
15	W	-
16	BG	-
17	P	-
18	L	-
19	W	-
20	BG	-
21	P	-
22	L	-
23	SA	- [Color of wire differs depending on production]
23	WA	- [Color of wire differs depending on production]
24	BG	- [Color of wire differs depending on production]
24	LG	- [Color of wire differs depending on production]
25	P	-
26	L	-
27	Y	-
28	L	-

Connector No.	E176
Connector Name	POWER STEERING CONTROL MODULE
Connector Type	RS04FB-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
4	R	IGNITION POWER SUPPLY
5	L	CAN-H
6	P	CAN-L

Connector No.	E178
Connector Name	WIRE TO WIRE
Connector Type	RS04FB-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	-
3	L	-
4	P	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

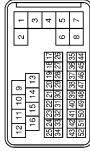
[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	E180
Connector Name	WIRE TO WIRE
Connector Type	RS04MB



Connector No.	F2
Connector Name	DRIVE MODE SELECT SWITCH (UP)
Connector Type	5AA36FB-BS5-SH28

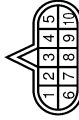


Connector No.	F12
Connector Name	WIRE TO WIRE
Connector Type	5AA36FB-BS5-SH28



38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
44	Y	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

Connector No.	F100
Connector Name	TCM
Connector Type	SPTDFG



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY (MEMORY BACK-UP)
3	-	CAN-H
4	-	GROUND
5	-	IGNITION POWER SUPPLY
6	-	BACK-UP LAMP RELAY
7	-	CAN-L
8	-	STARTER RELAY
9	-	GROUND
10	-	GROUND

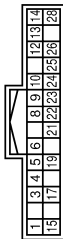
Connector No.	F2
Connector Name	A/T ASSEMBLY
Connector Type	RKJDFG-DGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	IGNITION POWER SUPPLY (With 2.0L turbo gasoline engine)
2	L	IGNITION POWER SUPPLY (With VR30 engine)
3	P	BATTERY POWER SUPPLY (MEMORY BACK-UP)
4	R	CAN-H
5	B	GROUND (With 2.0L turbo gasoline engine)
6	GR	IGNITION POWER SUPPLY
7	BG	BACK-UP LAMP RELAY
8	P	CAN-L
9	V	STARTER RELAY
10	B	GROUND



Connector No.	E219
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH-28FW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	ACTUATOR (R)H
3	BR	ACTUATOR (R)H
4	BG	IGN
5	W	CHASSIS COMM-L
6	B	GROUND
8	BR	CHASSIS COMM-L (Color of wire differs depending on part number)
8	L	CHASSIS COMM-L (Color of wire differs depending on part number)
9	G	WIRE HARNESS FOR 2.0L TURBO DIESEL ENGINE (Color of wire differs depending on part number)
9	V	WIRE HARNESS FOR 2.0L TURBO DIESEL ENGINE (Color of wire differs depending on part number)
10	L	CAN-H
12	G	ACTUATOR (R)H
13	G	ESS RELAY
14	L	ACTUATOR (R)H
15	Y	ACTUATOR (R)H
17	V	ACTUATOR (R)H
19	L	CHASSIS COMM-H
21	W	CHASSIS COMM-L

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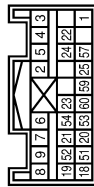
CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28FY-EX



Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FE-NH



Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80AW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	IGN
2	B	GND
3	Y/R	DRL(+)
4	Y/B	DRL(-)
5	Y	DRZ(+)
6	Y/R	AS1(+)
7	Y/B	AS1(-)
8	Y/G	AS2(+)
9	Y	AS2(-)
18	Y	EC25+
19	BR	EC25-
20	Y/R	ACT_VENT+
21	Y/B	ACT_VENT-
22	SHIELD	GND
23	V	AIRBAG W/L
24	G	A/B OFF IND
25	GR	SATELLITE RH2(+)
51	G	SIDE SENS_LH2-
53	V	SIDE SENS_LH2+
54	L	SIDE SENS_LH2-
57	LG	IVCS
59	L	CAN-H
60	P	CAN-L

Terminal No.	Color Of Wire	Signal Name (Specification)
48	R	PUSH-ETN IGN SW LL PWR
52	G	DOOR LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [WITH VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLY (PDM) R/CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LED OPNRS SW

Terminal No.	Color Of Wire	Signal Name (Specification)
1	Y	-
2	G	-
3	SB	-
4	BR	-
5	Y	-
6	R	-
7	W	-
8	V	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	SB	-
23	R	-
24	Y	-
25	P	-
25	W	-
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-
34	V	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-

41	G	-
42	BR	-
43	BR	-
44	BR	-
46	BG	-
50	W	-
51	Y	-
52	Y	-
53	LG	-
54	R	-
55	R	-
57	W	-
58	V	-
59	BG	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	LG	-
71	W	-
72	B	-
73	W	-
74	L	-
75	W	-
76	BR	-
77	B	-
78	SB	-
79	P	-
79	W	-
81	B	-
82	R	-
83	BG	-
84	L	-
85	W	-
86	B	-
88	G	-
89	V	-
89	W	-
91	GR	-
94	GR	-
96	W	-
97	V	-
98	BR	-
98	Y	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

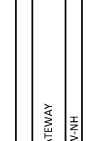
Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MM-CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	- [With VR30 engine]
2	L	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	BR	- [With 2.0L turbo gasoline engine]
5	R	- [With VR30 engine]
6	SHIELD	- [With VR30 engine]
7	Y	- [With 2.0L turbo gasoline engine]
8	G	- [With VR30 engine]
9	V	- [With 2.0L turbo gasoline engine]
10	BG	- [With VR30 engine]
11	GR	- [With 2.0L turbo gasoline engine]
12	LG	- [With VR30 engine]
13	LG	- [With VR30 engine]
14	LG	- [With VR30 engine]
15	BR	- [With 2.0L turbo gasoline engine]
16	P	- [With VR30 engine]
17	V	- [With VR30 engine]
18	L	- [With DCM]
19	G	- [Without DCM]
20	GR	- [Without DCM]
21	R	- [Without DCM]
22	V	- [Without DCM]
23	L	- [Without DCM]
24	BG	- [With 2.0L turbo gasoline engine]
25	L	- [With VR30 engine]

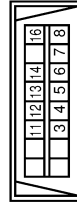
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
27	W	- [With 2.0L turbo gasoline engine]
29	LG	- [With VR30 engine]
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	- [With VR30 engine]
32	B	- [With VR30 engine]
33	B	- [With VR30 engine]
34	SHIELD	- [With 2.0L turbo gasoline engine]
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	V	- [With 2.0L turbo gasoline engine]
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	W	- [With VR30 engine]
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	- [With VR30 engine]
41	L	- [With VR30 engine]
42	R	- [With VR30 engine]
43	SHIELD	- [With VR30 engine]
44	P	- [With VR30 engine]
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	- [With VR30 engine]
47	G	- [With VR30 engine]
48	BG	- [Except with VR30 engine and with BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
49	G	- [With VR30 engine]
50	V	- [With VR30 engine]
51	V	- [With VR30 engine]
52	L	- [With 2.0L turbo gasoline engine]
53	R	- [With VR30 engine]
54	GR	- [With VR30 engine]
55	L	- [With VR30 engine]
56	P	- [With VR30 engine]
57	R	- [With VR30 engine]
58	LG	- [With VR30 engine]
59	SB	- [With VR30 engine]
61	L	- [With VR30 engine]
62	P	- [With 2.0L turbo gasoline engine]
62	V	- [With VR30 engine]
63	L	- [With VR30 engine]
64	W	- [With VR30 engine and with BOSE system]

99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]



Terminal No.	Color Of Wire	Signal Name (Specification)
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY (With VR30 engine and without BS)
9	W	IGNITION POWER SUPPLY (Except with VR30 engine and without BS)
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD316FW



Terminal No.	Color Of Wire	Signal Name (Specification)
3	LG	M CAN_L
4	B	EARTH
5	B	EARTH

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

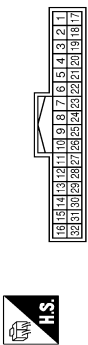
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[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

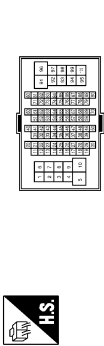
Terminal No.	Color Of Wire	Signal Name (Specification)
6	L	CAN-H
7	V	KLIME [With 2.0L turbo gasoline engine]
8	W	KLIME [With VR30 engine]
9	W	IGN_SW
11	SB	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	M39
Connector Name	WIRE TO WIRE
Connector Type	TH32PW-3H



Terminal No.	Color Of Wire	Signal Name (Specification)
25	L	-
26	Y	-
27	LG	-
28	BR	-
29	W/B	-
30	Y	-
31	W	-
32	L	-
32	LG	-

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-C516-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	W/B	-
2	SB	-
3	L	-
4	P	-
5	BR	-
6	SB	-
7	L	-
8	R	-
9	V	-
10	V	-
11	SB	-
12	G	-
13	G	-
14	B	-
15	R	-
16	SB	-
17	SHIELD	-
18	W	-
19	Y	-
20	L	-
21	G	-
22	R	-
23	BR	-
24	R	-

Terminal No.	Color Of Wire	Signal Name (Specification)
8	BR	-
9	LG	-
10	P	-
11	W	-
12	B	-
13	GR	-
14	SHIELD	-
15	B	-
16	SB	-
17	LG	-
18	B	-
19	Y	-
20	L	-
21	G	-
22	R	-
31	W	-
32	G	-

Terminal No.	Color Of Wire	Signal Name (Specification)
71	W	-
72	L	-
73	LG	-
74	R	-
75	W	-
76	BR	-
77	L	-
78	B	-
79	R	-
80	V	-
81	W/B	-
82	SB	-
83	G	-
84	LG	-
85	R	-
86	V	-
87	G	-
88	V	-
89	G	-
90	G	-
91	W	-
92	G	-
93	BR	-
94	L	-
95	BR	-
96	P	-
97	LG	-
98	Y	-
99	BR	-
100	SHIELD	-

Terminal No.	Color Of Wire	Signal Name (Specification)
32	V	-
33	Y	-
34	P	-
35	BG	-
36	G	-
37	L	-
38	P	-
39	R	-
40	GR	-
41	L	-
44	BR	-
45	L	-
46	G	-
47	BG	-
48	SHIELD	-
49	B	-
50	B	-
51	L	-
52	W	-
53	G	-
54	Y	-
55	B	-
56	BG	-
57	GR	-
58	B	-
59	SB	-
61	W/B	-
64	Y	-
65	R	-
66	P	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	M42
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH



Terminal No.	1	2	3	7	8
Color Of Wire	BR	Y	W/B	L	B
Signal Name [Specification]	AWD SOL (+)	AWD SOL (-)	FLOOD TEMP (-)	IGN	CAN-H

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH



Terminal No.	41	42	43	44	45	46	47	48	51	52
Color Of Wire	L	P	B	Y	W	BG	R	LG	BR	B
Signal Name [Specification]	CAN-H	CAN-L	ILLUMINATION CONTROL SIGNAL	FUEL LEVEL SENSOR GROUND	BATTERY POWER SUPPLY	IGNITION SIGNAL (Except with VR30 engine and without ISE)	IGNITION SIGNAL (With VR30 engine and without ISE)	AV COMMUNICATION SIGNAL (H)	AV COMMUNICATION SIGNAL (L)	FUEL LEVEL SENSOR SIGNAL GROUND

Terminal No.	12	13	14	15	18	19	21	22
Color Of Wire	R	W	B	B	GR	P	BR	W
Signal Name [Specification]	IGN [For VR30 engine]	IGN [For 2.0L turbo gasoline engine]	FRONT SENSOR GND	REAR SENSOR GND	FRONT BUZZER DRIVE SIGNAL	BUZZER POWER SUPPLY	CENTER SENSOR SIGNAL REAR LH	CORNER SENSOR SIGNAL REAR LH

Terminal No.	1	2	3	7	8	9	10	11	13	15	16
Color Of Wire	BR	Y	W/B	G	L	BG	B	B	B	LG	W
Signal Name [Specification]	AWD SOL (+)	AWD SOL (-)	FLOOD TEMP (-)	IGN	CAN-H	AWD SOL BAT	GND	GND	FLUID TEMP (-)	BATTERY POWER SUPPLY	CAN-L [Without Gateway]

Connector No.	M56
Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type	TH16FW-NH



Terminal No.	8	13	11
Color Of Wire	B	L	B
Signal Name [Specification]	IGNITION	ITS COMM-H	GROUND

Terminal No.	1	3	5	8	11	13	16
Color Of Wire	G	L	B	R	Y	B	G
Signal Name [Specification]	IGNITION	ITS COMM-H	GROUND	WARNING BUZZER SIGNAL	ITS COMM-L	GROUND	WARNING BUZZER SIGNAL GROUND

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH



Terminal No.	1	2	3	4
Color Of Wire	B	P	R	L
Signal Name [Specification]	GROUND	CAN-L [Without Gateway]	CAN-L [With Gateway]	IGN

Terminal No.	1	2	4	5
Color Of Wire	B	P	R	L
Signal Name [Specification]	GROUND	CAN-L [Without Gateway]	CAN-L [With Gateway]	CAN-H

Connector No.	M88
Connector Name	A/C AUTO AMP.
Connector Type	TH40FW-NH



Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Color Of Wire	B	P	R	G	L	R	B	Y	R	P/W	R	R	R	L	L	L
Signal Name [Specification]	GROUND	CAN-L [Without Gateway]	CAN-L [With Gateway]	IGN	GROUND	GROUND	GROUND	GROUND	GROUND	BATTERY POWER SUPPLY	AMBIENT SENSOR SIGNAL	GROUND	GROUND	GROUND	GROUND	GROUND

Terminal No.	1	2	3	4	5	6	7	8	9	10	11	13	14	15
Color Of Wire	L	L	B	W	G	L	L	L	R	W	B	L	L	L
Signal Name [Specification]	CAN-H	GROUND	BATTERY POWER SUPPLY	AMBIENT SENSOR SIGNAL	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND

Terminal No.	9	13	16	17	18	20	21	22	23	24	26	27	28	30	31	37	38	40
Color Of Wire	R	S/B	P	R	P	L	P	B	R	W	B	LG	BR	BG	B	B	BG	BG
Signal Name [Specification]	SUNLOAD SENSOR SIGNAL	ACC POWER SUPPLY [With 2.0L turbo gasoline engine]	ACC POWER SUPPLY [With VR30 engine]	LIN SIGNAL	DOOR MOTOR POWER SUPPLY	DOOR MOTOR CONTROL SIGNAL	HEATED STEERING WHEEL RELAY CONTROL SIGNAL	CAN-L	GROUND	IGNITION POWER SUPPLY [With VR30 engine and with ISE]	IGNITION POWER SUPPLY [Except with VR30 engine and with ISE]	SENSOR GROUND	IN-VEHICLE SENSOR SIGNAL	INTAKE SENSOR SIGNAL	EXHAUST GAS / OIL / SPC / OBDII DETECTING SENSOR SIGNAL	GROUND	IDLEZ (ON/OFF) CONTROL SIGNAL	ECV CONTROL SIGNAL

Connector No.	M95
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



Terminal No.	1	2	3	4	5	6	7	8
Color Of Wire	B	P	R	L	B	Y	R	B
Signal Name [Specification]	GROUND	CAN-L [Without Gateway]	CAN-L [With Gateway]	IGN	GROUND	GROUND	GROUND	GROUND

Terminal No.	1	2	3	5	6	7	9	10	11	13	14	15
Color Of Wire	R	BR	BR	P	Y	B	R	R/W	SHIELD	L	L	L
Signal Name [Specification]	Signal Name [Specification]	-	-	-	-	-	-	-	-	-	-	-

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
16	LG	AV COMM (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GND
26	BR	CAMERA SWITCH SIGNAL
28	SB	AV COMM (H)
29	L	CAN-H
30	R	IGN [For VR30 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (8-PULSE)
33	SB	ACC [Except for VR30 engine and with ISS]
33	V	ACC [For VR30 engine and with ISS]
34	Y	BAT

Connector No.	M124
Connector Name	ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR
Connector Type	RH12FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	BATTERY
2	G	IGNITION
3	L	ITS COMM-H
4	W	-
5	G	-
6	Y	-

7	B	GROUND
9	SB	ITS COMM-L
10	L	-
11	R	-
12	BR	-

Connector No.	M133
Connector Name	FUSE BLOCK (I/B)
Connector Type	TH40FM-AH



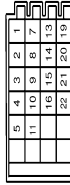
Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
18C	B	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
24C	LG	-
24C	SB	-
27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-

Connector No.	M144
Connector Name	TCU
Connector Type	TH40FB-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BAT
2	SB	ACC [For 2.0L turbo gasoline engine]
2	V	ACC [For VR30 engine]
3	SB	ACC OUTPUT
5	BR	SOS SWITCH LED SIGNAL
6	L	CAN-H
7	P	CAN-L
10	R	IGN [For VR30 engine]
10	W	IGN [For 2.0L turbo gasoline engine]
11	SHIELD	MICROPHONE SIGNAL GND
12	R	MICROPHONE OUTPUT SIGNAL
16	SHIELD	SHIELD
17	G	MICROPHONE VCC
18	L	MICROPHONE SIGNAL
26	SB	AV COMM (H)
27	LG	AV COMM (L)
28	B	GROUND
29	B	GROUND
30	SHIELD	SHIELD
31	B	SOUND SIGNAL (H)
32	W	SOUND SIGNAL (L)
37	G	SOS CALL SWITCH SIGNAL

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342-4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
14	L	-
15	L	-
16	L	-
19	R	-
20	R	-
21	R	-
22	R	-

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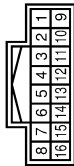
CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	M155
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	R	-
4	P	- [Without ADAS and without Gateway]
5	R	- [Without ADAS and with Gateway]
6	Y	- [With ADAS]
7	P	- [Without Gateway]
8	R	- [With Gateway]
9	R/W	-
10	R	-
11	SHIELD	-
12	L	-
13	L	-
14	L	-
15	L	-

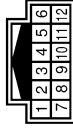
Connector No.	M157
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	G	-
3	L	-
4	W	-
5	G	-
6	Y	-
7	B	-
8	Y	-
9	L	-
10	R	-
11	R	-
12	BR	-

5	BR	- [With 2.0L turbo gasoline engine]
6	G	- [With VR30 engine]
7	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine]
9	Y	-
10	L	- [With VR30 engine]
11	R	- [With 2.0L turbo gasoline engine]
12	R	- [With 2.0L turbo gasoline engine]
13	R	- [With VR30 engine]
14	BR	- [With VR30 engine]
15	W	- [With 2.0L turbo gasoline engine]

Connector No.	M158
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	G	-
3	L	-
4	W	-
5	G	-
6	Y	-
7	B	-
8	Y	-
9	L	-
10	R	-
11	R	-
12	BR	-

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	S8	-
14	S8	-
15	S8	-
16	L	- [With 2.0L turbo gasoline engine]
17	L	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
19	S8	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
22	BR	- [With VR30 engine]
23	BR	- [With VR30 engine]
24	V	- [With VR30 engine and with ISS]

Connector No.	M174
Connector Name	JOINT CONNECTOR-M04
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	Y	-
8	Y	-
9	Y	-
10	Y	-
11	Y	-
12	Y	-
13	S8	-
14	S8	-
15	S8	-
16	S8	-
17	S8	-
18	S8	-
19	LG	-
20	LG	-
21	LG	-
22	LG	-
23	LG	-
24	LG	-

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CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITHOUT DIRECT ADAPTIVE STEERING SYSTEM WITH FEB)

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC



20	19	17	16	15	14	13	12	11	10
8	7	6	5	4	3	2	1		

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GA2A



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	R	- [With VR30 engine] - [With 2.0L turbo gasoline engine]
17	P	- [With VR30 engine]
19	R	- [With 2.0L turbo gasoline engine]
19	W	- [With VR30 engine and with SS]
20	R	- [Except with VR30 engine and with SS]
20	R	- [With VR30 engine and with SS]
20	W	- [Except with VR30 engine and with SS]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

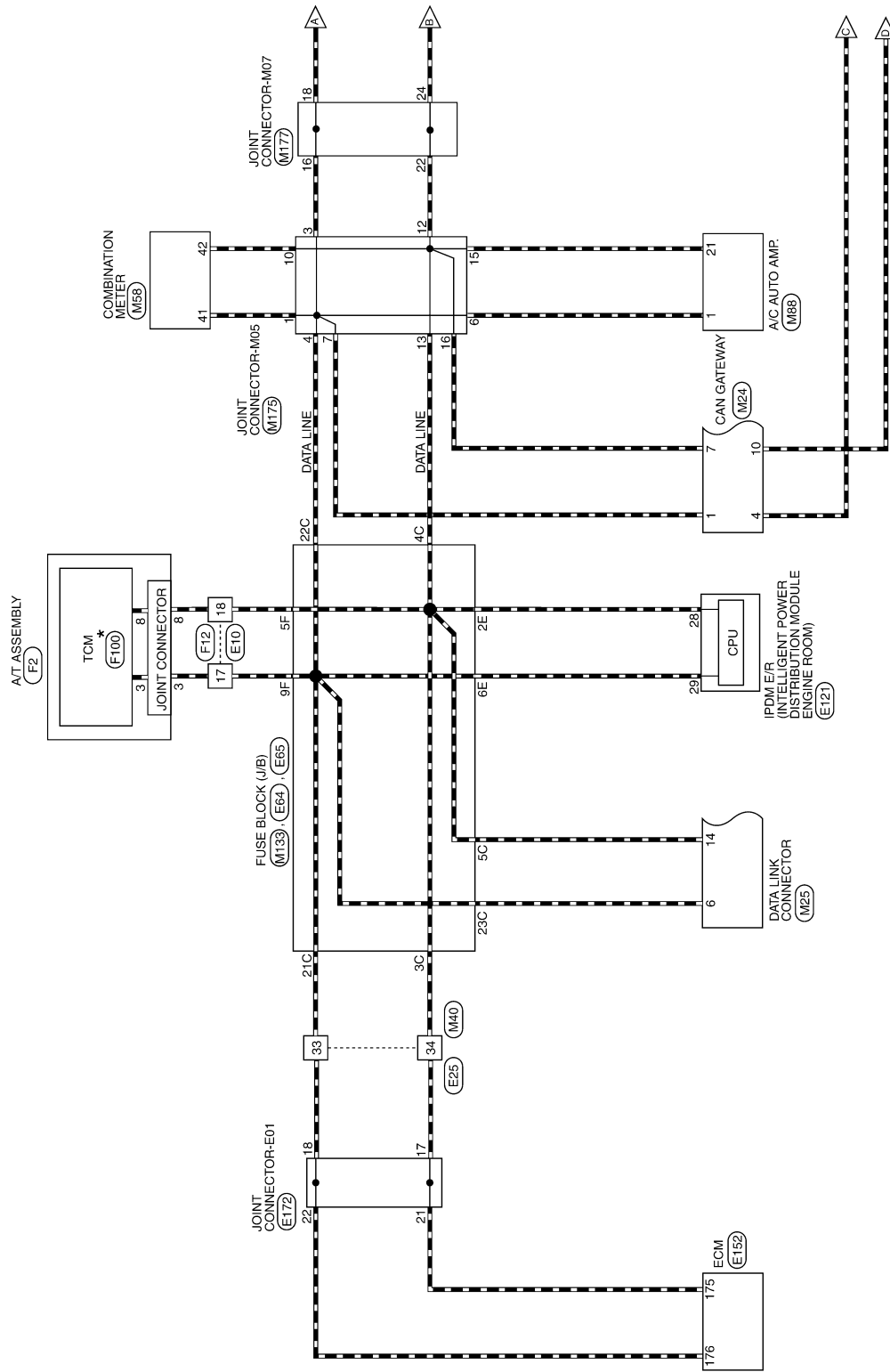
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Wiring Diagram

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)



*: This connector is not shown in "Harness Layout".

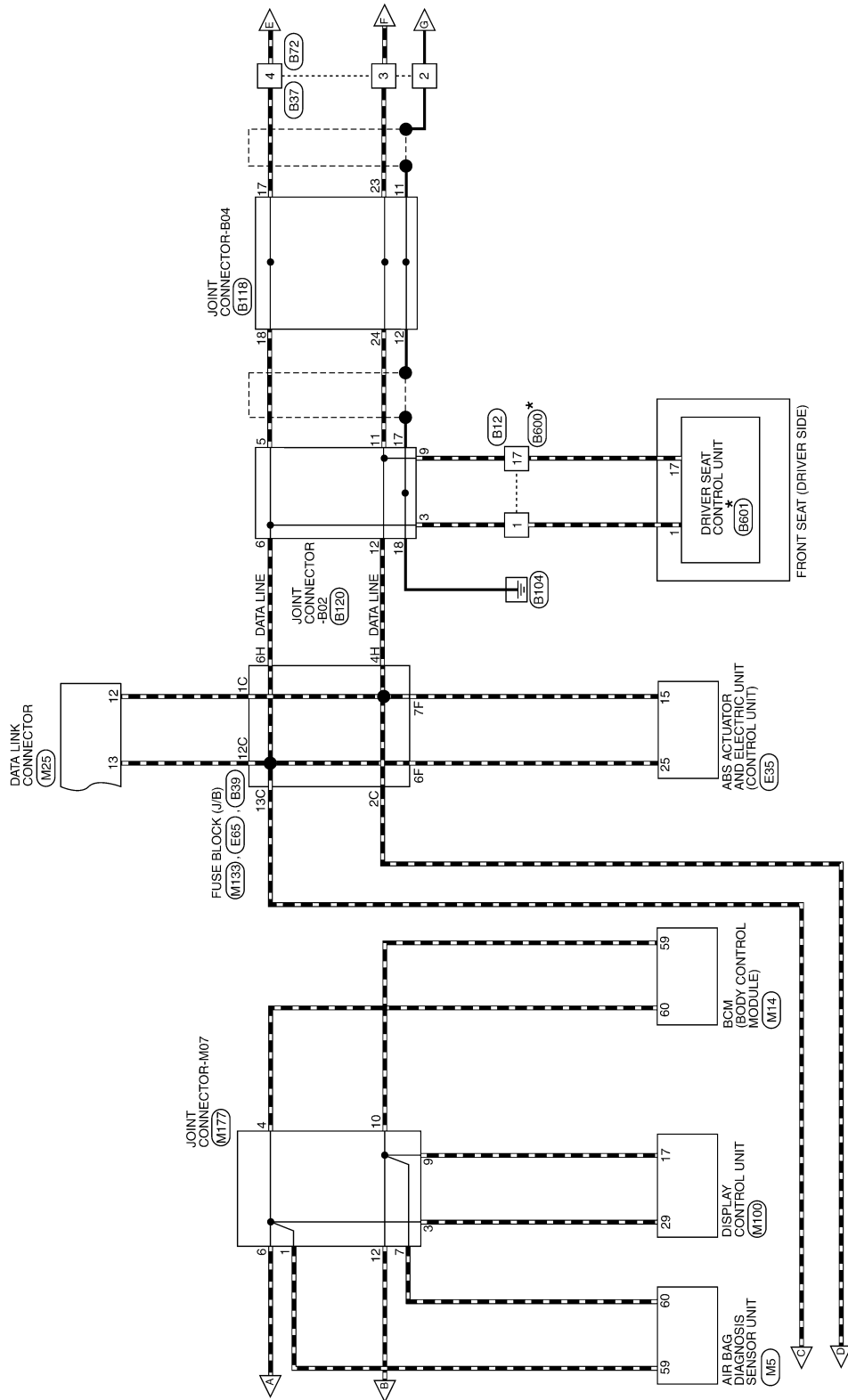
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]



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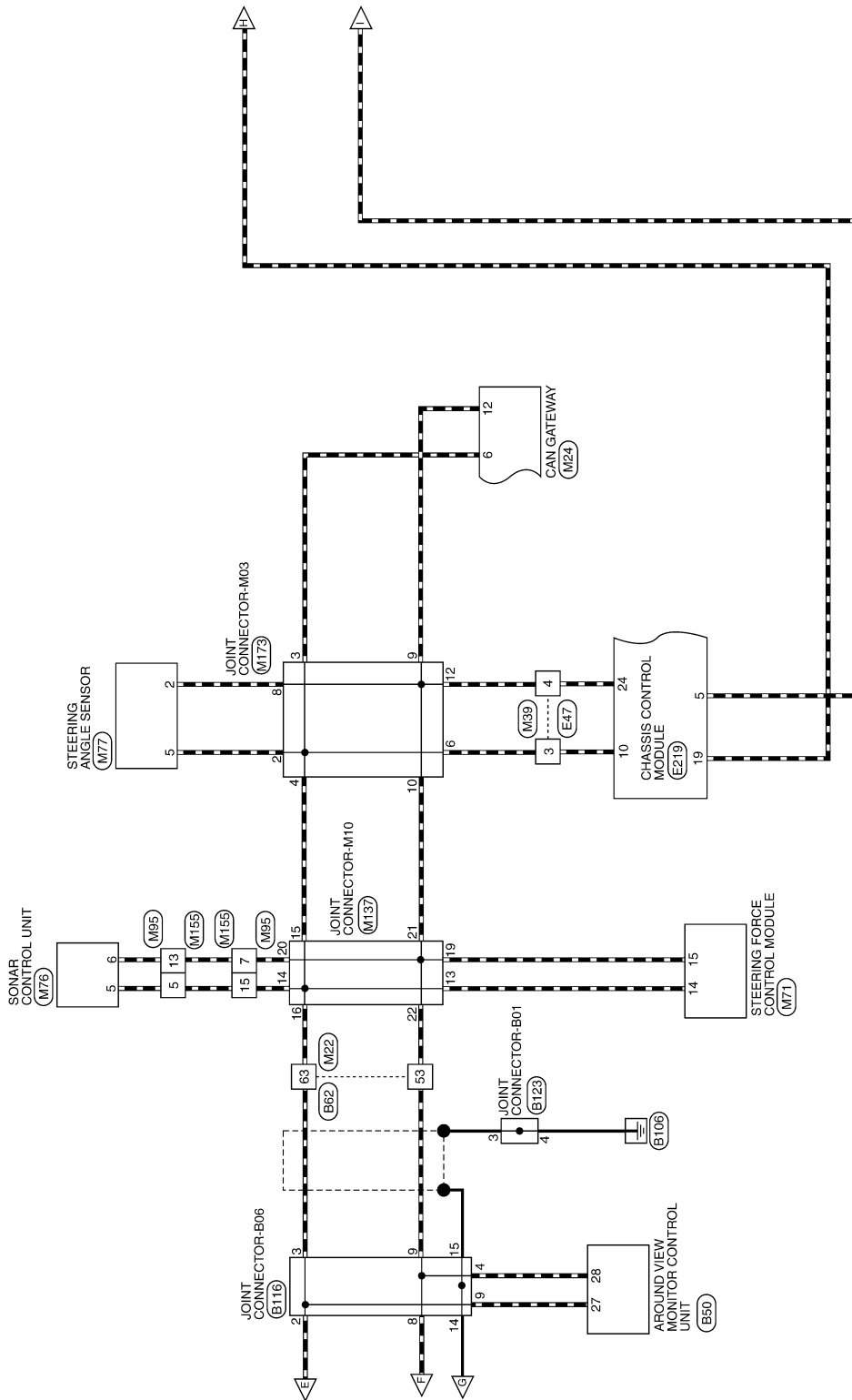
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

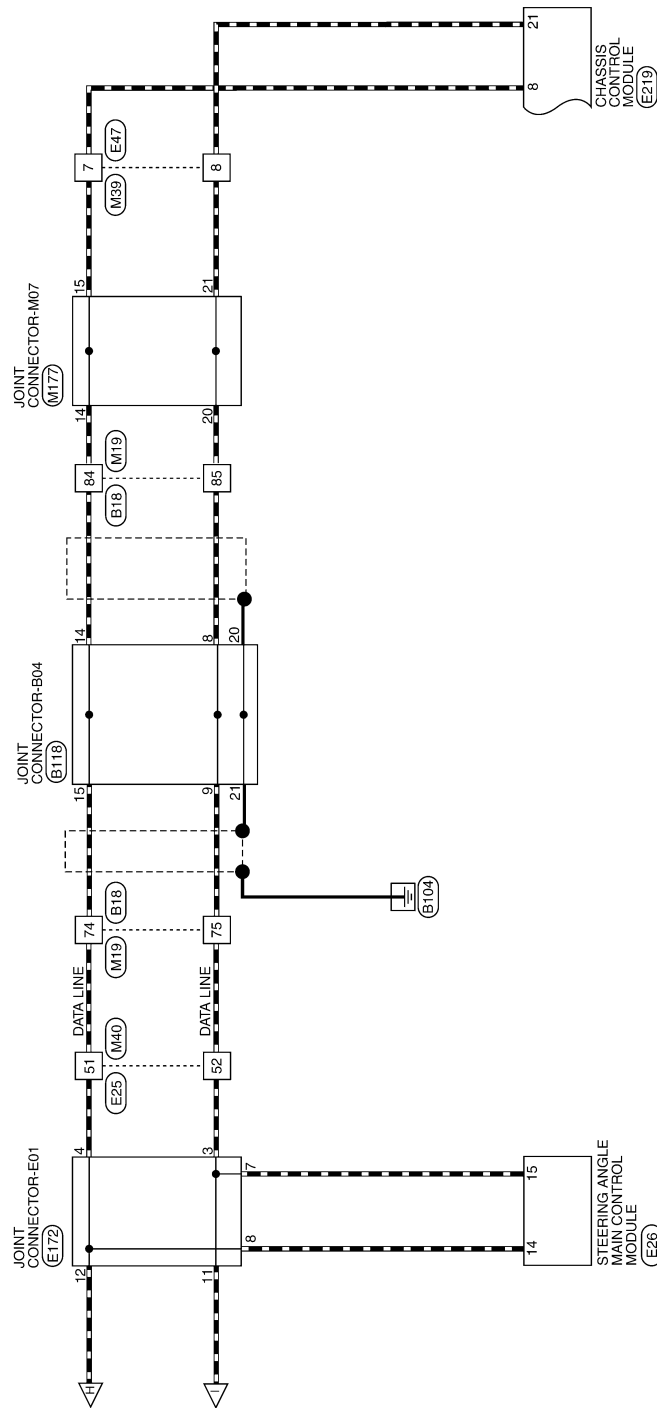


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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



28	21	15	2	43	1	17
23	7	33	22	45	6	47
						48
						46

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	LG	-
5	P	-
6	V	-
7	P	-
17	P	- [Without Gateway]
17	R	- [With Gateway]
21	BG	-
22	BR	-
23	BG	-
28	R	-
33	L	-
43	B	-
45	G	-
46	BG	-
47	R	-
48	GR	-

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH89FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
54	R	-
55	R	-
57	W	-
58	V	-
59	GR	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	V	-
66	V	-
66	R	-
70	R	-
71	W	-
72	B	-
73	W	-
74	L	-
75	R	- [Without paddle shift]
75	V	- [With paddle shift]
76	BR	-
77	B	-
78	S9	-
79	V	- [With VR30 engine]
79	W	- [With 2.0L turbo gasoline engine]
81	B	-
82	R	-
83	BG	-
84	L	-
85	R	- [Without paddle shift]
85	V	- [With paddle shift]
86	B	-
86	G	-
89	V	- [With 2.0L turbo gasoline engine]
89	W	- [With VR30 engine]
91	GR	-
94	GR	-
96	V	-
97	V	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	TH08MW-NH



1	2	3	4
5	6	7	8

Terminal No.	Color Of Wire	Signal Name [Specification]
2	SHIELD	-
3	R	-
4	L	-
5	R	-
7	P	-

Connector No.	B39
Connector Name	FUSE BLOCK (1/8)
Connector Type	TH10FB-NH



5	6	7	8
10	11	12	13

Terminal No.	Color Of Wire	Signal Name [Specification]
10H	P	-
34	L	-
44	R	-
54	V	-
54	L	-
74	LG	-
84	P	-
94	GR	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Connector No.	B50
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW/AH



Terminal No.	Color Of Wire	Signal Name (Specification)
1	B	GND
2	Y	BAT
3	LG	IGN
4	P	ACC
19	P	AV COMM (H)
20	LG	AV COMM (L)
23	SHIELD	AV COMM GND
25	BG	REVERSE SIGNAL
27	L	CAN-H
28	P	CAN-L (Without ADAS) [For VR30 engine]
28	R	CAN-L [With ADAS]
28	Y	CAN-L (Without ADAS) [For 2.0L turbo gasoline engine]
29	B	CAN GND
30	W	RETRACT MOTOR OPERATING SIGNAL (OPEN)
32	G	RETRACT MOTOR OPERATING SIGNAL (CLOSE)



Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name (Specification)
1	BR	[With 2.0L turbo gasoline engine and without BOSE system]
1	LG	[With VR30 engine]
1	W	[With 2.0L turbo gasoline engine and with BOSE system]
2	L	[With VR30 engine]
2	SHIELD	[With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name (Specification)
3	BR	[With 2.0L turbo gasoline engine]
3	R	[With VR30 engine and with BOSE system]
3	W	[With 2.0L turbo gasoline engine and without BOSE system]
4	SHIELD	[With VR30 engine]
4	Y	[With 2.0L turbo gasoline engine and with BOSE system]
5	G	[With VR30 engine]
5	V	[With 2.0L turbo gasoline engine]
6	BG	[With VR30 engine]
6	BR	[With 2.0L turbo gasoline engine]
7	B	[With 2.0L turbo gasoline engine and with BOSE system]
7	BR	[With VR30 engine and without BOSE system]
7	W	[With 2.0L turbo gasoline engine and with BOSE system]
7	Y	[With 2.0L turbo gasoline engine and without BOSE system]
8	B	[With VR30 engine and with BOSE system]
8	G	[With 2.0L turbo gasoline engine]
8	Y	[With VR30 engine and without BOSE system]
9	LG	[With 2.0L turbo gasoline engine]
9	SHIELD	[With VR30 engine]
10	V	[With 2.0L turbo gasoline engine]
11	GR	[With 2.0L turbo gasoline engine]
12	Y	[With 2.0L turbo gasoline engine]
13	R	[With 2.0L turbo gasoline engine]
14	BG	[With 2.0L turbo gasoline engine]
15	BG	[With VR30 engine]
15	GR	[With 2.0L turbo gasoline engine]
16	V	[With VR30 engine]
17	P	[With 2.0L turbo gasoline engine]
18	L	[With 2.0L turbo gasoline engine]
19	R	[With 2.0L turbo gasoline engine]
20	GR	[With 2.0L turbo gasoline engine]
21	R	[With 2.0L turbo gasoline engine]
22	V	[With 2.0L turbo gasoline engine]
23	W	[With 2.0L turbo gasoline engine]
24	BG	[With VR30 engine]
24	V	[With 2.0L turbo gasoline engine]
25	L	[With VR30 engine]
25	SB	[With 2.0L turbo gasoline engine]
26	G	[With VR30 engine]
26	W	[With 2.0L turbo gasoline engine]
27	R	[With 2.0L turbo gasoline engine]
29	LG	[With 2.0L turbo gasoline engine]
30	P	[With 2.0L turbo gasoline engine]
31	SHIELD	[With VR30 engine]
32	L	[With 2.0L turbo gasoline engine]
33	B	[With VR30 engine]
33	LG	[With 2.0L turbo gasoline engine]
34	SHIELD	[With VR30 engine]
35	LG	[With VR30 engine]
35	W	[With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name (Specification)
36	R	[With VR30 engine]
36	W	[With 2.0L turbo gasoline engine]
37	P	[With 2.0L turbo gasoline engine and without BOSE system]
37	R	[With VR30 engine]
37	W	[With 2.0L turbo gasoline engine and with BOSE system]
38	W	[With 2.0L turbo gasoline engine]
39	P	[With VR30 engine and without BOSE system]
39	R	[With 2.0L turbo gasoline engine]
39	W	[With VR30 engine and with BOSE system]
40	G	[With 2.0L turbo gasoline engine]
41	L	[With 2.0L turbo gasoline engine]
42	R	[With 2.0L turbo gasoline engine]
43	SHIELD	[With VR30 engine]
44	P	[With 2.0L turbo gasoline engine]
45	B	[With 2.0L turbo gasoline engine]
45	G	[With VR30 engine]
46	SHIELD	[With VR30 engine]
47	G	[With 2.0L turbo gasoline engine]
48	BG	[With 2.0L turbo gasoline engine]
49	G	[With 2.0L turbo gasoline engine]
50	V	[With 2.0L turbo gasoline engine]
51	GR	[With 2.0L turbo gasoline engine]
52	W	[With VR30 engine]
52	Y	[With 2.0L turbo gasoline engine]
53	R	[With VR30 engine]
54	GR	[With 2.0L turbo gasoline engine]
55	L	[With 2.0L turbo gasoline engine]
56	V	[With 2.0L turbo gasoline engine]
57	R	[With 2.0L turbo gasoline engine]
58	LG	[With VR30 engine]
59	P	[With 2.0L turbo gasoline engine]
61	L	[With VR30 engine]
62	P	[With VR30 engine]
62	V	[With 2.0L turbo gasoline engine]
63	L	[With 2.0L turbo gasoline engine]
64	W	[With 2.0L turbo gasoline engine]
66	LG	[With VR30 engine]
68	L	[With 2.0L turbo gasoline engine]
69	P	[With 2.0L turbo gasoline engine]
71	GR	[With 2.0L turbo gasoline engine]
71	R	[With VR30 engine]
72	G	[With 2.0L turbo gasoline engine]
72	Y	[With VR30 engine]
73	R	[With 2.0L turbo gasoline engine]
73	SHIELD	[With VR30 engine]
74	BG	[With 2.0L turbo gasoline engine]
74	L	[With VR30 engine]
75	GR	[With 2.0L turbo gasoline engine]
75	V	[With VR30 engine]
76	GR	[With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name (Specification)
76	V	[With 2.0L turbo gasoline engine]
77	P	[With 2.0L turbo gasoline engine]
78	L	[With 2.0L turbo gasoline engine]
79	R	[With 2.0L turbo gasoline engine]
80	GR	[With 2.0L turbo gasoline engine]
80	W	[With VR30 engine]
81	B	[With VR30 engine]
81	R	[With 2.0L turbo gasoline engine]
82	G	[With 2.0L turbo gasoline engine]
82	SHIELD	[With VR30 engine]
83	R	[With 2.0L turbo gasoline engine]
83	W	[With VR30 engine]
84	BR	[With 2.0L turbo gasoline engine]
84	SHIELD	[With VR30 engine]
85	BG	[With VR30 engine]
85	G	[With 2.0L turbo gasoline engine]
86	R	[With 2.0L turbo gasoline engine]
86	W	[With VR30 engine]
87	LG	[With VR30 engine]
87	SHIELD	[With 2.0L turbo gasoline engine]
89	LG	[With 2.0L turbo gasoline engine]
90	P	[With 2.0L turbo gasoline engine]
90	V	[With VR30 engine]
92	L	[With 2.0L turbo gasoline engine]
92	W	[With VR30 engine]
93	R	[With VR30 engine]
93	SHIELD	[With 2.0L turbo gasoline engine]
94	R	[With 2.0L turbo gasoline engine]
95	L	[With 2.0L turbo gasoline engine]
95	Y	[With VR30 engine]
96	W	[With 2.0L turbo gasoline engine]
97	L	[With VR30 engine]
97	R	[With 2.0L turbo gasoline engine and with BOSE system]
97	W	[With 2.0L turbo gasoline engine and without BOSE system]
98	LG	[With VR30 engine and with BOSE system]
99	BR	[With 2.0L turbo gasoline engine]
99	P	[With VR30 engine and without BOSE system]
99	Y	[With 2.0L turbo gasoline engine]
100	BR	[With VR30 engine]
100	W	[With 2.0L turbo gasoline engine]

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JRMWJ4722GB

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

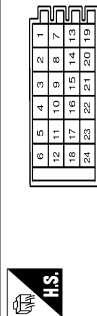
CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	R	-
4	L	-
5	R	-
7	P	-

Connector No.	B116
Connector Name	(JOINT CONNECTOR-B06)
Connector Type	24342_4GAZA



12	R	-	[Without Gateway]
13	SHIELD	-	-
14	SHIELD	-	-
15	B	-	- [With 2.0L turbo gasoline engine]
16	L	-	- [With VR30 engine]
17	L	-	- [With 2.0L turbo gasoline engine]
18	SHIELD	-	- [With VR30 engine]
19	SHIELD	-	- [With 2.0L turbo gasoline engine]
20	L	-	- [With VR30 engine]
21	L	-	- [With 2.0L turbo gasoline engine]
22	P	-	-
23	P	-	-
24	P	-	- [With VR30 engine]
24	Y	-	- [With 2.0L turbo gasoline engine]

Connector No.	B118
Connector Name	(JOINT CONNECTOR-B04)
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	- [With Gateway]
8	R	- [Without Gateway]
9	R	- [Without Gateway]
10	R	- [Without VR30 engine]
11	V	- [With 2.0L turbo gasoline engine]
12	P	- [With Gateway]

8	R	-	- [With VR30 engine and without paddle shift]
9	V	-	- [With VR30 engine and with paddle shift]
9	LG	-	- [With 2.0L turbo gasoline engine]
9	R	-	- [With VR30 engine and without paddle shift]
9	V	-	- [With VR30 engine and with paddle shift]
10	LG	-	- [With 2.0L turbo gasoline engine]
10	SHIELD	-	- [With VR30 engine]
11	LG	-	- [With 2.0L turbo gasoline engine]
11	SHIELD	-	- [With VR30 engine]
12	LG	-	- [With 2.0L turbo gasoline engine]
12	SHIELD	-	- [With VR30 engine]
13	L	-	- [With VR30 engine]
13	P	-	- [With 2.0L turbo gasoline engine and without gateway]
13	R	-	- [With 2.0L turbo gasoline engine and with gateway]
14	L	-	- [With VR30 engine]
14	P	-	- [With 2.0L turbo gasoline engine and without gateway]
14	R	-	- [With 2.0L turbo gasoline engine and with gateway]
15	L	-	- [With VR30 engine]
15	R	-	- [With 2.0L turbo gasoline engine]
16	L	-	-
17	L	-	-
18	L	-	-
19	L	-	- [With 2.0L turbo gasoline engine]
19	SHIELD	-	- [With VR30 engine]
20	L	-	- [With VR30 engine]
20	SHIELD	-	- [With VR30 engine]
21	L	-	- [With 2.0L turbo gasoline engine]
21	SHIELD	-	- [With VR30 engine]
22	R	-	-
23	R	-	-
24	R	-	-

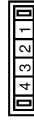
Connector No.	B120
Connector Name	(JOINT CONNECTOR-B02)
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]

3	R	-	- [With 2.0L turbo gasoline engine]
4	L	-	- [With VR30 engine]
4	R	-	- [With 2.0L turbo gasoline engine]
5	L	-	-
6	L	-	-
7	L	-	-
8	L	-	-
9	L	-	- [With 2.0L turbo gasoline engine]
9	R	-	- [With VR30 engine]
10	L	-	- [With 2.0L turbo gasoline engine]
10	R	-	- [With VR30 engine]
11	R	-	-
12	R	-	-
13	W	-	-
14	W	-	-
15	W	-	-
17	SHIELD	-	-
18	B	-	-
19	B	-	- [With 2.0L turbo gasoline engine]
19	GR	-	- [With VR30 engine]
20	GR	-	-
20	SHIELD	-	- [With 2.0L turbo gasoline engine]
21	B	-	- [With 2.0L turbo gasoline engine]
21	GR	-	- [With VR30 engine]
22	W	-	-
23	W	-	-
24	W	-	-

Connector No.	B123
Connector Name	(JOINT CONNECTOR-B01)
Connector Type	TK04FW-J



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	B	- [With 2.0L turbo gasoline engine]
4	B	- [With VR30 engine]

JRMWJ4723GB

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Connector No.	B600
Connector Name	WIRE TO WIRE
Connector Type	N516MW-C5



1	1	43	2	5	21	28			
4	8	18	47	6	15	22	33	7	23

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
5	-	-
6	-	-
7	-	-
17	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
43	-	-
45	-	-
46	-	-
47	-	-
48	-	-

Connector No.	B601
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	TH32FW-NH



1	2	3	4	5	6	7	8	9	10	11	12
17	18	19	20	21	22	23	24	25	26	27	28

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	BR	UART (TX/RX)
3	R	START SW
4	P	PULSE (RECLINER)

5	V	PULSE (TELESCOPIC)
6	GY	ADDRESS 2
7	G	IND 2
8	V	SLIDE SW (BACKWARD)
9	W	RECLINER SW (BACKWARD)
10	O	SLIDE SW (FORWARD)
11	G	RECLINER SW (FORWARD)
12	SB	TILT SW (DOWNWARD)
13	SB	TILT SW (UPWARD)
17	P	POWER SUPPLY (ENCODER CAN-L)
18	LG	PULSE (SLIDE SENSOR)
19	W	PULSE (LIFTER FRONT)
20	GY	PULSE (LIFTER REAR)
21	SB	PULSE (TILT SENSOR)
22	O	ADDRESS 1
23	W	IND 1
24	P	SLIDE SW (FORWARD)
25	Y	RECLINER SW (FORWARD)
26	GY	TILT SW (UPWARD)
27	L	LIFTER SW (UPWARD)
28	Y	SET SW

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Type	5AA36MB-RSS-SHZ8



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	LG	-
4	R	-
5	G	-
7	V	-
8	W	-
9	W	-
10	BG	-
11	LG	-
12	BG	-
13	L	-
14	Y	-
15	LG	-

16	G	-
17	L	-
18	P	-
19	GR	-
20	G	-
21	GR	-
22	W	-
23	G	-
24	BG	-
25	V	-
26	BR	-
27	W	-
28	BG	-
29	LG	-
30	G	-
31	Y	-
32	R	-
33	B	-
34	V	-
35	LG	-
36	W	-
37	V	-
38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
44	SHIELD	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

Connector No.	EZ5
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine] (color of wire differs depending on production)
9	LG	-
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SR	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	P	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
44	Y	- [With 2.0L turbo gasoline engine]
45	L	- [With VR30 engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
53	V	-
54	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B	- [Color of wire differs depending on production]
58	B/W	- [Color of wire differs depending on production]
59	W	-
61	R	-
64	Y	-
65	BR	- [Color of wire differs depending on production]
65	GR	- [Color of wire differs depending on production]
66	LG	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With 2.0L turbo gasoline engine]
73	W	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
75	V	- [With VR30 engine]

76	G	-
77	Y	- [With 2.0L turbo gasoline engine and with ADAS]
78	LG	- [With VR30 engine]
78	P	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	G	-
81	R	-
82	V	- [With 2.0L turbo gasoline engine]
83	BR	- [With VR30 engine]
84	LG	- [With 2.0L turbo gasoline engine]
84	LG	- [With VR30 engine]
86	BG	-
87	G	-
89	LG	-
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BG	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	L	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No. E26
Connector Name STEERING ANGLE MAIN CONTROL MODULE
Connector Type RH24FB-R28-L-1H

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	TORQUE SENSOR MAIN SIGNAL
2	Y	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S1-S3)
3	LG	TORQUE SENSOR SUB SIGNAL
4	G	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S1-S3)

5	W	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S2-S4)
6	L	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S2-S4)
7	SB	TORQUE SENSOR GROUND
8	P	TORQUE SENSOR POWER SUPPLY
10	R	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (R1-R2)
11	BR	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (R1-R2)
14	L	CHASSIS COMMUNICATION-H
15	W	BACK UP SIGNAL FROM STEERING ANGLE MAIN CONTROL MODULE
17	BG	BACK UP SIGNAL FROM STEERING ANGLE MAIN CONTROL MODULE
18	SB	FLExRAY COMMUNICATION-H
19	V	FLExRAY COMMUNICATION-H
20	GR	FLExRAY COMMUNICATION-L
22	GR	FLExRAY COMMUNICATION-L
23	BR	BACK UP SIGNAL TO STEERING ANGLE MAIN CONTROL MODULE
24	P	CAN WAKE UP
25	G	BACK UP SIGNAL TO STEERING ANGLE MAIN CONTROL MODULE
30	B	GROUND
32	GR	GROUND

Connector No. E35
Connector Name ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type SAZ30FB-S1Z4-L

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	B	GND
3	P	VALVE BATTERY [With 2.0L turbo gasoline engine]
4	V	VALVE BATTERY [With VR30 engine]
5	LG	STOP LAMP SW SIGNAL [With ADAS]
5	V	STOP LAMP SW SIGNAL [With ASCD]
7	GR	RR LH WHEEL SENSOR SIGNAL
8	G	RR LH WHEEL SENSOR POWER SUPPLY
9	BR	FR RH WHEEL SENSOR SIGNAL
10	GR	FR RH WHEEL SENSOR POWER SUPPLY
13	R	VACUUM SENSOR SIGNAL
15	R	CAN-L [Without Gateway]
17	Y	RR RH WHEEL SENSOR SIGNAL
18	LG	RR RH WHEEL SENSOR POWER SUPPLY [With 2.0L turbo gasoline engine]

18	V	RR RH WHEEL SENSOR POWER SUPPLY [With VR30 engine]
19	SB	FR LH WHEEL SENSOR SIGNAL
20	BG	FR LH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	VOC OFF SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

Connector No. E47
Connector Name WIRE TO WIRE
Connector Type TH32MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [Color of wire differs depending on production]
2	Y	- [Color of wire differs depending on production]
3	L	-
4	P	- [Without Gateway]
4	R	- [With Gateway]
5	W	-
6	SR	-
7	BR	- [Color of wire differs depending on production]
7	L	- [Color of wire differs depending on production]
8	W	-
9	BG	- [Without BOSE system]
9	V	- [With BOSE system]
10	V	-
11	SB	-
12	G	-
13	G	-
15	BR	-
16	P	-
17	SHIELD	-
18	L	-
19	Y	-
20	W	-
21	G	-
22	R	-
23	BR	-

JRMWJ4725GB

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)



< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

24	R	-	-	-	[With VR30 engine]
25	L	-	-	-	[With 2.0L turbo gasoline engine]
26	BG	-	-	-	-
27	LG	-	-	-	-
28	BR	-	-	-	-
29	W	-	-	-	-
30	Y	-	-	-	-
31	G	-	-	-	-
32	GR	-	-	-	-



Connector No.	E64
Connector Name	FUSE BLOCK (I/II)
Connector Type	INS08PW-C5

Terminal No.	19	22	23	27	28	29	31	32	33	34
Wire	B5	B6	B7	B8	A1	A3	-	-	-	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-



Connector No.	E65
Connector Name	FUSE BLOCK (I/II)
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [Color of wire differs depending on production]
11F	R	- [Color of wire differs depending on production]



12F	W	-	[With VR30 engine]
12F	Y	-	[With 2.0L turbo gasoline engine]
1F	R	-	-
2F	BR	-	-
3F	P	-	-
5F	P	-	-
6F	L	-	-
7F	R	-	-
8F	L	-	-
9F	L	-	-

Connector No.	E121
Connector Name	ROOM OR INTELLIGENT POWER DISTRIBUTION MODULE ENGINE (IGN)
Connector Type	TH22FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
19	L	-
19	L	-
19	L	-
22	BG	-
23	GR	-
23	LG	-
23	P	-
27	GR	-
29	L	-
31	G	-
32	SB	-
33	SB	-
34	Y	-
35	G	-
36	SB	-
36	W	-
37	GR	-
38	BR	-
41	GR	-
43	V	-

Connector No.	E152
Connector Name	ECM
Connector Type	RH24FB-R28-L-RH

Terminal No.	Color Of Wire	Signal Name [Specification]
173	SB	FUEL TANK PRESSURE SENSOR
175	P	CAN-L
176	L	CAN-H
177	G	SENSOR POWER SUPPLY (FUEL TANK PRESSURE SENSOR)
178	V	TACHO METER SIGNAL
180	P	FUEL TANK TEMPERATURE SENSOR
182	W	FUEL PUMP CONTROL MODULE (FFCM) CHECK
185	SB	IGNITION SWITCH
186	SB	ASCD STEERING SWITCH
187	BG	SENSOR GROUND (ASCD STEERING SWITCH)
188	Y	FUEL PUMP CONTROL MODULE (FFCM)
190	L	ENGINE COMMUNICATION LINE-L
191	P	ENGINE COMMUNICATION LINE-H
192	BG	STOP LAMP SWITCH
193	GR	BRAKE PEDAL POSITION SWITCH
193	LG	SENSOR POWER SUPPLY (STOP LAMP SWITCH)
194	W	SENSOR POWER SUPPLY (BRAKE PEDAL POSITION SWITCH)
195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
196	R	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
197	R	ECM POWER SUPPLY
198	L	SENSOR POWER SUPPLY
199	B	ECM GROUND
200	V	SENSOR GROUND
201	B	ECM GROUND
202	Y	ACCELERATOR PEDAL POSITION SENSOR 1
203	G	SENSOR GROUND
204	B	ECM GROUND

Connector No.	E172
Connector Name	JOINT CONNECTOR-E01
Connector Type	SGA28FB-JRKJ

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	W	-
4	L	-
5	GR	-
6	Y	-
7	W	-
8	L	-
9	GR	-
10	Y	-
11	W	-
12	L	-
15	W	-
16	BG	-
17	P	-
18	L	-
19	W	-
20	BG	-
21	P	-
22	L	-
23	SB	- [Color of wire differs depending on production]
23	W	- [Color of wire differs depending on production]
24	BG	- [Color of wire differs depending on production]
24	LG	- [Color of wire differs depending on production]
25	P	-
26	L	-
27	Y	-
28	L	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

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[CAN]

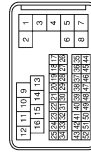
CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Connector No.	F2
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
1	L	IGNITION POWER SUPPLY [With VR30 engine]
2	P	BATTERY POWER SUPPLY [MEMORY BACK-UP]
3	L	CAN-H
4	R	K-LINE
5	B	GROUND [With 2.0L turbo gasoline engine]
5	BR	GROUND [With VR30 engine]
6	GR	IGNITION POWER SUPPLY
7	BG	BACK-UP LAMP RELAY
8	P	CAN-L
9	V	STARTER RELAY
10	B	GROUND

Connector No.	F12
Connector Name	WIRE TO WIRE
Connector Type	SAAS36F-RSS-SH28



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	BG	-
4	R	-
5	G	-
7	L	-
8	W	-
9	W	-

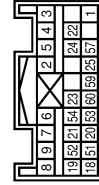
10	BG	-
11	R	-
12	LG	-
13	L	-
14	Y	-
15	LG	-
16	Y	-
17	L	-
18	P	-
19	GR	-
20	BG	-
21	GR	-
22	W	-
23	G	-
24	SB	-
25	V	-
26	W	-
27	V	-
28	W	-
29	Y	-
30	R	-
31	P	-
32	R	-
33	P	-
34	BG	-
35	LG	-
36	SB	-
37	V	-
38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

Connector No.	F100
Connector Name	TCM
Connector Type	SP10FG



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY [MEMORY BACK-UP]
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28PF-EX



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	IGN
3	V/R	DIRT (+)
4	V/B	DIRT (-)
5	Y	DIR2 (+)
6	V/R	DIR2 (-)
7	V/B	AS1 (+)
8	Y/G	AS2 (+)
9	Y	AS2 (-)
18	Y	EC25+

19	BR	EC25-
20	V/R	ACT_VENT+
21	V/B	ACT_VENT-
22	SHIELD	GND
23	V	AIRBAG_W/L
24	G	-
25	GR	A/B_OFF_IND
51	G	SATELLITE RH2 (+)
52	R	SIDE SENS RH2+
53	V	SIDE SENS RH2-
54	L	SIDE SENS LH2+
57	LG	VCS
59	L	CAN-H
60	P	CAN-L

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FF-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW (LL PWR)
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	KEY/WARN BUZZER
65	B	OUTPS_H/LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
67	W/B	BLOWER FAN RLY CONT [With VR30 engine]
68	R	IGN RLY (P/B) CONT
69	GR	DIMMER
70	B	A/T SHIFT SELECT PWR SPLY
71	G	IGN RLY (IPDM) (L/R) CONT
72	SB	DR DOOR REQ SW
75	BR	PASS DOOR REQ SW
76	BG	COMBI SW INPUT 5
		COMBI SW INPUT 4

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNS SW

Connector No.	M139
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CSI6-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	Y	-
3	SB	-
4	BR	-
5	Y	-
6	R	-
7	W	-
8	V	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	SB	-
23	R	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-

98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

Connector No.	M222
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CSI6-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine]
4	SHIELD	- [With VR30 engine and without BOSE system]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With 2.0L turbo gasoline engine]
8	P	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	LG	-
14	LG	-
15	BR	- [With 2.0L turbo gasoline engine]
15	P	- [With VR30 engine]
16	SB	- [With DCM]
16	V	- [Without DCM]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
22	V	-

23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	V	- [With 2.0L turbo gasoline engine]
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [Except with VR30 engine and with BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
49	C	-
50	V	-
51	V	-
52	L	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	P	-
57	R	-
58	LG	-
59	SB	-
61	L	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

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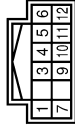
[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

62	P	- [With 2.0L turbo gasoline engine]
63	V	- [With VR30 engine]
64	W	-
66	R	- [With VR30 engine and with BOSE system]
68	L	- [With 2.0L turbo gasoline engine]
69	P	- [With VR30 engine and without BOSE system]
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	V	- [With 2.0L turbo gasoline engine]
73	LG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	-
76	S8	- [With 2.0L turbo gasoline engine]
76	V	- [With VR30 engine]
77	Y	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With 2.0L turbo gasoline engine]
84	SHIELD	- [With VR30 engine]
85	BR	- [With 2.0L turbo gasoline engine]
85	G	- [With VR30 engine]
86	R	- [With 2.0L turbo gasoline engine]
86	V	- [With VR30 engine]
87	LG	- [With 2.0L turbo gasoline engine]
87	SHIELD	- [With VR30 engine]
89	BR	- [With 2.0L turbo gasoline engine]
89	LG	- [With VR30 engine]
90	S8	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	- [With 2.0L turbo gasoline engine]
93	SHIELD	- [With VR30 engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]

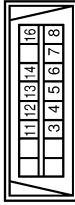
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine]
98	BR	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH32FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H [CAN COMMUNICATION CIRCUIT 1]
3	W	BATTERY POWER SUPPLY
4	L	CAN-H [CAN COMMUNICATION CIRCUIT 2]
5	B	GROUND
6	L	CAN-L [CAN COMMUNICATION CIRCUIT 2]
7	P	CAN-L [CAN COMMUNICATION CIRCUIT 1]
9	R	IGNITION POWER SUPPLY [With VR30 engine and without SS]
10	R	CAN-L [CAN COMMUNICATION CIRCUIT 2]
11	B	GROUND
12	R	CAN-L [CAN COMMUNICATION CIRCUIT 2]

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	K LINE [With 2.0L turbo gasoline engine]
7	W	K LINE [With VR30 engine]
8	W	IGN_SW
11	S8	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	M39
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BS	-
2	S8	-
3	L	-
4	P	- [Without Gateway]
5	BR	- [With Gateway]
6	S8	-
7	L	-

8	W	-
9	P	- [Without BOSE system]
9	V	- [With BOSE system]
10	V	-
11	S8	-
12	G	-
13	G	-
15	R	-
16	S8	-
17	SHIELD	-
18	W	-
19	Y	-
20	L	-
21	G	-
22	R	-
23	BR	-
24	R	-
25	L	-
26	Y	-
27	LG	-
28	BR	-
29	W/B	-
30	Y	-
31	W	-
32	L	- [With Anti-theft diode]
32	LG	- [Without Anti-theft diode]

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MMV-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BS	-
6	W/B	-
7	V	-
8	BS	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

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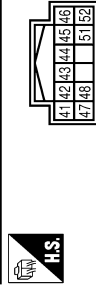
CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

11	W	- [With VR30 engine]
12	Y	- [With 2.0L turbo gasoline engine]
13	B	- [With VR30 engine]
14	BR	- [With 2.0L turbo gasoline engine]
15	GR	- [With VR30 engine]
16	GR	- [With 2.0L turbo gasoline engine]
17	SHIELD	- [With 2.0L turbo gasoline engine]
18	B	- [With 2.0L turbo gasoline engine]
19	W/B	- [With VR30 engine]
20	Y	- [With VR30 engine]
21	W	- [With VR30 engine]
22	G	- [With 2.0L turbo gasoline engine]
23	V	- [With VR30 engine]
24	L	- [With 2.0L turbo gasoline engine]
25	P	- [With VR30 engine]
26	BG	- [With VR30 engine]
27	G	- [With VR30 engine]
28	B	- [With 2.0L turbo gasoline engine]
29	L	- [With 2.0L turbo gasoline engine]
30	L	- [With VR30 engine]
31	Y	- [With VR30 engine]
32	Y	- [With VR30 engine]
33	L	- [With VR30 engine]
34	P	- [With VR30 engine]
35	BG	- [With VR30 engine]
36	G	- [With VR30 engine]
37	B	- [With 2.0L turbo gasoline engine]
38	L	- [With 2.0L turbo gasoline engine]
39	R	- [With VR30 engine]
40	GR	- [With VR30 engine]
41	L	- [With VR30 engine]
42	BR	- [With 2.0L turbo gasoline engine]
43	W	- [With VR30 engine]
44	G	- [With VR30 engine]
45	Y	- [With 2.0L turbo gasoline engine]
46	B	- [With 2.0L turbo gasoline engine]
47	BG	- [With 2.0L turbo gasoline engine]
48	R	- [With VR30 engine]
49	B	- [With VR30 engine]
50	G	- [With 2.0L turbo gasoline engine]
51	BR	- [With VR30 engine]
52	W	- [With VR30 engine]
53	G	- [With VR30 engine]
54	SB	- [With 2.0L turbo gasoline engine]
55	Y	- [With VR30 engine]
56	B	- [With 2.0L turbo gasoline engine]

55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
57	GR	- [With 2.0L turbo gasoline engine]
58	GR	- [With VR30 engine]
59	B	- [With 2.0L turbo gasoline engine]
60	SB	- [With VR30 engine]
61	W/B	- [With VR30 engine]
62	Y	- [With VR30 engine]
63	R	- [With VR30 engine]
64	P	- [With VR30 engine]
65	V	- [With VR30 engine]
66	L	- [With 2.0L turbo gasoline engine]
67	BG	- [With VR30 engine]
68	BG	- [With VR30 engine]
69	L	- [With VR30 engine]
70	R	- [With VR30 engine]
71	V	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
73	LG	- [With VR30 engine]
74	R	- [With VR30 engine]
75	W	- [With VR30 engine]
76	W/B	- [With 2.0L turbo gasoline engine]
77	SB	- [With VR30 engine]
78	G	- [With VR30 engine]
79	R	- [With 2.0L turbo gasoline engine]
80	G	- [With VR30 engine]
81	R	- [With VR30 engine]
82	LG	- [With VR30 engine]
83	BR	- [With 2.0L turbo gasoline engine]
84	V	- [With VR30 engine]
85	V	- [With VR30 engine]
86	V	- [With VR30 engine]
87	G	- [With VR30 engine]
88	V	- [With VR30 engine]
89	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	- [With 2.0L turbo gasoline engine]
92	G	- [With VR30 engine]
93	BR	- [With VR30 engine]
94	GR	- [With VR30 engine]
95	L	- [With 2.0L turbo gasoline engine]
96	BR	- [With VR30 engine]
97	P	- [With 2.0L turbo gasoline engine]

95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	- [With VR30 engine]
97	LG	- [With 2.0L turbo gasoline engine]
98	Y	- [With VR30 engine]
99	BR	- [With VR30 engine]
100	SHIELD	- [With 2.0L turbo gasoline engine]

Connector No.	IMS
Connector Name	COMBINATION METER
Connector Type	TH12FW-RH



Terminal No.	Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	B5	IGNITION SIGNAL (Exempt with VR30 engine and without ISS)
47	R	IGNITION SIGNAL [With VR30 engine and without ISS]
48	LG	AV COMMUNICATION SIGNAL (H)
49	BR	AV COMMUNICATION SIGNAL (L)
50	B	FUEL LEVEL SENSOR SIGNAL
51	B	GROUND
52	B	GROUND

Connector No.	M71
Connector Name	STEERING FORCE CONTROL MODULE
Connector Type	RH24FB-R2B-L-RH



Terminal No.	Wire	Signal Name [Specification]
2	Y	STEERING FORCE MOTOR RESOLVER SIGNAL (S1-S3)
4	W	STEERING FORCE MOTOR RESOLVER SIGNAL (S1-S3)
5	G	STEERING FORCE MOTOR RESOLVER SIGNAL (S2-S4)
6	L	STEERING FORCE MOTOR RESOLVER SIGNAL (S2-S4)
10	B	STEERING FORCE MOTOR RESOLVER SIGNAL (R1-R2)
11	R	STEERING FORCE MOTOR RESOLVER SIGNAL (R1-R2)
14	L	CAN COMMUNICATION-H
15	P	CAN COMMUNICATION-L [Without Gateway]
15	R	CAN COMMUNICATION-L [With Gateway]
17	Y	BACK UP SIGNAL (FROM STEERING ANGLE MAIN CONTROL MODULE)
18	Y	BACK UP SIGNAL (FROM STEERING ANGLE SUB CONTROL MODULE)
19	W	FLEXRAY COMMUNICATION-H
20	V	FLEXRAY COMMUNICATION-L
22	BG	BACK UP SIGNAL (TO STEERING ANGLE MAIN CONTROL MODULE)
23	BR	CAN WAKE UP
24	R	BACK UP SIGNAL (TO STEERING ANGLE SUB CONTROL MODULE)
25	W	IGNITION POWER SUPPLY
26	R/W	STEERING CLUTCH +
27	W/B	IGNITION POWER SUPPLY (TO STEERING ANGLE SUB CONTROL MODULE)
28	R	STEERING CLUTCH -
29	L	FORCE MOTOR TEMPERATURE SENSOR -
30	B	GROUND
31	B	FORCE MOTOR TEMPERATURE SENSOR +
32	B	GROUND

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

Connector No.	M76
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	CENTER SENSOR SIGNAL FRONT RH
2	LG	CENTER SENSOR SIGNAL FRONT LH
3	W	CORNER SENSOR SIGNAL FRONT RH
4	GR	CORNER SENSOR SIGNAL FRONT LH
5	L	CAN-H
6	P	CAN-L [Without Gateway]
6	R	CAN-L [With Gateway]
9	G	CENTER SENSOR SIGNAL REAR RH
10	BG	CORNER SENSOR SIGNAL REAR RH
12	R	IGN [For VR30 engine]
13	B	IGN [For 2.0L turbo gasoline engine]
14	B	FRONT SENSOR GND
15	B	REAR SENSOR GND
18	GR	FRONT BUZZER DRIVE SIGNAL
19	P	BUZZER POWER SUPPLY
21	BR	CENTER SENSOR SIGNAL REAR LH
22	W	CORNER SENSOR SIGNAL REAR LH

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08BW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

Connector No.	M88
Connector Name	A/C AUTO AMP.
Connector Type	TH40FM-NH



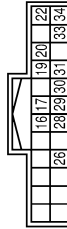
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	W	BATTERY POWER SUPPLY
7	G	AMBIENT SENSOR SIGNAL
9	R	SUNLOAD SENSOR SIGNAL
13	SB	ACC POWER SUPPLY [With 2.0L turbo gasoline engine]
13	V	ACC POWER SUPPLY [With VR30 engine]
16	P	LIM SIGNAL
17	R	DOOR MOTOR POWER SUPPLY
18	P	BLOWER MOTOR CONTROL SIGNAL
20	L	HEATED STEERING WHEEL RELAY CONTROL SIGNAL
21	P	GROUND
22	B	GROUND
23	R	IGNITION POWER SUPPLY [With VR30 engine and with ISS]
23	W	IGNITION POWER SUPPLY [Without VR30 engine and with ISS]
26	B	SENSOR GROUND
27	LG	IN-VEHICLE SENSOR SIGNAL
28	BR	INTAKE SENSOR SIGNAL
30	BG	EXHAUST GAS/COLENE COORDINATE SENSOR SIGNAL
37	B	GROUND
38	BG	IGNITION (ON/OFF) CONTROL SIGNAL
40	BG	ECU CONTROL SIGNAL

Connector No.	M95
Connector Name	WIRE TO WIRE
Connector Type	TH16MAW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	BR	-
3	BR	-
5	P	- [Without Gateway]
5	R	- [With Gateway]
6	Y	-
7	P	- [Without Gateway]
7	R	- [With Gateway]
9	R/W	-
10	R	-
11	SHIELD	-
13	L	-
14	L	-
15	L	-

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
16	LG	AV COMM (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GND
26	BR	CAMERA SWITCH SIGNAL

28	SB	AV COMM (H)
29	L	CAN-H
30	R	IGN [For VR30 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (B-PULSE)
33	SB	ACC [Except for VR30 engine and with ISS]
33	V	ACC [For VR30 engine and with ISS]
34	Y	BAT

Connector No.	M132
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
24C	L	-
25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]

JRMWJ4731GB

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

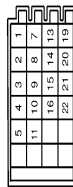
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

34C	W/B	
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
40C	G	-
41C	P	-
42C	P	-
43C	G	-
44C	G	-
45C	G	-
46C	G	-
47C	G	-
48C	G	-
49C	V	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342_4GAZA



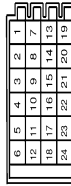
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
6	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
12	L	-
13	L	-
14	L	-
15	L	-
16	L	-
17	R	-
18	R	-
19	R	-
20	R	-
21	R	-
22	R	-

Connector No.	M135
Connector Name	WIRE TO WIRE
Connector Type	TH18FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	R	-
4	P	-
5	P	-
6	Y	-
7	P	-
8	R	-
9	R/W	-
10	R	-
11	SHIELD	-
12	L	-
13	L	-
14	L	-
15	L	-

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-

Terminal No.	Color Of Wire	Signal Name [Specification]
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	-
17	L	-
18	L	-
19	BR	-
20	BR	-
21	BR	-
22	R	-
23	V	-
24	R	-
25	R	-
26	V	-

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-

Terminal No.	Color Of Wire	Signal Name [Specification]
5	L	-
6	L	-
7	L	-
8	L	-
9	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	R	-
17	P	-
18	R	-
19	R	-
20	R	-

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM WITHOUT FEB)

17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

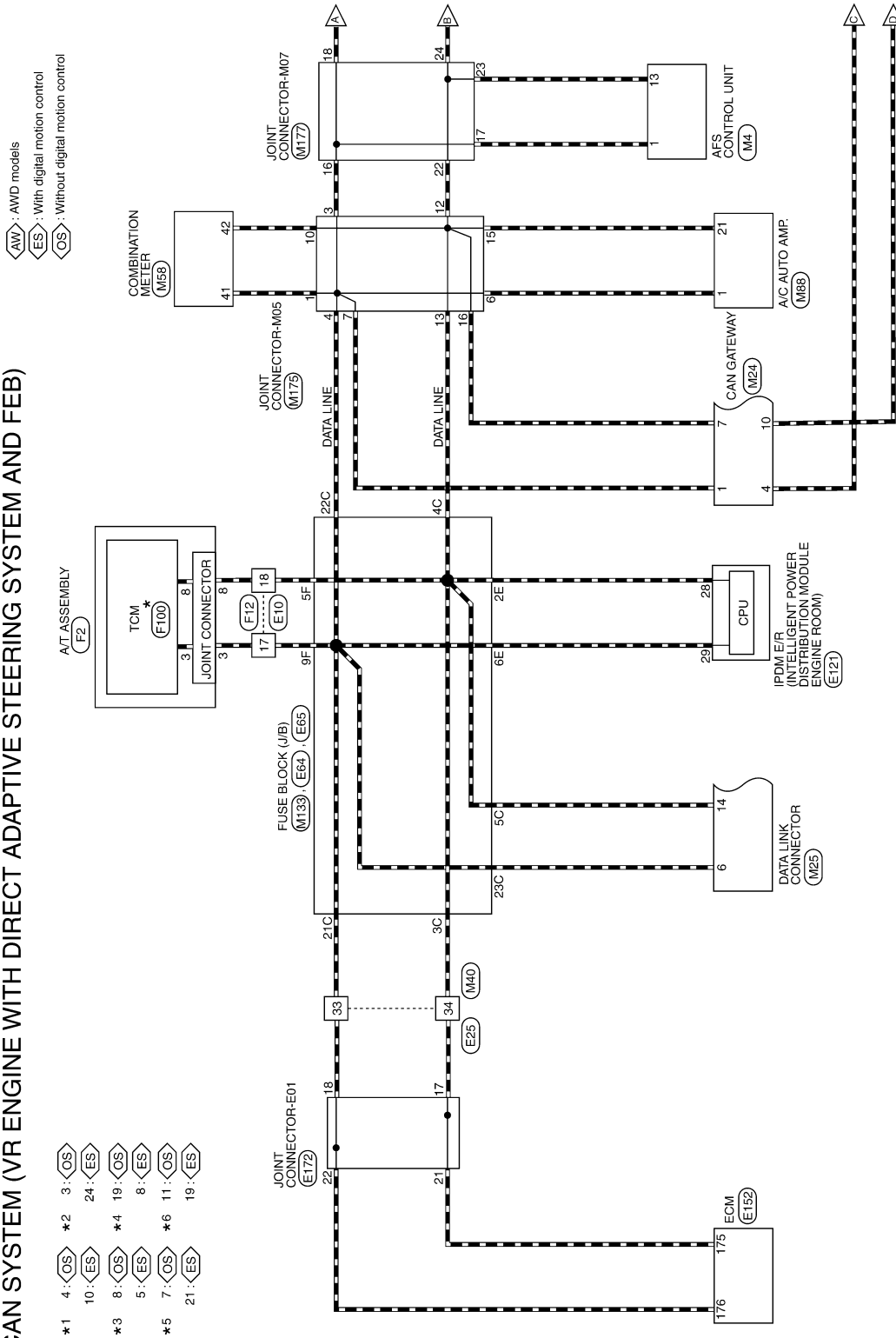
[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Wiring Diagram

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)



- ◊AW◊ : AWD models
- ◊ES◊ : With digital motion control
- ◊OS◊ : Without digital motion control

- *1 4: OS *2 3: OS
- 10: ES 24: ES
- *3 8: OS *4 19: OS
- 5: ES 8: ES
- *5 7: OS *6 11: OS
- 21: ES 19: ES

*: This connector is not shown in "Harness Layout".

2016/02/15

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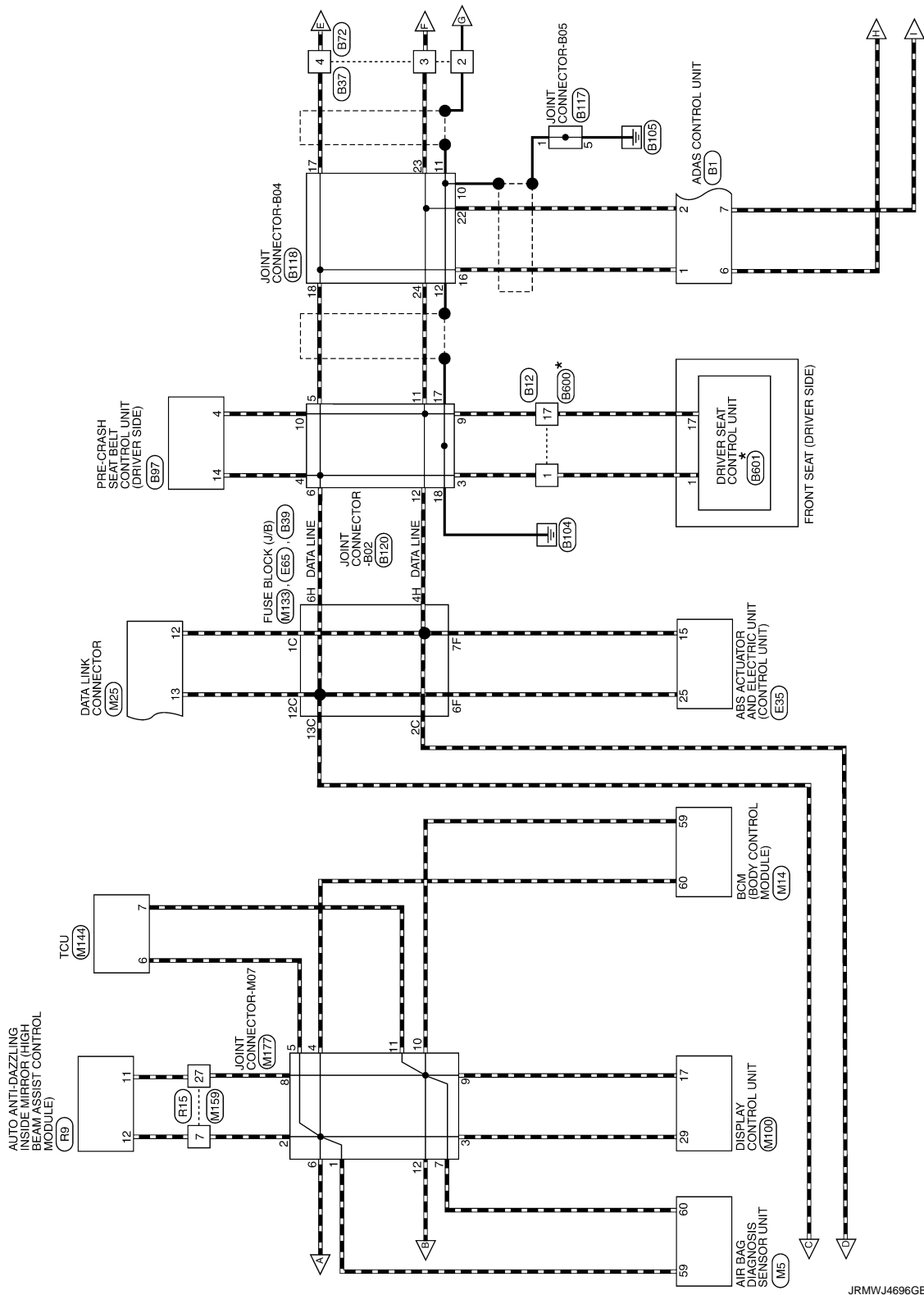
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

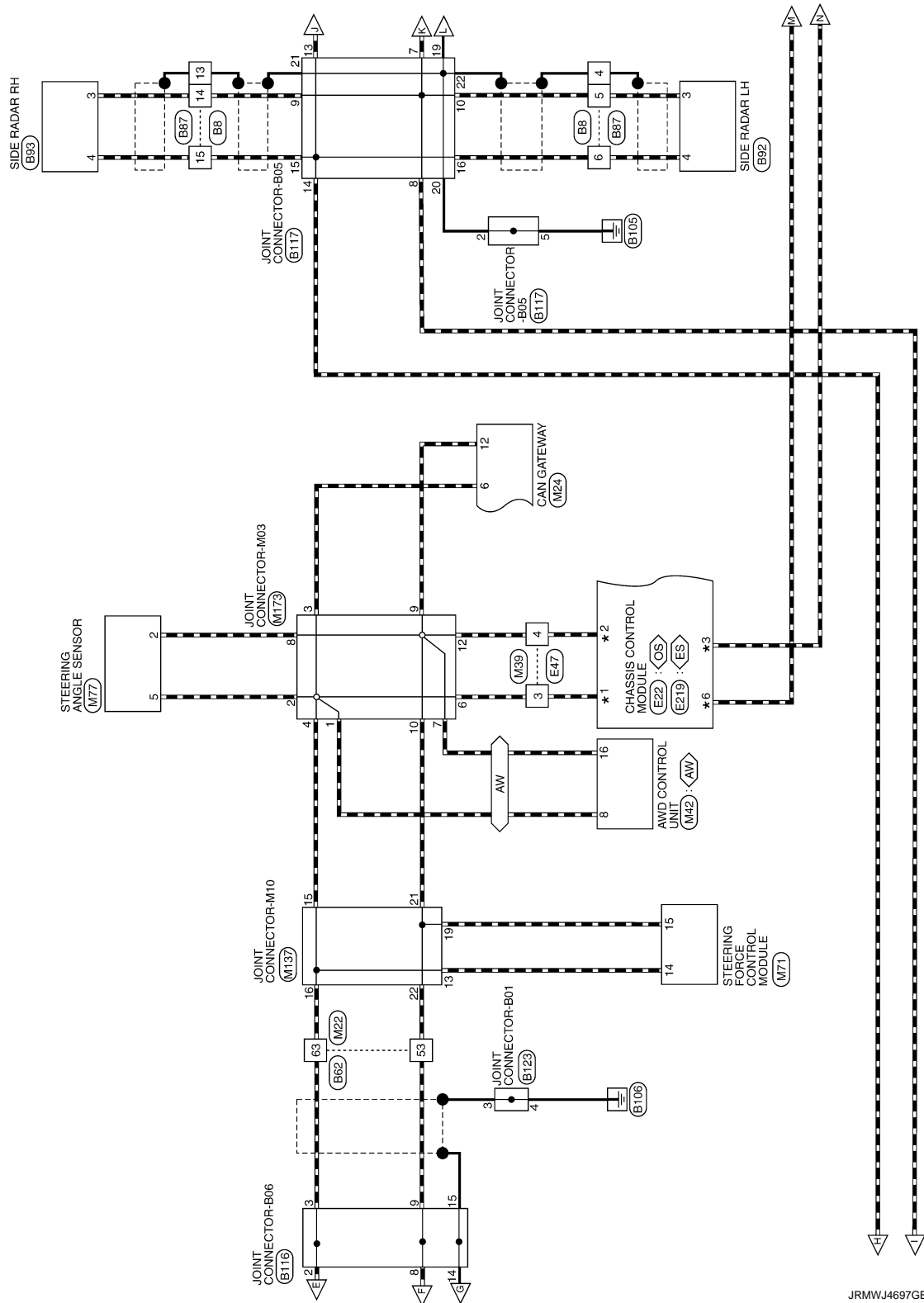


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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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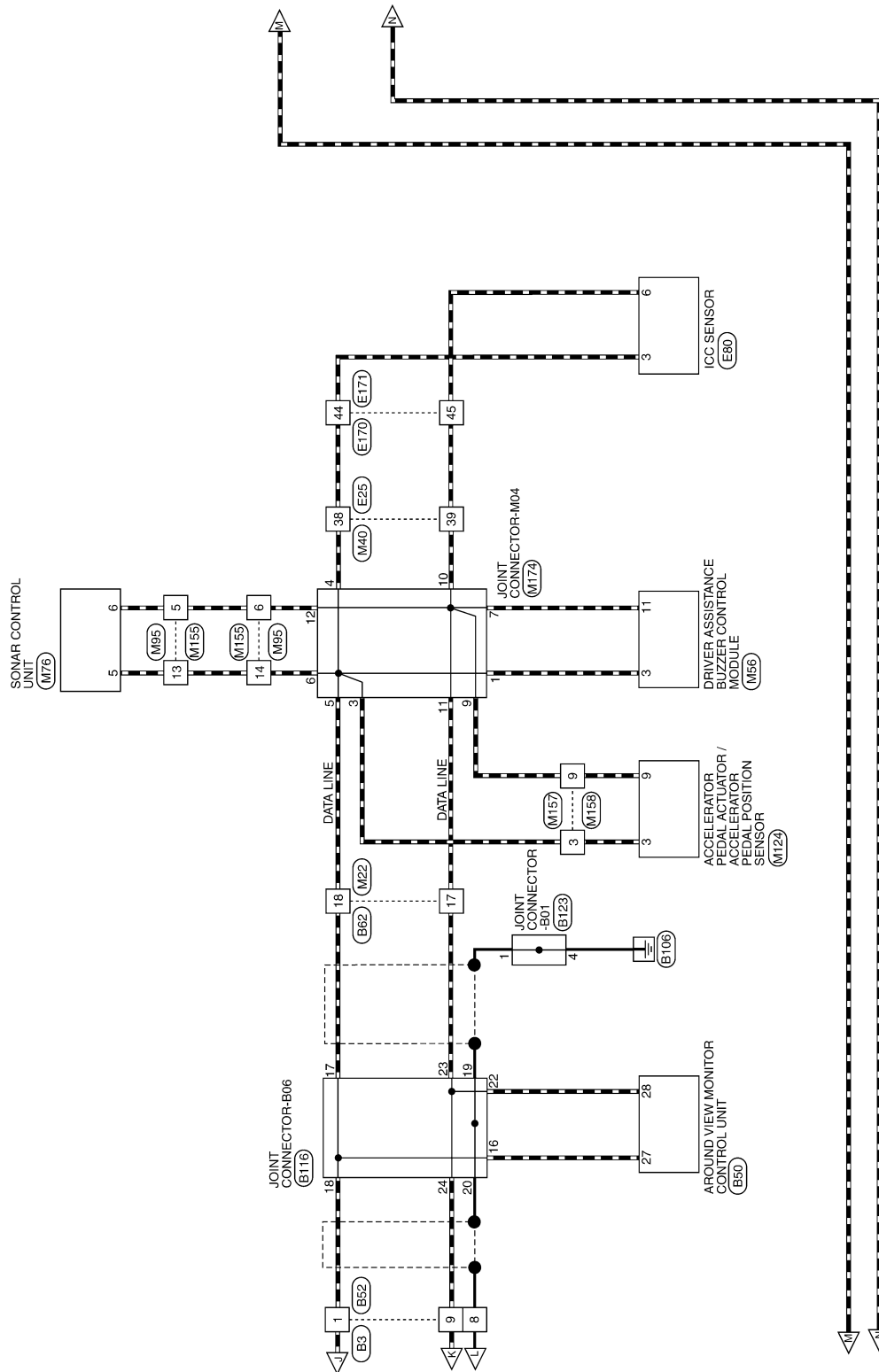
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

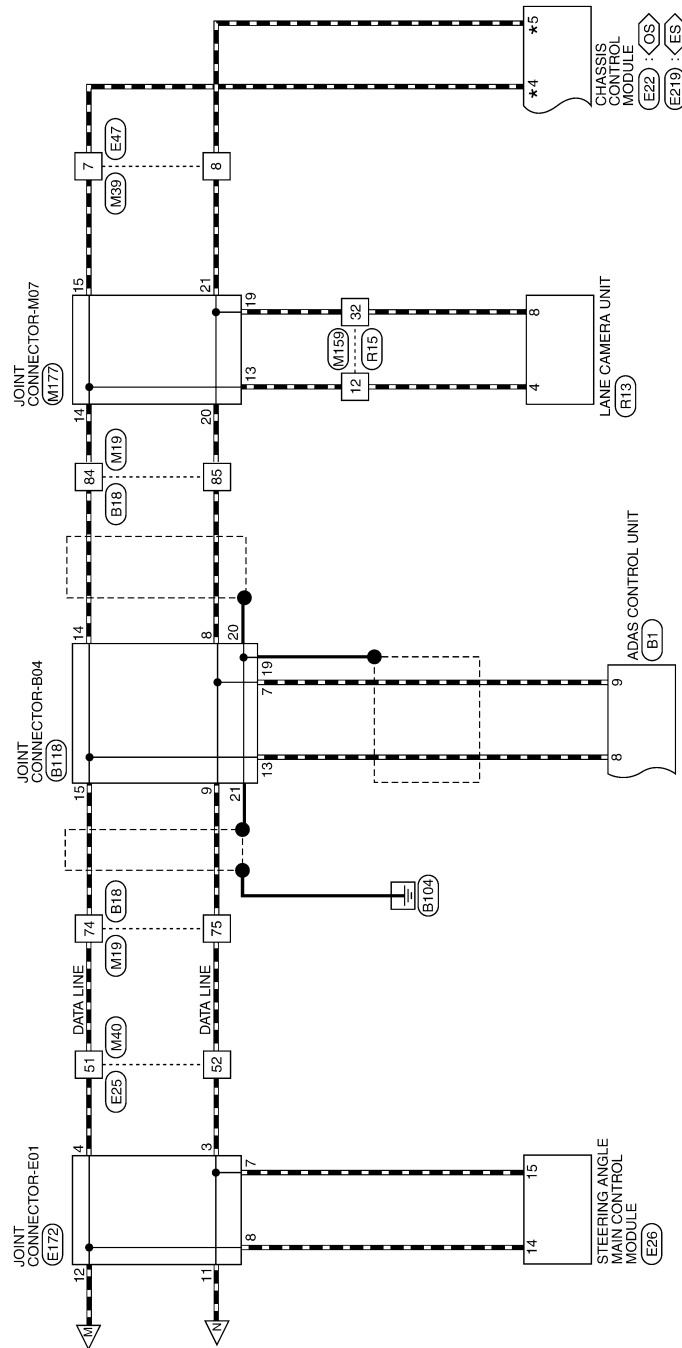


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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]



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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



12	13	14	15	16	17	18
24	25	26	27	28	29	30

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	R	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
8	L	CHASSIS COMM-H
9	R	CHASSIS COMM-L
12	G	IGNITION [Except with VR30 engine and without BS]
13	GR	IGNITION [VR30 engine and without BS]
17	V	BRAKE HOLD RLY DRIVE SIGNAL
23	Y	STEERING SW SIGNAL GROUND
24	SB	STEERING SW SIGNAL

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



7	6	5	4	3	2	1
16	15	14	13	12	11	10
9	8	7	6	5	4	3

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
7	Y	- [Without BOSE system]
8	B	-
9	Y	-

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



28	21	15	2	43	1	17
23	7	33	22	45	6	147
48	46	45	44	43	42	41

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	LG	-
5	P	-
6	V	-
7	P	- [Without Gateway]
17	P	- [With Gateway]
17	R	-
21	BG	-
22	BR	-
23	BG	-
28	R	-
33	L	-
43	B	-
45	G	-
46	BG	-
47	R	-
48	GR	-

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
4	LG	-
5	Y	-
6	R	-
7	V	-
8	LG	-
10	BG	-
11	BG	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	R	-
23	V	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine and without gateway]
25	V	- [With 2.0L turbo gasoline engine and with gateway]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	B	- [With VR30 engine]
32	B	- [With 2.0L turbo gasoline engine]
33	B	-
34	LG	-
35	P	-
36	W	-
37	S8	-
38	LG	-
40	P	-
41	S8	-
42	BR	-
43	BG	-
44	BG	-
46	R	-
50	W	-
51	S8	-
52	V	-
53	LG	-

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

54	R	-	-	-	-
55	R	-	-	-	-
57	W	-	-	-	-
58	V	-	-	-	-
59	GR	-	-	-	-
60	G	-	-	-	-
61	G	-	-	-	-
62	BG	-	-	-	-
63	BR	-	-	-	-
64	Y	-	-	-	-
66	R	-	-	-	-
70	R	-	-	-	-
71	W	-	-	-	-
72	B	-	-	-	-
73	W	-	-	-	-
74	L	-	-	-	-
75	R	-	-	-	-
75	V	-	-	-	-
76	BR	-	-	-	-
77	B	-	-	-	-
78	SB	-	-	-	-
79	V	-	-	-	-
79	W	-	-	-	-
81	B	-	-	-	-
82	R	-	-	-	-
83	BG	-	-	-	-
84	L	-	-	-	-
85	R	-	-	-	-
85	V	-	-	-	-
86	B	-	-	-	-
86	G	-	-	-	-
89	V	-	-	-	-
89	W	-	-	-	-
91	GR	-	-	-	-
94	GR	-	-	-	-
96	V	-	-	-	-
97	V	-	-	-	-
98	BR	-	-	-	-
98	Y	-	-	-	-

Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	TH08MW-AH



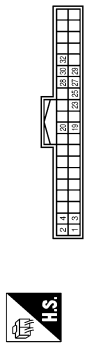
Terminal No.	Color Of Wire	Signal Name [Specification]
2	SHIELD	-
3	R	-
4	L	-
5	R	-
7	P	-

Connector No.	B39
Connector Name	FUSE BLOCK (I/B)
Connector Type	TH10FB-NH



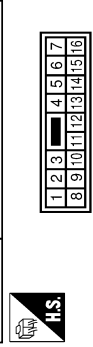
Terminal No.	Color Of Wire	Signal Name [Specification]
10H	P	-
3H	L	-
4H	R	-
5H	V	-
6H	L	-
7H	LG	-
8H	P	-
9H	GR	-

Connector No.	B50
Connector Name	AROUND VIEW MIRROR CONTROL UNIT
Connector Type	TH40FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y	BAT
3	LG	IGN
4	P	ACC
19	P	AV COMM (H)
20	LG	AV COMM (L)
23	SHIELD	AV COMM GND
25	BG	REVERSE SIGNAL
27	L	CAN-H
28	P	CAN-L [Without ADAS] [For VR30 engine]
28	R	CAN-L [With ADAS]
29	B	CAN GND
30	W	RETRACT MOTOR OPERATING SIGNAL (OPEN)
32	G	RETRACT MOTOR OPERATING SIGNAL (CLOSE)

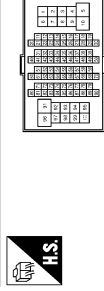
Connector No.	B52
Connector Name	WIRE TO WIRE
Connector Type	HS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	-
5	Y	-
7	R	-

8	SHIELD	-
9	P	-
11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE system]
1	LG	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
2	L	- [With 2.0L turbo gasoline engine]
3	R	- [With 2.0L turbo gasoline engine]
3	BR	- [With VR30 engine and with BOSE system]
3	W	- [With VR30 engine and without BOSE system]
4	Y	- [With 2.0L turbo gasoline engine]
4	Y	- [With VR30 engine]
5	G	- [With 2.0L turbo gasoline engine]
5	V	- [With VR30 engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and without BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
8	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
10	V	-
11	GR	-
12	Y	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

13	R	-	-
14	BG	-	- [With 2.0L turbo gasoline engine]
15	BG	-	- [With VR30 engine]
16	GR	-	- [With VR30 engine]
17	V	-	-
18	L	-	-
19	R	-	-
20	GR	-	-
21	R	-	-
22	V	-	-
23	W	-	- [With VR30 engine]
24	BG	-	- [With 2.0L turbo gasoline engine]
24	V	-	- [With VR30 engine]
25	L	-	- [With 2.0L turbo gasoline engine]
25	SB	-	- [With VR30 engine]
26	G	-	- [With VR30 engine]
26	W	-	- [With 2.0L turbo gasoline engine]
27	R	-	-
29	LG	-	-
30	LG	-	- [With 2.0L turbo gasoline engine]
30	P	-	- [With VR30 engine]
31	SHIELD	-	-
32	L	-	-
33	B	-	- [With VR30 engine]
33	LG	-	- [With 2.0L turbo gasoline engine]
34	SHIELD	-	-
35	LG	-	- [With VR30 engine]
35	W	-	- [With 2.0L turbo gasoline engine]
36	R	-	- [With VR30 engine]
36	W	-	- [With 2.0L turbo gasoline engine and without BOSE system]
37	P	-	- [With VR30 engine]
37	R	-	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-	-
39	P	-	- [With VR30 engine and without BOSE system]
39	R	-	- [With 2.0L turbo gasoline engine]
39	W	-	- [With VR30 engine and with BOSE system]
40	G	-	-
41	L	-	-
42	R	-	-
43	SHIELD	-	-
44	P	-	-
45	B	-	- [With 2.0L turbo gasoline engine]
45	G	-	- [With VR30 engine]
46	SHIELD	-	-
47	G	-	-
48	BG	-	-
49	G	-	-
50	V	-	-

51	GR	-	-
52	W	-	- [With 2.0L turbo gasoline engine]
52	Y	-	- [With VR30 engine]
53	R	-	-
54	GR	-	-
55	L	-	-
56	V	-	-
57	R	-	-
58	LG	-	-
59	P	-	-
61	L	-	-
62	B	-	- [With VR30 engine]
62	V	-	- [With 2.0L turbo gasoline engine]
63	L	-	-
64	W	-	-
66	LG	-	-
68	L	-	-
69	P	-	-
71	GR	-	- [With 2.0L turbo gasoline engine]
71	R	-	- [With VR30 engine]
72	G	-	- [With VR30 engine]
72	Y	-	- [With 2.0L turbo gasoline engine]
73	R	-	- [With 2.0L turbo gasoline engine]
73	SHIELD	-	-
74	BG	-	- [With 2.0L turbo gasoline engine]
74	L	-	- [With VR30 engine]
75	GR	-	- [With 2.0L turbo gasoline engine]
75	V	-	- [With VR30 engine]
76	GR	-	- [With 2.0L turbo gasoline engine]
76	V	-	- [With 2.0L turbo gasoline engine]
77	P	-	-
78	L	-	-
79	R	-	- [With 2.0L turbo gasoline engine]
80	GR	-	- [With VR30 engine]
80	W	-	- [With VR30 engine]
81	B	-	- [With VR30 engine]
81	R	-	- [With 2.0L turbo gasoline engine]
82	G	-	- [With 2.0L turbo gasoline engine]
82	SHIELD	-	- [With VR30 engine]
83	R	-	- [With 2.0L turbo gasoline engine]
83	W	-	- [With VR30 engine]
84	BR	-	- [With VR30 engine]
84	SHIELD	-	- [With 2.0L turbo gasoline engine]
85	BG	-	- [With VR30 engine]
85	G	-	- [With 2.0L turbo gasoline engine]
86	R	-	- [With 2.0L turbo gasoline engine]
86	W	-	- [With VR30 engine]
87	LG	-	- [With VR30 engine]
87	SHIELD	-	- [With 2.0L turbo gasoline engine]
89	LG	-	-

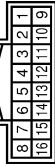
90	P	-	- [With 2.0L turbo gasoline engine]
90	V	-	- [With VR30 engine]
92	L	-	- [With 2.0L turbo gasoline engine]
92	W	-	- [With VR30 engine]
93	R	-	- [With 2.0L turbo gasoline engine]
93	SHIELD	-	- [With 2.0L turbo gasoline engine]
94	R	-	-
95	L	-	- [With 2.0L turbo gasoline engine]
95	Y	-	- [With VR30 engine]
96	R	-	- [With 2.0L turbo gasoline engine]
96	W	-	- [With VR30 engine]
97	L	-	- [With VR30 engine]
97	R	-	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	-	- [With 2.0L turbo gasoline engine and without BOSE system]
98	LG	-	-
99	BR	-	- [With VR30 engine and with BOSE system]
99	P	-	- [With 2.0L turbo gasoline engine]
99	Y	-	- [With VR30 engine and without BOSE system]
100	BR	-	- [With VR30 engine]
100	W	-	- [With 2.0L turbo gasoline engine]

Connector No.	B72
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-AH



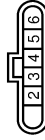
Terminal No.	Color Of Wire	Signal Name [Specification]
2	SHIELD	-
3	R	-
4	L	-
5	R	-
7	P	-

Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	-
3	BR	-
4	SHIELD	-
5	R	-
6	L	-
7	GR	-
10	B	-
11	B	-
12	SB	-
13	SHIELD	-
14	P	-
15	L	-

Connector No.	B92
Connector Name	SIDE RADAR LH
Connector Type	AAK06FE-WP-5P



Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	GROUND
3	R	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	BR	BUILD-UP WARNING/BLIND SPOT INTERVENTION INDICATOR

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

[CAN]

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	B83
Connector Name	SIDE RADAR RH
Connector Type	AAC08FB-WP



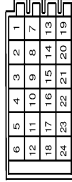
Terminal No.	Color Of Wire	Signal Name (Specification)
1	B	RIGHT/LEFT SWITCHING SIGNAL
2	B	GROUND
3	P	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	SB	BIND SPOT WARNING/REAR SPOT INTERVENTION INDICATOR

Connector No.	B87
Connector Name	RE-CHARGE (S&T) BELL CONTROL UNIT (RECHARGE SW)
Connector Type	NH18FW-CSZ



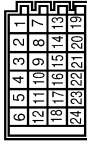
Terminal No.	Color Of Wire	Signal Name (Specification)
2	G	OUT 1
4	R	CAN LO
6	W	BACKLE SW LH NO
10	R	SENS POWER
12	B	OUT 2
14	L	CAN HI
16	Y	LOCAL_COMM_1
17	W	SENS_GND
19	BR	MOTOR_BAT [With 2.0L turbo gasoline engine]
19	Y	MOTOR_BAT [With VR30 engine]
20	B	MOTOR_GND

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name (Specification)
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	- [With Gateway]
9	R	- [Without Gateway]
9	V	- [With Gateway]
10	R	- [Without Gateway]
10	V	- [With VR30 engine]
11	V	- [With 2.0L turbo gasoline engine]
12	P	- [Without Gateway]
12	R	-
13	SHELD	-
14	SHELD	-
15	B	- [With 2.0L turbo gasoline engine]
16	SHELD	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	L	- [Without Gateway]
18	SHELD	- [With VR30 engine]
18	SHELD	- [With 2.0L turbo gasoline engine]
19	L	- [With 2.0L turbo gasoline engine]
19	SHELD	- [With VR30 engine]
20	SHELD	- [With 2.0L turbo gasoline engine]
21	L	- [With VR30 engine]
22	P	-
23	P	-
24	P	- [With VR30 engine]
24	Y	- [With 2.0L turbo gasoline engine]

Connector No.	B117
Connector Name	JOINT CONNECTOR-B05
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name (Specification)
1	B	- [With 2.0L turbo gasoline engine]
1	SHELD	- [With VR30 engine]
2	B	-
3	B	- [With VR30 engine]
3	SHELD	- [With 2.0L turbo gasoline engine]
4	B	-
5	B	-
6	B	-
7	Y	-
8	Y	-
9	P	- [With VR30 engine]
9	V	- [With 2.0L turbo gasoline engine]
10	P	- [With VR30 engine]
10	Y	- [With 2.0L turbo gasoline engine]
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	B	-
20	B	-
21	B	- [With 2.0L turbo gasoline engine]
21	SHELD	- [With VR30 engine]
22	B	- [With 2.0L turbo gasoline engine]
22	SHELD	- [With VR30 engine]
23	SHELD	-
24	SHELD	-

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	- [With VR30 engine]
1	SHELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHELD	- [With 2.0L turbo gasoline engine]
3	SHELD	-
4	LG	- [With VR30 engine]
4	SHELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHELD	- [With 2.0L turbo gasoline engine]
7	R	- [Color of wire differs depending on production]
7	V	- [Color of wire differs depending on production]
8	LG	- [With 2.0L turbo gasoline engine]
8	R	- [With VR30 engine and without paddle shift]
8	V	- [With VR30 engine and with paddle shift]
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine and without paddle shift]
9	V	- [With VR30 engine and with paddle shift]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHELD	- [With VR30 engine]
13	L	- [With 2.0L turbo gasoline engine and without gateway]
13	P	- [With 2.0L turbo gasoline engine and with gateway]
13	R	- [With 2.0L turbo gasoline engine and with gateway]
14	L	- [With 2.0L turbo gasoline engine and without gateway]
14	P	- [With 2.0L turbo gasoline engine and with gateway]
14	R	- [With 2.0L turbo gasoline engine and with gateway]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	8120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_46A2A



21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	8123
Connector Name	JOINT CONNECTOR-B01
Connector Type	TG04FV-I



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	B	- [With 2.0L turbo gasoline engine]
4	B	- [With VR30 engine]

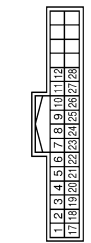
Connector No.	B600
Connector Name	WIRE TO WIRE
Connector Type	N516MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
5	-	-
6	-	-
7	-	-
17	-	-
21	-	-
22	-	-

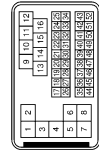
23	-	-
28	-	-
33	-	-
43	-	-
45	-	-
46	-	-
47	-	-
48	-	-

Connector No.	B601
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	TH32FW-RH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	BR	UART (TX/RX)
3	R	START SW
4	P	PULSE (RECLINER)
5	V	PULSE (TELESCOPIC)
6	GY	ADDRESS 2
7	G	IND 2
8	V	SLIDE SW (BACKWARD)
9	W	RECLINER SW (BACKWARD)
10	O	TILT SW (DOWNWARD)
11	G	LIFTER SW (DOWNWARD)
12	SA	POWER SUPPLY V (ENCODER)
17	P	CAN-L
18	LG	PULSE (SLIDE SENSOR)
19	W	PULSE (LIFTER- FRONT)
20	GY	PULSE (LIFTER- REAR)
21	SB	PULSE (TILT SENSOR)
22	O	ADDRESS 1
23	W	IND 1
24	P	SLIDE SW (FORWARD)
25	Y	RECLINER SW (FORWARD)
26	GY	TILT SW (UPWARD)
27	L	LIFTER SW (UPWARD)
28	Y	SET SW

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Type	5A436MB-RS8-SH28



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	LG	-
4	R	-
5	G	-
7	V	-
8	W	-
9	W	-
10	BG	-
11	LG	-
12	BG	-
13	L	-
14	Y	-
15	LG	-
16	G	-
17	L	-
18	P	-
19	GR	-
20	G	-
21	GR	-
22	W	-
23	G	-
24	BG	-
25	V	-
26	BR	-
27	W	-
28	BG	-
29	LG	-
30	G	-
31	Y	-
32	R	-
33	B	-
34	V	-
35	LG	-
36	W	-
37	V	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

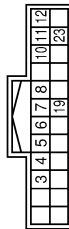
< WIRING DIAGRAM >

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

38	BR	-	-
39	GR	-	-
40	SHIELD	-	-
41	B	-	-
42	R	-	-
43	Y	-	-
44	SHIELD	-	-
45	Y	-	-
46	P	-	-
47	L	-	-
48	LG	-	-
49	BG	-	-
50	SHIELD	-	-
51	W	-	-
52	G	-	-

Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH-24FW-NH

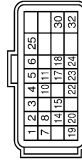


Terminal No.	Wire	Signal Name [Specification]
3	P	CAN-L [Without Gateway]
4	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	Y	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	G	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
6	Y	CHASSIS COMM-L
7	W	CHASSIS COMM-L
8	W	CHASSIS COMM-L
10	BG	IGN [With 2.0L turbo gasoline engine]
10	G	IGN [With VR30 engine]
11	L	CHASSIS COMM-H
12	B	GROUND [With VR30 engine]
12	B/W	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMM-H [With VR30 engine]
19	L	CHASSIS COMM-H [With 2.0L turbo gasoline engine]
23	G	ESS RELAY [With VR30 engine]
23	R	ESS RELAY [With 2.0L turbo gasoline engine]

Terminal No.	Wire	Signal Name [Specification]
38	R	- [With 2.0L turbo gasoline engine and without gateway]
38	BR	- [With 2.0L turbo gasoline engine and with gateway]
39	Y	- [With VR30 engine]
40	S/B	- [With VR30 engine]
41	LG	-
44	Y	-
45	L	- [With 2.0L turbo gasoline engine]
46	W	- [With VR30 engine]
46	Y	- [With VR30 engine]
47	G	- [With 2.0L turbo gasoline engine]
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
53	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With VR30 engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	S/B	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B	- [Color of wire differs depending on production]
58	B/W	- [Color of wire differs depending on production]
59	W	-
61	R	-
64	Y	- [Color of wire differs depending on production]
65	BR	- [Color of wire differs depending on production]
66	GR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
75	V	- [With VR30 engine]

Terminal No.	Wire	Signal Name [Specification]
76	G	-
77	Y	- [With 2.0L turbo gasoline engine and with ADAS]
78	LG	- [With VR30 engine]
78	P	- [With 2.0L turbo gasoline engine and without ADAS]
78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	S/B	-
80	LG	-
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-
86	BG	-
87	G	-
89	LG	-
90	GR	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BG	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E26
Connector Name	STEERING ANGLE MAIN CONTROL MODULE
Connector Type	RH-24FB-R28-L-1H



Terminal No.	Wire	Signal Name [Specification]
1	BR	TORQUE SENSOR MAIN SIGNAL
2	Y	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S1/S3)
3	LG	TORQUE SENSOR SUB SIGNAL
4	G	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S1/S3)

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

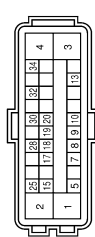
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

5	W	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S2-S4)
6	L	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (S2-S4)
7	SB	TORQUE SENSOR GROUND
8	P	TORQUE SENSOR POWER SUPPLY
10	R	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (R1-R2)
11	BR	STEERING ANGLE MAIN MOTOR RESOLVER SIGNAL (R1-R2)
14	L	CHASSIS COMMUNICATION-H
15	W	CHASSIS COMMUNICATION-L
17	BG	BACK UP SIGNAL FROM STEERING ANGLE SW CONTROL MODULE
18	SB	BACK UP SIGNAL FROM STEERING ANGLE SW CONTROL MODULE
19	Y	FLEXWAY COMMUNICATION-H
20	GR	FLEXWAY COMMUNICATION-L
22	GR	BACK UP SIGNAL TO STEERING ANGLE SW CONTROL MODULE
23	BR	CAN WAKE UP
24	P	BACK UP SIGNAL TO STEERING ANGLE SW CONTROL MODULE
25	G	IGNITION POWER SUPPLY FROM STEERING ANGLE SW CONTROL MODULE
30	B	GROUND
32	GR	GROUND

Connector No.	E85
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	SAZ3DFB-SJ24-U



18	V	RR RH WHEEL SENSOR POWER SUPPLY (WITH VR30 engine)
19	SB	FRL LH WHEEL SENSOR SIGNAL
20	BG	FRLH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	VDC OFF SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

Connector No.	E47
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH



24	R	-
25	L	-
26	BG	-
27	LG	-
28	BR	-
29	W	-
30	Y	-
31	G	-
32	GR	-

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS88FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

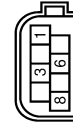
Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [Color of wire differs depending on production]
11F	R	- [Color of wire differs depending on production]

12F	W	- [With VR30 engine]
1F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E60
Connector Name	ICC SENSOR
Connector Type	FAZ28FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	IGNITION
3	L	ITS COMM-H
6	Y	ITS COMM-L
8	B	GROUND

Connector No.	E121
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	TH32FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
19	L	- [With 2.0L turbo gasoline engine]
19	P	- [With VR30 engine]
22	BG	-
23	GR	- [With VR30 engine]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

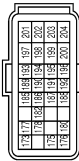
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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

23	LG	-	[With 2.0 turbo gasoline engine and without Anti theft device]
24	P	-	[With 2.0 turbo gasoline engine and with Anti theft device]
27	GR	-	-
28	P	-	-
29	L	-	-
31	G	-	-
32	SB	-	-
33	SB	-	-
34	Y	-	-
35	G	-	-
36	SB	-	[With VR30 engine]
36	W	-	[With 2.0L turbo gasoline engine]
37	GR	-	-
38	BR	-	-
41	GR	-	-
43	V	-	-

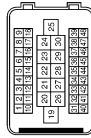
Connector No.	E152
Connector Name	ECM
Connector Type	RH24FRZR-LRH



Terminal No.	Color Of Wire	Signal Name [Specification]
173	SB	FUEL TANK PRESSURE SENSOR
175	P	CAN-L
176	L	CAN-H
177	G	SENSOR POWER SUPPLY (FUEL TANK PRESSURE SENSOR)
180	P	FUEL TANK TEMPERATURE SENSOR
182	W	FUEL PUMP CONTROL MODULE (PCM) CHECK
185	SB	IGNITION SWITCH
186	SB	ASC-STEERING SWITCH
187	BG	SENSOR GROUND (ASC-STEERING SWITCH)
188	Y	FUEL PUMP CONTROL MODULE (PCM)
189	Y	ENGINE COMMUNICATION LINE-L
190	L	ENGINE COMMUNICATION LINE-H
191	P	STOP LAMP SWITCH
192	BG	BRAKE PEDAL POSITION SWITCH
193	GR	STOP LAMP SWITCH
193	LG	STOP LAMP SWITCH
194	W	SENSOR POWER SUPPLY

195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
196	R	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
197	R	ECM POWER SUPPLY
198	L	SENSOR POWER SUPPLY
199	B	ECM GROUND
200	V	SENSOR GROUND
201	B	ECM GROUND
202	Y	ACCELERATOR PEDAL POSITION SENSOR 1
203	G	SENSOR GROUND
204	B	ECM GROUND

Connector No.	E170
Connector Name	WIRE TO WIRE
Connector Type	5AAS6MB-RS10-S12Z



Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	SENSOR GROUND
11	GR	SENSOR GROUND
19	V	SENSOR GROUND
20	SB	SENSOR GROUND
22	B	SENSOR GROUND
24	B	SENSOR GROUND
26	L	SENSOR GROUND
27	P	CAN-L
28	SHIELD	SHIELD
29	B	SENSOR GROUND
30	B	SENSOR GROUND
31	B	SENSOR GROUND
32	B	SENSOR GROUND
33	V	CAN-L
34	G	CAN-H
35	R	SENSOR GROUND
36	B	SENSOR GROUND
37	BG	SENSOR GROUND
38	LG	SENSOR GROUND
39	Y	SENSOR GROUND
40	P	SENSOR GROUND
41	L	SENSOR GROUND
42	W	SENSOR GROUND
43	B	SENSOR GROUND

44	L	-
45	Y	-
47	BG	-
48	GR	-

Connector No.	E171
Connector Name	WIRE TO WIRE
Connector Type	5AAS6FB-RS10-S12Z



Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	SENSOR GROUND
11	GR	SENSOR GROUND
19	V	SENSOR GROUND
20	SB	SENSOR GROUND
22	B	SENSOR GROUND
24	B	SENSOR GROUND
26	L	SENSOR GROUND
27	P	CAN-L
28	SHIELD	SHIELD
29	B	SENSOR GROUND
30	B	SENSOR GROUND
31	P	SENSOR GROUND
32	B	SENSOR GROUND
33	V	CAN-L
34	G	CAN-H
35	R	SENSOR GROUND
36	B	SENSOR GROUND
37	BG	SENSOR GROUND
38	LG	SENSOR GROUND
39	Y	SENSOR GROUND
40	P	SENSOR GROUND
41	L	SENSOR GROUND
42	W	SENSOR GROUND
43	B	SENSOR GROUND
44	L	SENSOR GROUND
45	Y	SENSOR GROUND
47	BG	SENSOR GROUND
48	GR	SENSOR GROUND

Connector No.	E172
Connector Name	JOINT CONNECTOR-R01
Connector Type	SGA28FLBRJ



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	W	-
4	L	-
5	GR	-
6	Y	-
7	W	-
8	L	-
9	GR	-
10	Y	-
11	W	-
12	L	-
15	W	-
16	BG	-
17	P	-
18	L	-
19	W	-
20	BG	-
21	P	-
22	L	-
23	SB	- [Color of wire differs depending on production]
23	W	- [Color of wire differs depending on production]
34	BG	- [Color of wire differs depending on production]
34	LG	- [Color of wire differs depending on production]
35	P	-
36	L	-
27	Y	-
28	L	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	E219
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH28FW



1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28



5	4	3	2	1	6
10	9	8	7	6	

Connector No.	F2
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY

10	BG	-
11	R	-
12	LG	-
13	L	-
14	Y	-
15	LG	-
16	Y	-
17	L	-
18	P	-
19	GR	-
20	BG	-
21	GR	-
22	W	-
23	G	-
24	SB	-
25	V	-
26	W	-
27	V	-
28	W	-
29	Y	-
30	R	-
31	P	-
32	R	-
33	P	-
34	BG	-
35	LG	-
36	SB	-
37	V	-
38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	ACTUATOR (FL)-L
3	BR	ACTUATOR (FR)-H
4	BG	IGN
5	W	CHASSIS COMM-L
6	B	GROUND
8	BR	CHASSIS COMM-R (Color of wire differs depending on production)
8	L	CHASSIS COMM-L (Color of wire differs depending on production)
9	G	DRIVE MODE SELECT (Color of wire differs depending on production)
9	Y	DRIVE MODE SELECT (Color of wire differs depending on production)
10	L	CAN-H
12	G	ACTUATOR (FR)-H
13	G	ESS RELAY
14	L	ACTUATOR (RL)-L
15	V	ACTUATOR (FL)-H
19	L	CHASSIS COMM-H
21	W	CHASSIS COMM-L
22	V	DRIVE MODE SELECT SWITCH (UP)
23	B	GROUND
24	P	CAN-L (Without Gateway)
24	R	CAN-L (With Gateway)
25	G	IGN
26	V	ACTUATOR (RL)-H
28	R	ACTUATOR (FR)-L

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	IGNITION POWER SUPPLY (With 2.0L turbo gasoline engine)
1	L	IGNITION POWER SUPPLY (With VR30 engine)
2	P	BATTERY POWER SUPPLY (MEMORY BACK-UP)
3	L	CAN-H
4	R	K-LINE
5	B	GROUND (With 2.0L turbo gasoline engine)
5	BR	GROUND (With VR30 engine)
6	GR	IGNITION POWER SUPPLY
7	BG	BACK-UP LAMP RELAY
8	P	CAN-L
9	V	STARTER RELAY
10	B	GROUND

Connector No.	F12
Connector Name	WIRE TO WIRE
Connector Type	SAA336FB-6S8-SH28



1	2	3
10	11	13
14	15	16
17	18	19
20	21	22
23	24	25
26	27	28
29	30	31
32	33	34
35	36	37
38	39	40
41	42	43
44	45	46
47	48	49
50	51	52

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	BG	-
4	R	-
5	G	-
7	L	-
8	W	-
9	W	-

Connector No.	F100
Connector Name	TCM
Connector Type	SP10FG



1	2	3	4	5
6	7	8	9	10

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY (MEMORY BACK-UP)
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M4
Connector Name	AFS CONTROL UNIT
Connector Type	TH24FW-NH



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
6	BR	HEIGHT SENSOR SIGNAL
8	GR	SWIVEL ACTUATOR LIN SIGNAL
11	B	GROUND
12	R	IGNITION POWER SUPPLY (With VR30 engine)
12	W	IGNITION POWER SUPPLY (With 2.8L turbo gasoline engine)
13	P	CAN-L
19	P	SWIVEL ACTUATOR GROUND
21	LG	HEIGHT SENSOR POWER SUPPLY
22	SB	AIMING MOTOR DRIVE SIGNAL

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

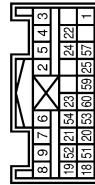
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[CAN]

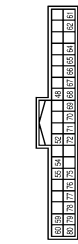
CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

23	GR	HEIGHT SENSOR GROUND
24	B	AIMING MOTOR GROUND

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28YEX



Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FE-NH



Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80AW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	V/R	DRL (+)
4	V/B	DRL (-)
5	Y	DR2 (+)
6	V/R	AS1 (+)
7	V/B	AS1 (-)
8	V/G	AS2 (+)
9	Y	AS2 (-)
18	Y	ECZ5+
19	BR	ECZ5-
20	V/R	ACT_VENT+
21	V/B	ACT_VENT-
22	SHIELD	GND
23	V	AIRBAG W/L
24	G	-
25	GR	A/B OFF IND
51	G	SATELLITE RH2 (+)
52	R	SIDE_SENS_RH2-
53	V	SIDE_SENS_LH2+
54	L	SIDE_SENS_LH2-
57	LG	IVCS
59	L	CAN-H
60	P	CAN-L

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW LL PWR
52	G	DOGGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [WITH VR30 engine]
66	Y	BLOWER FAN RLY CONT [WITH 2.0L turbo gasoline engine]
67	W/B	IGN RLY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLY (P/DME/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LED OPNRS SW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	SB	-
4	BR	-
5	Y	-
6	R	-
7	W	-
8	V	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	SB	-
23	R	-
24	Y	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-
34	V	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-

41	G	-
42	BR	-
43	BR	-
44	BR	-
46	BG	-
50	W	-
51	Y	-
52	V	-
52	LG	-
54	R	-
55	R	-
57	W	-
58	V	-
59	BG	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	LG	-
71	W	-
72	B	-
73	W	-
74	L	-
75	W	-
76	BR	-
77	B	-
78	SB	-
79	P	- [With VR30 engine]
79	W	- [With 2.0L turbo gasoline engine]
81	B	-
82	R	-
83	BG	-
84	L	-
85	W	-
86	B	-
88	G	-
89	V	- [With 2.0L turbo gasoline engine]
89	W	- [With VR30 engine]
91	GR	-
94	GR	-
96	W	-
97	V	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MM-CS16-TM4

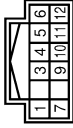


Terminal No.	Color Of Wire	Signal Name (Specification)
1	LG	- [With VR30 engine]
2	L	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	BR	- [With 2.0L turbo gasoline engine]
5	R	- [With VR30 engine]
6	SHIELD	- [With VR30 engine]
7	Y	- [With 2.0L turbo gasoline engine]
8	G	- [With VR30 engine]
9	V	- [With 2.0L turbo gasoline engine]
10	BG	- [With VR30 engine]
11	BR	- [With 2.0L turbo gasoline engine]
12	LG	- [With VR30 engine]
13	LG	- [With VR30 engine]
14	LG	- [With VR30 engine]
15	BR	- [With 2.0L turbo gasoline engine]
16	P	- [With VR30 engine]
17	V	- [With VR30 engine]
18	L	- [With DCM]
19	G	- [Without DCM]
20	GR	- [Without DCM]
21	R	- [Without DCM]
22	V	- [Without DCM]
23	L	- [Without DCM]
24	BG	- [With 2.0L turbo gasoline engine]
25	V	- [With VR30 engine]
26	L	- [With 2.0L turbo gasoline engine]

25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
27	W	- [With 2.0L turbo gasoline engine]
29	LG	- [With VR30 engine]
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	- [With VR30 engine]
32	B	- [With VR30 engine]
33	B	- [With VR30 engine]
34	SHIELD	- [With 2.0L turbo gasoline engine]
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	V	- [With 2.0L turbo gasoline engine]
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	W	- [With VR30 engine]
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	- [With VR30 engine]
41	L	- [With VR30 engine]
42	R	- [With VR30 engine]
43	SHIELD	- [With VR30 engine]
44	P	- [With VR30 engine]
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	- [With VR30 engine]
47	G	- [With VR30 engine]
48	BG	- [Except with VR30 engine and with BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
49	G	- [With VR30 engine]
50	V	- [With VR30 engine]
51	V	- [With VR30 engine]
52	L	- [With 2.0L turbo gasoline engine]
53	Y	- [With VR30 engine]
53	R	- [With VR30 engine]
54	GR	- [With VR30 engine]
55	L	- [With VR30 engine]
56	P	- [With VR30 engine]
57	R	- [With VR30 engine]
58	LG	- [With VR30 engine]
59	SB	- [With VR30 engine]
61	L	- [With VR30 engine]
62	P	- [With 2.0L turbo gasoline engine]
62	V	- [With VR30 engine]
63	L	- [With VR30 engine]
64	W	- [With VR30 engine and with BOSE system]

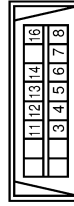
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY (With VR30 engine and without BS)
9	W	IGNITION POWER SUPPLY (Except with VR30 engine and without BS)
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD316FW



Terminal No.	Color Of Wire	Signal Name (Specification)
3	LG	M CAN_L
4	B	EARTH
5	B	EARTH

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

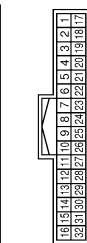
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[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

CAN-H	
6	L
7	V
8	W
11	SB
12	R
13	L
14	P
15	W

Connector No.	M39
Connector Name	WIRE TO WIRE
Connector Type	TH32PW-AH



25	L	-	-
26	Y	-	-
27	LG	-	-
28	BR	-	-
29	W/B	-	-
30	Y	-	-
31	W	-	-
32	L	-	-
32	LG	-	-

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name (Specification)
1	W/B	-
2	SB	-
3	L	-
4	P	-
5	BR	-
6	SB	-
7	L	-
8	W	-
9	V	-
10	V	-
11	SB	-
12	G	-
13	G	-
14	B	-
15	R	-
16	SB	-
17	SHIELD	-
18	W	-
19	Y	-
20	L	-
21	G	-
22	R	-
23	BR	-
24	R	-

Terminal No.	Color Of Wire	Signal Name (Specification)
1	BG	-
6	W/B	-
7	V	-
8	BG	-
9	LG	-
10	P	-
11	W	-
12	B	-
13	BR	-
14	GR	-
15	B	-
16	SB	-
17	LG	-
18	B	-
19	W/B	-
20	L	-
31	Y	-
32	G	-

71	W	-	-
72	L	-	-
73	LG	-	-
74	R	-	-
75	W	-	-
76	BR	-	-
77	L	-	-
78	B	-	-
79	R	-	-
80	G	-	-
81	R	-	-
82	LG	-	-
83	BR	-	-
84	V	-	-
85	P	-	-
86	V	-	-
87	G	-	-
88	V	-	-
89	G	-	-
90	G	-	-
91	W	-	-
92	G	-	-
93	BR	-	-
94	L	-	-
95	BR	-	-
96	P	-	-
97	LG	-	-
98	Y	-	-
99	BR	-	-
100	SHIELD	-	-

32	V	-	-
33	L	-	-
34	P	-	-
35	BG	-	-
36	G	-	-
37	L	-	-
38	P	-	-
39	R	-	-
40	GR	-	-
41	L	-	-
44	BR	-	-
45	L	-	-
46	G	-	-
47	BG	-	-
48	SHIELD	-	-
49	B	-	-
50	B	-	-
51	L	-	-
52	W	-	-
53	G	-	-
54	Y	-	-
55	B	-	-
56	BG	-	-
57	GR	-	-
58	B	-	-
59	SB	-	-
61	W/B	-	-
64	Y	-	-
65	R	-	-
66	P	-	-
67	LG	-	-
68	BG	-	-
69	L	-	-
70	R	-	-
71	V	-	-

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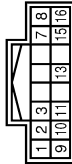
CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

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[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	M42
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH



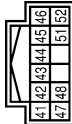
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	AWD SOL (+)
2	Y	AWD SOL (-)
3	W/B	FLUID TEMP (-)
7	G	IGN
8	L	CAN-H
9	BG	AWD SOL BAT
10	B	GND
11	B	GND
13	LG	FLUID TEMP (+)
15	W	BATTERY POWER SUPPLY
16	P	CAN-L [Without Gateway]
16	R	CAN-L [With Gateway]

Connector No.	M56
Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	IGNITION
3	L	ITS COMM-H
5	B	GROUND
8	R	WARNING BUZZER SIGNAL
11	Y	ITS COMM-L
13	B	GROUND
16	G	WARNING BUZZER SIGNAL GROUND

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL (Except with VR30 engine and without ISI)
46	R	IGNITION SIGNAL [With VR30 engine and without ISI]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

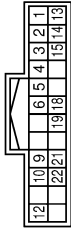
Connector No.	M71
Connector Name	STEERING FORCE CONTROL MODULE
Connector Type	RH24FB-R28-L-RH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	Y	STEERING FORCE MOTOR RESOLVER SIGNAL (S1-S3)
4	W	STEERING FORCE MOTOR RESOLVER SIGNAL (S1-S3)
5	G	STEERING FORCE MOTOR RESOLVER SIGNAL (S2-S3)
6	L	STEERING FORCE MOTOR RESOLVER SIGNAL (S2-S3)
10	B	STEERING FORCE MOTOR RESOLVER SIGNAL (R1-R2)
11	R	STEERING FORCE MOTOR RESOLVER SIGNAL (R1-R2)
14	L	CAN COMMUNICATION-H
15	P	CAN COMMUNICATION-L [Without Gateway]
15	R	CAN COMMUNICATION-L [With Gateway]

17	Y	BACK UP SIGNAL FROM STEERING ANGLE MAIN CONTROL MODULE
18	Y	BACK UP SIGNAL FROM STEERING ANGLE SUB CONTROL MODULE
19	W	FLEXRAY COMMUNICATION-H
20	V	FLEXRAY COMMUNICATION-L
22	BG	BACK UP SIGNAL TO STEERING ANGLE MAIN CONTROL MODULE
23	BR	CAN WAKE UP
24	R	BACK UP SIGNAL TO STEERING ANGLE SUB CONTROL MODULE
25	W	IGNITION POWER SUPPLY
26	R/W	STEERING CLUTCH +
27	W/B	HEATED STEERING WHEEL RELAY CONTROL SIGNAL
28	R	STEERING CLUTCH -
29	L	FORCE MOTOR TEMPERATURE SENSOR -
30	B	GROUND
31	R	FORCE MOTOR TEMPERATURE SENSOR +
32	B	GROUND

Connector No.	M76
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	CENTER SENSOR SIGNAL FRONT RH
2	LG	CENTER SENSOR SIGNAL FRONT LH
3	W	CORNER SENSOR SIGNAL FRONT LH
4	GR	CORNER SENSOR SIGNAL FRONT RH
5	L	CAN-H
6	P	CAN-L [Without Gateway]
6	B	CAN-L [With Gateway]
9	G	CORNER SENSOR SIGNAL REAR RH
10	BG	CORNER SENSOR SIGNAL REAR LH
12	R	IGN [For VR30 engine]
12	W	IGN [For 2.0L Turbo Gasoline engine]
13	B	FRONT SENSOR GND
14	B	REAR SENSOR GND
15	B	GND
18	GR	FRONT BUZZER DRIVE SIGNAL
19	P	BUZZER POWER SUPPLY
21	BR	CORNER SENSOR SIGNAL REAR LH
22	W	CORNER SENSOR SIGNAL REAR RH

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

Connector No.	M88
Connector Name	A/C AUTO AMP.
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	W	BATTERY POWER SUPPLY
7	G	AMBIENT SENSOR SIGNAL
9	B	SUN LOAD SENSOR SIGNAL
13	SB	ACC POWER SUPPLY [With 2.0L turbo gasoline engine]
13	V	ACC POWER SUPPLY [With VR30 engine]
16	P	IGN SIGNAL
17	R	DOOR MOTOR POWER SUPPLY
18	P	BLOWER MOTOR CONTROL SIGNAL
20	L	HEATED STEERING WHEEL RELAY CONTROL SIGNAL
21	P	CAN-L
22	B	GROUND
23	R	IGNITION POWER SUPPLY [With VR30 engine and with ISI]
23	W	IGNITION POWER SUPPLY [Except with VR30 engine and with ISI]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

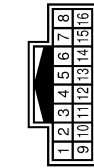
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

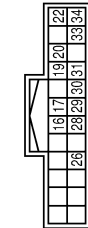
26	B	SENSOR GROUND
27	LG	IN-VEHICLE SENSOR SIGNAL
28	BR	INTAKE SENSOR SIGNAL
30	BG	EXHAUST GAS / OUTSIDE COLOR DETECTING SENSOR SIGNAL
37	B	GROUND
38	BG	IONIZER (ON/OFF) CONTROL SIGNAL
40	BG	ECV CONTROL SIGNAL

Connector No.	M135
Connector Name	WIRE TO WIRE
Connector Type	TH165M/AH



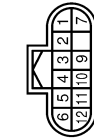
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	BR	-
3	BR	-
5	P	- [Without Gateway]
6	Y	- [With Gateway]
7	P	- [Without Gateway]
7	R	- [With Gateway]
9	R/W	-
10	R	-
11	SHIELD	-
13	L	-
14	L	-
15	L	-

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW/AH



Terminal No.	Color Of Wire	Signal Name [Specification]
16	UG	AV COMM (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GND
26	BR	CAMERA SWITCH SIGNAL
28	SB	AV COMM (H)
29	L	CAN-H
30	R	IGN [For VR30 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (8-PULSE)
33	SB	ACC [Except for VR30 engine and with ISS]
33	V	ACC [For VR30 engine and with ISS]
34	Y	BAT

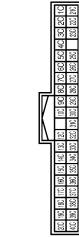
Connector No.	M124
Connector Name	ACCELERATOR PEDAL ACTUATOR/ACCELERATOR POSITION SENSOR
Connector Type	RH12FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	BATTERY
2	G	IGNITION
3	L	ITS COMM/H
4	W	-
5	G	-
6	Y	-

7	B	GROUND
9	Y	ITS COMM/L
10	L	-
11	R	-
12	BR	-

Connector No.	M133
Connector Name	FUSE BLOCK (U/B)
Connector Type	TH4DF/AH



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	- [Without DRPO]
18C	B5	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
24C	LG	-
25C	SB	-
26C	W	-
27C	W	-
28C	W	-
29C	W	-
ZC	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-

37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-
6C	G	-
7C	G	-
8C	G	-
9C	V	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	Z4342_4GAZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
14	L	-
15	L	-
16	L	-
19	R	-
20	R	-
21	R	-
22	R	-

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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	M1144
Connector Name	TCU
Connector Type	TH40P/BA-NH



Connector No.	M1155
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-AH

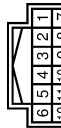


5	BR	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
6	G	- [With 2.0L turbo gasoline engine]
6	Y	- [With VR30 engine]
7	B	-
9	Y	-
10	L	- [With VR30 engine]
10	R	- [With 2.0L turbo gasoline engine]
11	L	- [With 2.0L turbo gasoline engine]
11	R	- [With VR30 engine]
12	BR	- [With VR30 engine]
12	W	- [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BAT
2	SB	ACC [For 2.0L turbo gasoline engine]
2	V	ACC [For VR30 engine]
3	SB	ACC OUTPUT
5	BR	SOS SWITCH LED SIGNAL
6	L	CAN-H
7	P	CAN-L
10	R	IGN [For VR30 engine]
10	W	IGN [For 2.0L turbo gasoline engine]
11	SHIELD	MICROPHONE SIGNAL GND
12	R	MICROPHONE OUTPUT SIGNAL
16	SHIELD	SHIELD
17	G	MICROPHONE SIGNAL
18	L	MICROPHONE VCC
26	SB	AV COMM (H)
27	LG	AV COMM (L)
28	B	GROUND
29	B	GROUND
30	SHIELD	SHIELD
31	B	SOUND SIGNAL (+)
32	W	SOUND SIGNAL (-)
37	G	SOS CALL SWITCH SIGNAL

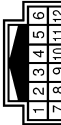
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
3	R	-
5	P	- [Without ADAS and without Gateway]
5	R	- [Without ADAS and with Gateway]
5	Y	- [With ADAS]
6	Y	-
7	P	- [Without Gateway]
7	R	- [With Gateway]
9	R/W	-
10	R	-
11	SHIELD	-
13	L	-
14	L	-
15	L	-

Connector No.	M1157
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	BR	-
4	R	-
5	GR	-
6	R	- [With VR30 engine and with ISS]
6	W	- [Except with VR30 engine and with ISS]
7	L	-
9	SHIELD	-
10	W	-
11	R	-
12	L	-
13	G	-
14	Y	-
15	B	-
17	B	-
19	R	-
20	BG	- [Except with VR30 engine and with BOSE system]
20	BR	- [With VR30 engine and with BOSE system]
21	R	-
22	G	-
24	R	-
25	W	-
26	R	-
27	P	-
28	B	-
29	G	-
30	L	-
31	W	-
32	W	-
33	L	-
36	V	-
38	LG	-
40	W	-

Connector No.	M1158
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	G	-
3	L	-
4	W	-
5	G	-
6	Y	-
7	B	-
9	Y	-
10	L	-
11	R	-
12	BR	-

Connector No.	M1159
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-AH



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CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GAZA



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
17	L	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
19	SB	- [With VR30 engine]
20	SB	- [With 2.0L turbo gasoline engine]
21	LG	- [With VR30 engine]
22	BR	- [With 2.0L turbo gasoline engine]
23	BR	- [With VR30 engine]
24	V	- [With 2.0L turbo gasoline engine]

Connector No.	M174
Connector Name	JOINT CONNECTOR-M04
Connector Type	24342_4GAZA



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	Y	-
8	Y	-
9	Y	-
10	Y	-
11	Y	-
12	Y	-
13	SB	-
14	SB	-
15	SB	-
16	SB	-
17	SB	-
18	SB	-
19	LG	-
20	LG	-
21	LG	-
22	LG	-
23	LG	-
24	LG	-

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FH-LDC



20	19	17	18	15	14	13	12	11	10
8	7	6	5	4	3	2	1		

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
9	P	- [With 2.0L turbo gasoline engine]
10	P	- [With VR30 engine]
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	R	- [With 2.0L turbo gasoline engine]
17	R	- [With VR30 engine]
18	R	-
19	W	- [With VR30 engine and with ISS]
20	R	- [With VR30 engine and with ISS]
21	W	- [Except with VR30 engine and with ISS]
22	W	- [With VR30 engine and with ISS]
23	P	-
24	P	-

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GAZA



6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
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18	L	-
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22	P	-
23	P	-
24	P	-

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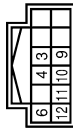
CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (VR ENGINE WITH DIRECT ADAPTIVE STEERING SYSTEM AND FEB)

Connector No.	R9
Connector Name	AUTO ANTI-DAZZLING INSIDE MIRROR
Connector Type	TH12FW-NH-B



Connector No.	R15
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	B	GROUND
4	BG	AUTO ANTI-DAZZLING OUTSIDE MIRROR CONTROL SIGNAL
6	GR	IGNITION POWER SUPPLY
9	BR	AUTO ANTI-DAZZLING OUTSIDE MIRROR GROUND
10	BG	BATTERY POWER SUPPLY (Color of wire differs depending on production)
11	P	CAN-L
12	BR	CAN-H

Connector No.	R13
Connector Name	LANE CAMERA UNIT
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	CAN_GND
4	L	CAN-H
5	B	GND
7	V	IGN
8	W	CAN-L

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	LG	-
3	BR	-
4	V	-
5	BG	-
6	GR	-
7	BR	-
9	SHIELD	-
10	GR	-
11	R	-
12	L	-
13	G	-
14	Y	-
15	B	-
17	SB	-
19	BG	-
20	BG	- [Without BOSE system]
20	BR	- [With BOSE system]
21	R	-
22	G	-
24	B	-
25	BG	- [Color of wire differs depending on production]
25	P	- [Color of wire differs depending on production]
26	BR	-
27	GR	-
28	B	-
29	R	-
30	L	-
31	V	-
32	W	-
33	L	-
36	BR	-
38	SB	-
40	W	-

JRMWJ4716GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Interview Sheet

INFOID:0000000012795104

CAN Communication System Diagnosis Interview Sheet

Date received:

Type:

VIN No.:

Model:

First registration:

Mileage:

CAN system type:

Symptom (Results from interview with customer)

Condition at inspection

Error symptom : Present / Past

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MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DTC/CIRCUIT DIAGNOSIS

MALFUNCTION AREA CHART

CAN Communication Circuit

INFOID:000000012795105

MAIN LINE

Malfunction area	Reference
Main line between data link connector and ABS actuator and electric unit (control unit)	LAN-191. "Diagnosis Procedure"
Main line between data link connector and combination meter	LAN-193. "Diagnosis Procedure"
Main line between ABS actuator and electric unit (control unit) and combination meter	LAN-194. "Diagnosis Procedure"
Main line between combination meter and AFS control unit	LAN-195. "Diagnosis Procedure"
Main line between combination meter and EMCM	LAN-196. "Diagnosis Procedure"
Main line between AFS control unit and EMCM	LAN-197. "Diagnosis Procedure"
Main line between EMCM and ADAS control unit	LAN-198. "Diagnosis Procedure"
Main line between EMCM and active noise control unit	LAN-199. "Diagnosis Procedure"
Main line between ADAS control unit and active noise control unit	LAN-201. "Diagnosis Procedure"
Main line between driver seat control unit and ADAS control unit	LAN-202. "Diagnosis Procedure"
Main line between ADAS control unit and data link connector	LAN-203. "Diagnosis Procedure"
Main line between data link connector and steering angle sensor	LAN-205. "Diagnosis Procedure"
Main line between steering angle sensor and ABS actuator and electric unit (control unit)	LAN-206. "Diagnosis Procedure"
Main line between power steering control module and data link connector	LAN-207. "Diagnosis Procedure"
Main line between combination meter and display control unit	LAN-209. "Diagnosis Procedure"
Main line between AFS control unit and display control unit	LAN-210. "Diagnosis Procedure"
Main line between data link connector and driver seat control unit	LAN-211. "Diagnosis Procedure"
Main line between steering force control module and steering angle sensor	LAN-212. "Diagnosis Procedure"
Main line between ADAS control unit and steering angle sensor	LAN-213. "Diagnosis Procedure"
Main line between ADAS control unit and steering force control module	LAN-215. "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
IPDM E/R branch line circuit	LAN-226. "Diagnosis Procedure"
Data link connector	LAN-227. "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 1)	LAN-228. "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 2)	LAN-229. "Diagnosis Procedure"
ECM branch line circuit	LAN-230. "Diagnosis Procedure"
TCM branch line circuit	LAN-232. "Diagnosis Procedure"
Power steering control module branch line circuit (Without direct adaptive steering)	LAN-234. "Diagnosis Procedure"
Steering force control module branch line circuit (With direct adaptive steering)	
Display control unit branch line circuit	LAN-236. "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 1)	LAN-237. "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 2)	LAN-238. "Diagnosis Procedure"
A/C auto amp. branch line circuit	LAN-239. "Diagnosis Procedure"
Combination meter branch line circuit	LAN-240. "Diagnosis Procedure"
AFS control unit branch line circuit	LAN-241. "Diagnosis Procedure"
Air bag diagnosis sensor unit branch line circuit	LAN-242. "Diagnosis Procedure"

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

Malfunction area	Reference
EMCM branch line circuit	LAN-243, "Diagnosis Procedure"
High beam assist control module branch line circuit	LAN-244, "Diagnosis Procedure"
TCU branch line circuit	LAN-245, "Diagnosis Procedure"
Active noise control unit branch line circuit	LAN-246, "Diagnosis Procedure"
BCM branch line circuit	LAN-247, "Diagnosis Procedure"
Driver seat control unit branch line circuit	LAN-248, "Diagnosis Procedure"
Pre-crash seat belt control unit (driver side) branch line circuit	LAN-250, "Diagnosis Procedure"
ADAS control unit branch line circuit (CAN communication circuit 2)	LAN-251, "Diagnosis Procedure"
AWD control unit branch line circuit	LAN-253, "Diagnosis Procedure"
Chassis control module branch line circuit	LAN-254, "Diagnosis Procedure"
Steering angle sensor branch line circuit	LAN-256, "Diagnosis Procedure"
ABS actuator and electric unit (control unit) branch line circuit	LAN-257, "Diagnosis Procedure"

SHORT CIRCUIT

Malfunction area	Reference
CAN communication circuit	LAN-269, "Diagnosis Procedure"
CAN communication circuit 1	LAN-271, "Diagnosis Procedure"
CAN communication circuit 2	LAN-273, "Diagnosis Procedure"

ITS Communication Circuit

INFOID:000000012795106

MAIN LINE

Malfunction area	Reference
Main line between side radar LH and around view monitor control unit	LAN-217, "Diagnosis Procedure"
Main line between around view monitor control unit and driver assistance buzzer control module	LAN-218, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
Side radar LH branch line circuit	LAN-259, "Diagnosis Procedure"
Side radar RH branch line circuit	LAN-260, "Diagnosis Procedure"
Around view monitor control unit branch line circuit	LAN-261, "Diagnosis Procedure"
Accelerator pedal actuator branch line circuit	LAN-262, "Diagnosis Procedure"
Driver assistance buzzer control module branch line circuit	LAN-263, "Diagnosis Procedure"
Lane camera unit branch line circuit	LAN-264, "Diagnosis Procedure"
Sonar control unit branch line circuit	LAN-266, "Diagnosis Procedure"
ICC sensor branch line circuit	LAN-267, "Diagnosis Procedure"

SHORT CIRCUIT OR OPEN CIRCUIT

Malfunction area	Reference
ITS communication circuit	LAN-275, "Diagnosis Procedure"

Chassis Communication Circuit

INFOID:000000013613421

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MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

Malfunction area	Reference
Main line between steering angle main control module and ADAS control unit	LAN-220. "Diagnosis Procedure"
Main line between ADAS control unit and lane camera unit	LAN-222. "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
Steering angle main control module branch line circuit	LAN-268. "Diagnosis Procedure"
ADAS control unit branch line circuit (Chassis communication circuit)	LAN-252. "Diagnosis Procedure"
Lane camera unit branch line circuit	LAN-264. "Diagnosis Procedure"

SHORT CIRCUIT

Malfunction area	Reference
Chassis communication circuit	LAN-277. "Diagnosis Procedure"

Drivetrain CAN Communication Circuit

INFOID:000000013931973

Malfunction area	Reference
Drivetrain CAN communication circuit	LAN-279. "Diagnosis Procedure"

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013498354

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M40 and E25.
2. Check the continuity between the fuse block (J/B) harness connector and harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M40	37	Existed
	4C		38	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the fuse block (J/B) harness connector M133 and the harness connector M40.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

-
- YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).
- NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013498355

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.
NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

LAN

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013498356

1.CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ABS actuator and electric unit (control unit)
 - Harness connector E25 and M40
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E25	94	Existed
	15		95	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E25.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the combination meter.
2. Check the continuity between the harness connector and the combination meter harness connector.

Harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	94	M58	41	Existed
	95		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ABS actuator and electric unit (control unit) and the combination meter.

NO >> Repair the main line between the harness connector M40 and the combination meter.

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

Diagnosis Procedure

INFOID:000000013498357

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R (2.0L turbo gasoline engine models)
 - ECM (VR30DDTT engine models)
 - Combination meter
 - AFS control unit
4. Check the continuity between the combination meter harness connector and the AFS control unit harness connector.

Combination meter harness connector		AFS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M4	1	Existed
	42		13	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the AFS control unit.

NO >> Repair the main line between the combination meter and the AFS control unit.

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MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013498358

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

MAIN LINE BETWEEN AFS AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AFS AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013498359

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R
 - AFS control unit
 - EMCM
4. Check the continuity between the AFS control unit harness connector and the EMCM harness connector.

AFS control unit harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M147	9	Existed
	13		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the EMCM.

NO >> Repair the main line between the AFS control unit and the EMCM.

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MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013498360

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M19
 - Harness connector B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B1	1	Existed
	25		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the EMCM and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013498361

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors M19
 - Harness connectors B18
 - Harness connectors B158
 - Harness connectors B159

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B158 and B159.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B158	6	Existed
	25		5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	6	B49	18	Existed
	5		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

YES (Past error)>>Error was detected in the main line between the EMCM and the active noise control unit harness connector.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND ANC CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN ICC AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013498362

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit.
 - Harness connectors B158 and B159.
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	6	Existed
	2		5	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	6	B49	18	Existed
	5		2	Existed

Is the inspection result normal?

- YES >> Check CAN system type decision again.
 YES (Past error)>>Error was detected in the main line between the ADAS control unit and the active noise control unit.
 NO >> Replace the body harness.

LAN

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013498363

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013498364

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

NO >> Repair the main line between the harness connector M22 and the data link connector.

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013498365

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

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MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013498366

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013613481

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

NO >> Replace the fuse block (J/B).

MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013613692

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

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MAIN LINE BETWEEN AFS AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AFS AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013613696

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AFS control unit
 - Display control unit
4. Check the continuity between the AFS control unit harness connector and the display control unit harness connector.

AFS control unit harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M100	29	Existed
	13		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the display control unit.

NO >> Repair the main line between the AFS control unit and display control unit.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013613787

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

LAN

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013613795

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013613797

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering angle sensor.
2. Check the continuity between the harness connector and the steering angle sensor harness connector.

Harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M77	5	Existed
	53		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering angle sensor.

NO >> Repair the main line between the harness connector M22 and the steering angle sensor.

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013613576

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering force control module.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013498367

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013498368

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

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MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013613579

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors E25
 - Harness connectors M40
 - Harness connectors M19
 - Harness connectors B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle main control module
 - Harness connector E25 and M40
2. Check the continuity between the steering angle main control module harness connector and the harness connector.

Steering angle main control module harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E26	14	E25	51	Existed
	15		52	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle main control module and the harness connector E25.

3. CHECK THE CONNECTOR

1. Disconnect the harness connector M19 and B18.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	51	M19	74	Existed
	52		75	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair main line between harness connector M40 and M19.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	74	B1	8	Existed
	75		9	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle main control module and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ICC AND LANE CIRCUIT

Diagnosis Procedure

INFOID:000000013613582

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B18
 - Harness connector M19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect following harness connectors.
 - ADAS control unit.
 - Harness connectors B18 and M19
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	8	B18	84	Existed
	9		85	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M159 and R15.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M19	84	M159	12	Existed
	85		32	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the lane camera unit.

NO >> Repair the main line between the harness connectors M19 and the lane camera unit.

MAIN LINE BETWEEN AV AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AV AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013929571

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M22
 - Harness connector B62

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Display control unit
 - Harness connectors M22 and B62
2. Check the continuity between the display control unit harness connector and the harness connector.

Display control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M100	29	M22	55	Existed
	17		56	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the display control unit and the harness connector M22.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B62	55	B49	18	Existed
	56		2	Existed

Is the inspection result normal?

YES >> Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the display control unit and the active noise control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN ADP AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ADP AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013929565

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors B37
 - Harness connectors B72

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors B600 and B12
 - Harness connectors B37 and B72
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B37	4	Existed
	17		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B50	27	Existed
	3		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND EPS/DAST 3 CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN AVM AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013929566

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connectors B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	63	Existed
	28		53	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the steering force control module harness connector.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
 YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the steering force control module.
 NO >> Repair the main line between the harness connector M22 and the steering force control module.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795128

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795125

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000012795126

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000012795127

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795124

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013613779

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795145

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795136

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000012795130

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000012795131

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795132

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795133

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

AFS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795134

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.
2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M4	1	13	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the AFS control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to [EXL-164, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-221, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the AFS control unit branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795135

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013498935

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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HBA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

HBA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795137

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Auto anti- dazzling inside mirror (High beam assist control module)
 - Harness connector R15
 - Harness connector M159

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of auto anti - dazzling inside mirror (High beam assist control module).
2. Check the resistance between the auto anti - dazzling inside mirror (High beam assist control module) harness connector terminals.

Auto anti - dazzling inside mirror (High beam assist control module) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R9	12	11	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the anti - dazzling inside mirror (High beam assist control module) branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the anti - dazzling inside mirror (High beam assist control module). Refer to [EXL-164. "HIGH BEAM ASSIST CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the inside mirror. Refer to the following.

- With automatic drive positioner system: [MIR-47. "Removal and Installation"](#)
- Without automatic drive positioner system: [MIR-73. "Removal and Installation"](#)

YES (Past error)>>Error was detected in the anti - dazzling inside mirror (High beam assist control module) branch line.

NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795138

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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ANC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013498936

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the active noise control unit branch line.
NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795139

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60 59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795141

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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PSB BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795142

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Pre-crash seat belt control unit (driver side)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of pre-crash seat belt control unit (driver side).
3. Check the resistance between the pre-crash seat belt control unit (driver side) harness connector terminals.

Pre-crash seat belt control unit (driver side) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B97	14	4	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the pre-crash seat belt control unit (driver side) branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the pre-crash seat belt control unit (driver side). Refer to [SBC-66, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SBC-80, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the pre-crash seat belt control unit (driver side) branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000012795143

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013613853

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795146

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000012795147

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795148

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795140

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795149

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795150

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795151

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795152

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795153

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795157

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Lane camera unit
 - Harness connector R15
 - Harness connector M159
 - Chassis control module (With direct adaptive steering)

Is the inspection result normal?

- YES-1 >> With direct adaptive steering: GO TO 2.
YES-2 >> Without direct adaptive steering: GO TO 3.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module (With direct adaptive steering).
2. Disconnect the connector of lane camera unit.
3. Check the resistance between the lane camera unit harness connector terminals.
 - 2.0L turbo gasoline engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R1	4	8	Approx. 54 – 66

- VR30DDTT engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R13	4	8	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the lane camera unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to [DAS-798, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the lane camera unit. Refer to [DAS-808, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the lane camera unit branch line.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795155

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000012795154

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013613635

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle main control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467](#), "[Diagnosis Procedure](#)".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493](#), "[Removal and Installation](#)".

YES (Past error)>>Error was detected in the steering angle main control module branch line.

NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000012795158

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000012795159

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000012795160

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000012795162

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7	Not existed	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CHASSIS COMMUNICATION CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013613662

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

6. CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Replace the chassis control module.

7. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.

NOTE:

Chassis control module has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013931791

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000013521680

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery or batteries, and wait at least 3 minutes before performing any service.

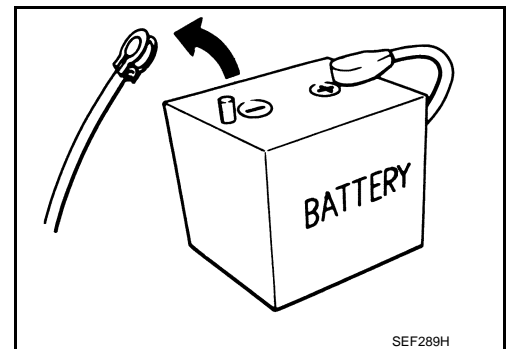
Precautions for Removing Battery Terminal

INFOID:000000013521681

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	V9X engine	: 4 minutes
D4D engine	: 20 minutes	YD25DDTi	: 2 minutes
HR09DET	: 12 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		



NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:

PRECAUTIONS

< PRECAUTION >

[CAN GATEWAY]

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
 - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
 - Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

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NOTE:

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If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

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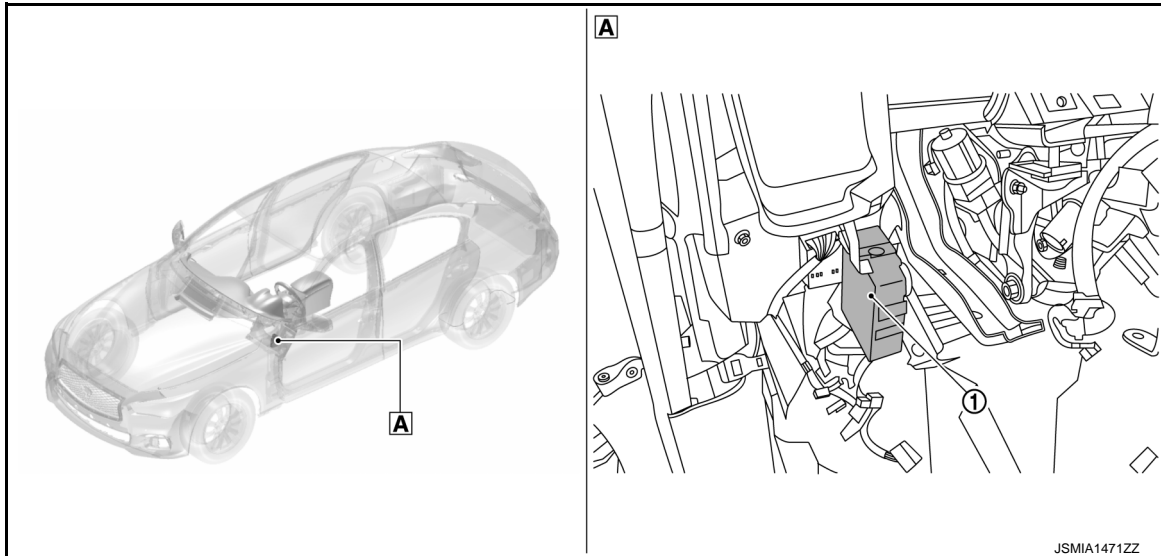
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000012795165



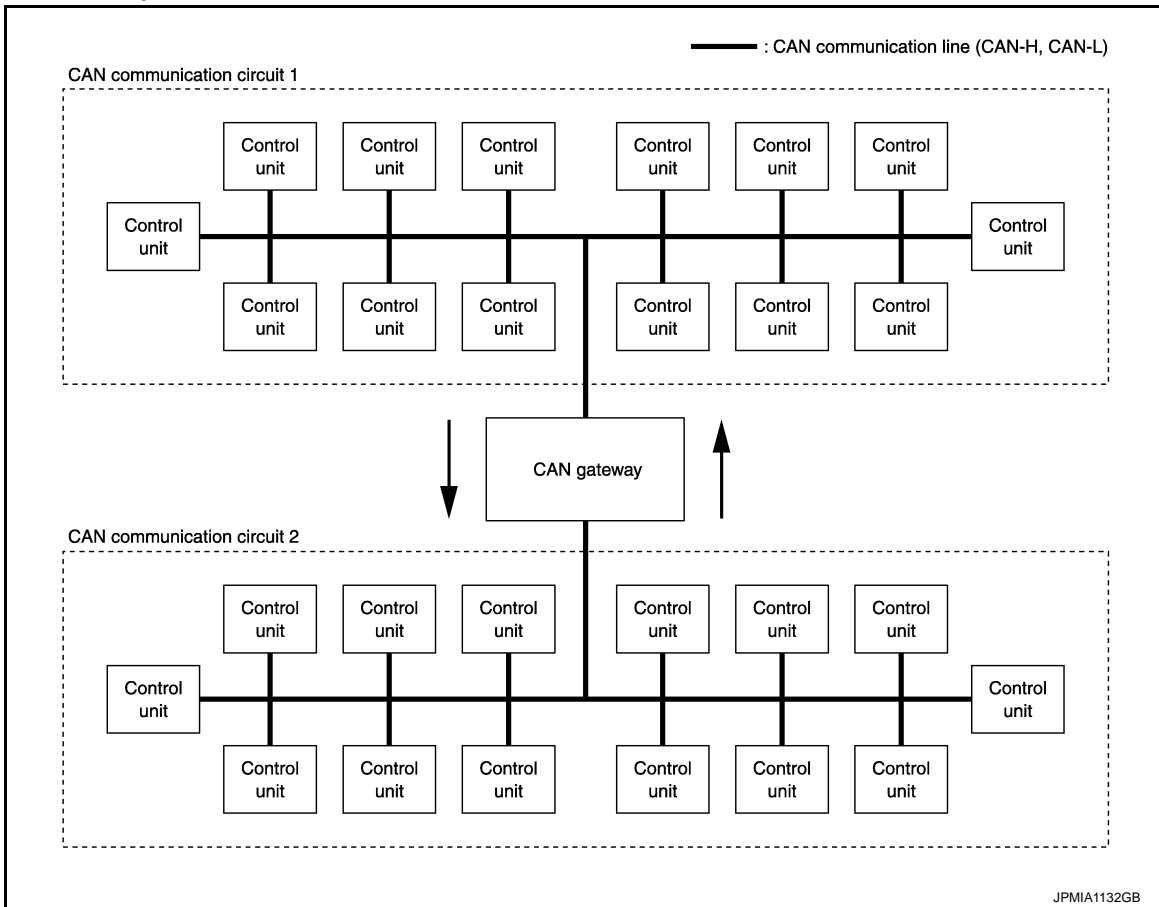
① CAN gateway

A Over the instrument lower panel

SYSTEM

System Description

INFOID:000000012795166



- The CAN gateway system communicates between two CAN communication circuits.
- This system selects and transmits only necessary information.

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DIAGNOSIS SYSTEM (CAN GATEWAY)

< SYSTEM DESCRIPTION >

[CAN GATEWAY]

DIAGNOSIS SYSTEM (CAN GATEWAY)

CONSULT Function

INFOID:000000012795167

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with CAN gateway.

Diagnosis mode	Function Description
Self Diagnostic Result	Displays the diagnosis results judged by CAN gateway.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.
ECU Identification	The CAN gateway part number is displayed.
Configuration	<ul style="list-style-type: none">• Reads and saves the vehicle specification (Type ID).• Writes the vehicle specification (Type ID) when replacing CAN gateway.

SELF DIAGNOSTIC RESULT

Refer to [LAN-285, "DTC Index"](#).

- When "CRNT" is displayed on "Self Diagnostic Result"
 - The system is presently malfunctioning.
- When "PAST" is displayed on "Self Diagnostic Result"
 - System malfunction in the past is detected, but the system is presently normal.

Freeze Frame Data (FFD)

When DTC is detected, a vehicle state shown below is recorded and displayed on CONSULT.

Item name	Display item
IGN COUNTER (0 – 39)	<p>The number of times that ignition switch is turned ON after the DTC is detected is displayed.</p> <ul style="list-style-type: none">• When "0" is displayed: It indicates that the system is presently malfunctioning.• When except "0" is displayed: It indicates that system malfunction in the past is detected, but the system is presently normal. <p>NOTE: Each time when ignition switch is turned OFF to ON, numerical number increases in 1 → 2 → 3...38 → 39. When the operation number of times exceeds 39, the number do not increase and "39" is displayed until self-diagnosis result is erased.</p>

CAN DIAG SUPPORT MONITOR

The results of transmit/receive diagnosis of CAN communication can be read.

ECU IDENTIFICATION

The part number of CAN gateway is displayed.

CONFIGURATION

Configuration includes functions as follows.

Function	Description
Read / Write Configuration	Before Replace ECU <ul style="list-style-type: none">• Reads the vehicle configuration (Type ID) of current CAN gateway.• Saves the read vehicle configuration (Type ID).
	After Replace ECU <ul style="list-style-type: none">• Writes the vehicle configuration (Type ID) with saved data.
Manual Configuration	Writes the vehicle configuration (Type ID) with manual selection.

CAUTION:

Follow the instructions listed below. Failure to do this may cause malfunctions to the CAN gateway.:

- When replacing CAN gateway, you must perform "Read / Write Configuration" or "Manual Configuration" with CONSULT.
- Complete the procedure of "Read / Write Configuration" or "Manual Configuration" in order.
- If incorrect "Read / Write Configuration" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "Read / Write Configuration" or "Manual Configuration" except for new CAN gateway.

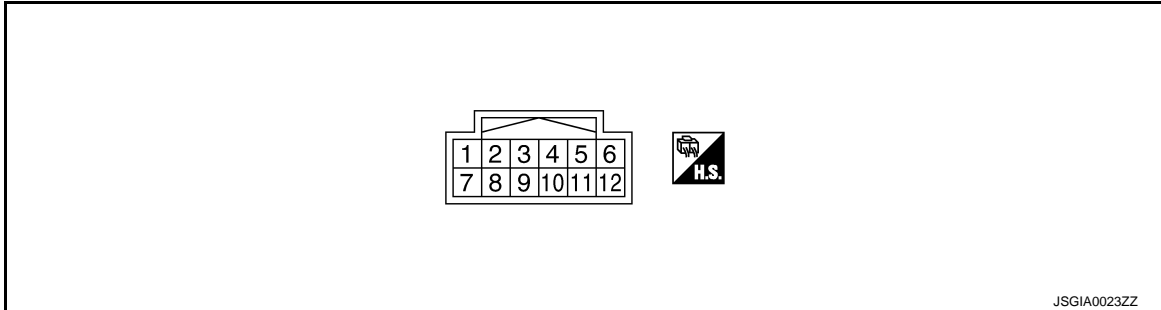
ECU DIAGNOSIS INFORMATION

CAN GATEWAY

Reference Value

INFOID:0000000012795168

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Standard	Reference value
+	-	Signal name	Input/ Output			
1 (L)	—	CAN-H (CAN communication circuit 1)	Input/ Output	—	—	—
3 (W)	5 (B) 11 (B)	Battery power supply	Input	Ignition switch OFF	6 – 16 V	Battery voltage
4 (L)	—	CAN-H (CAN communication circuit 2)	Input/ Output	—	—	—
6 (L)	—	CAN-H (CAN communication circuit 2)	Input/ Output	—	—	—
7 (P)	—	CAN-L (CAN communication circuit 1)	Input/ Output	—	—	—
9 (W) ^{*1} (R) ^{*2}	5 (B) 11 (B)	Ignition power supply	Input	Ignition switch ON	4.5 – 16 V	Battery voltage
10 (R)	—	CAN-L (CAN communication circuit 2)	Input/ Output	—	—	—
12 (R)	—	CAN-L (CAN communication circuit 2)	Input/ Output	—	—	—

*1: Except VR30DDTT engine models and models without stop/start system

*2: VR30DDTT engine models and models without stop/start system

DTC Inspection Priority Chart

INFOID:0000000012795169

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	<ul style="list-style-type: none"> B2600: CONFIG ERROR U1010: CONTROL UNIT(CAN)
2	U1000: CAN COMM CIRCUIT

DTC Index

INFOID:0000000012795170

CAN GATEWAY

< ECU DIAGNOSIS INFORMATION >

[CAN GATEWAY]

DTC	CONSULT display		Reference
—	No DTC is detected. Further testing may be required.		—
U1000	CAN COMM CIRCUIT		LAN-292. "DTC Description"
U1010	CONTROL UNIT(CAN)		LAN-293. "DTC Description"
B2600	CONFIG ERROR	WRONG DATA	LAN-294. "DTC Description"
		NOT CONFIGURED	

CAN GATEWAY SYSTEM

< WIRING DIAGRAM >

[CAN GATEWAY]

WIRING DIAGRAM

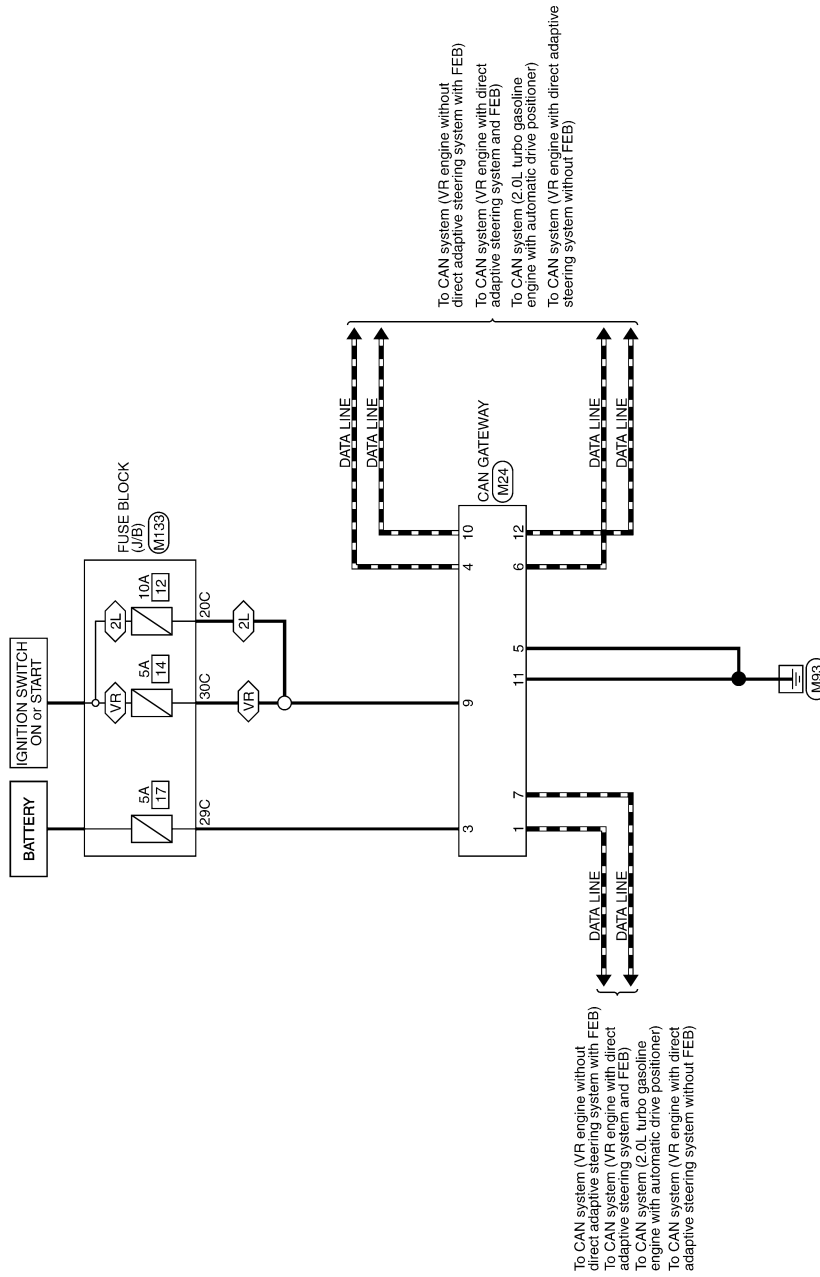
CAN GATEWAY SYSTEM

Wiring Diagram

INFOID:0000000012795171

CAN GATEWAY SYSTEM

2L : 2.0L Turbo gasoline engine
VR : With VR engine



2016/02/15

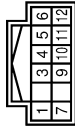
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CAN GATEWAY SYSTEM

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY (With V630 engine and without IIS)
W	W	IGNITION POWER SUPPLY (Except with V630 engine and without IIS)
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)



Connector No.	M133
Connector Name	FUSE BLOCK (I/B)
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	V	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]

18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With V630 engine]
34C	R	- [With 2.0L turbo gasoline engine]
35C	WB	-
36C	SB	-
37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-
6C	G	-
7C	G	-
8C	G	-
9C	V	-

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

Description

INFOID:000000012795172

For work procedure, refer to [LAN-289, "Work Procedure"](#).

BEFORE REPLACEMENT

When replacing CAN gateway, save or print current vehicle specification (Type ID) with CONSULT configuration before replacement.

NOTE:

If "Before Replace ECU" of "Read / Write Configuration" can not be used, use the "Manual Configuration" after replacing CAN gateway.

AFTER REPLACEMENT

CAUTION:

Follow the instructions listed below. Failure to do this may cause malfunctions to the CAN gateway.:

- When replacing CAN gateway, you must perform "Read / Write Configuration" or "Manual Configuration" with CONSULT.
- Complete the procedure of "Read / Write Configuration" or "Manual Configuration" in order.
- If incorrect "Read / Write Configuration" or "Manual Configuration", incidents might occur.
- Never perform "Read / Write Configuration" or "Manual Configuration" except for new CAN gateway.

Work Procedure

INFOID:000000012795173

1. SAVING VEHICLE SPECIFICATION

 CONSULT Configuration

Perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification (Type ID). Refer to [LAN-290, "Work Procedure \(Before Replacement\)"](#).

NOTE:

If "Before Replace ECU" of "Read / Write Configuration" can not be used, use the "Manual Configuration" after replacing CAN gateway.

>> GO TO 2.

2. REPLACE CAN GATEWAY

Replace CAN gateway. Refer to [LAN-297, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

 CONSULT Configuration

Perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" to write vehicle specification (Type ID). Refer to [LAN-290, "Work Procedure \(After Replacement\)"](#).

>> GO TO 4.

4. CHECK ALL ECU SELF-DIAGNOSIS RESULTS

1. Erase all ECU self-diagnosis results using CONSULT.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON and wait for 2 seconds or more.
4. Check that all ECU self-diagnosis results have no DTC (e.g. U1000 and U1001) of CAN communication.

>> WORK END

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CONFIGURATION (CAN GATEWAY)

Work Procedure (Before Replacement)

INFOID:000000012795174

1. CHECKING TYPE ID (1)

1. Use FAST (service parts catalogue) to search CAN gateway of the applicable vehicle and find "Type ID".
2. Print out "Type ID".

>> GO TO 2.

2. CHECKING TYPE ID (2)

ⓐ CONSULT Configuration

1. Select "Before Replace ECU" of "Read/Write Configuration".
2. Check that "Type ID" is displayed on the CONSULT screen.

Is "Type ID" displayed?

YES >> GO TO 3.

NO >> WORK END (Use the "Manual Configuration" after replacing CAN gateway.)

3. VERIFYING TYPE ID (1)

ⓐ CONSULT Configuration

Compare a "Type ID" displayed on the CONSULT screen with the one searched by using FAST (service parts catalogue) to check that these "Type ID" agree with each other.

NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 4.

4. SAVING TYPE ID

ⓐ CONSULT Configuration

Save "Type ID" on CONSULT.

>> WORK END

Work Procedure (After Replacement)

INFOID:000000012795175

CAUTION:

- Use "Manual Configuration" only when "TYPE ID" of CAN gateway cannot be read.
- If an error occurs during configuration, start over from the beginning.

1. CHECKING THAT "TYPE ID" IS SAVED ON CONSULT

Check that "TYPE ID" is saved on CONSULT.

Is "TYPE ID" saved on CONSULT?

YES >> GO TO 2.

NO >> GO TO 3.

2. WRITING (AUTOMATIC WRITING)

ⓐ CONSULT Configuration

1. Select "After Replace ECU" of "Re/programming, Configuration" or that of "Read / Write Configuration".
2. Select the "Type ID" agreeing with the one stored on CONSULT and the one searched by using FAST (service parts catalogue) to write the "Type ID" into the CAN gateway.

NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 4.

3. WRITING (MANUAL WRITING)

ⓐ CONSULT Configuration

CONFIGURATION (CAN GATEWAY)

< BASIC INSPECTION >

[CAN GATEWAY]

1. Select "Manual Configuration".
2. Select the "Type ID" searched by using FAST (service parts catalogue) to write the "Type ID" into the CAN gateway.

NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 4.

4. VERIFYING TYPE ID (2)

Compare "Type ID" written into the CAN gateway with the one searched by using FAST (service parts catalogue) to check that these "Type ID" agree with each other.

NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> WORK END

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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000012795176

DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-67, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart \(2.0L Turbo Gasoline Engine Models\)"](#) (Except for VR30DDTT engine models) or [LAN-73, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart \(VR30DDTT Engine Models\)"](#) (For VR30DDTT engine models).

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1000	CAN COMM CIRCUIT (CAN communication circuit)	When CAN gateway cannot communicate CAN communication signal continuously for 2 seconds or more.

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

Only the CAN signal transmission of control unit which cannot communicate cannot be transmitted

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓟ With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds or more.
2. Select "Self Diagnostic Result" mode of "CAN GATEWAY" using CONSULT.
3. Check DTC.

Is DTC U1000 detected?

- YES >> Proceed to [LAN-292, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: [GI-45, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012795177

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [LAN-292, "DTC Description"](#).
4. Check DTC.

Is DTC U1000 displayed?

- YES >> Perform trouble diagnosis procedure for CAN communication system. Refer to [LAN-41, "Trouble Diagnosis Flow Chart"](#).
- NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:000000012795178

DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-67, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart \(2.0L Turbo Gasoline Engine Models\)"](#) (Except for VR30DDTT engine models) or [LAN-73, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart \(VR30DDTT Engine Models\)"](#) (For VR30DDTT engine models).

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	When an error is detected during the initial diagnosis for CAN controller of CAN gateway.

POSSIBLE CAUSE

CAN gateway

FAIL-SAFE

Transmission and reception of the signal between CAN communication circuit 1 and CAN communication circuit 2 are stopped

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds or more.
2. Select "Self Diagnostic Result" mode of "CAN GATEWAY" using CONSULT.
3. Check DTC.

Is DTC U1010 detected?

- YES >> Proceed to [LAN-293, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: [GI-45, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000012795179

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [LAN-293, "DTC Description"](#).
4. Check DTC.

Is DTC U1010 displayed?

- YES >> Replace CAN gateway. Refer to [LAN-297, "Removal and Installation"](#).
- NO >> INSPECTION END

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B2600 CONFIG ERROR**DTC Description**

INFOID:000000012795180

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)		Detecting condition
B2600	CONFIG ERROR (Configuration error)	WRONG DATA (Wrong data)	When errors are detected in the configuration data stored in the CAN gateway.
		NOT CONFIGURED (Not configured)	When no data are stored in the CAN gateway.

POSSIBLE CAUSE

CAN gateway

FAIL-SAFE

Transmission and reception of the signal between CAN communication circuit 1 and CAN communication circuit 2 are stopped

DTC CONFIRMATION PROCEDURE**1.PERFORM DTC CONFIRMATION PROCEDURE**

④With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds or more.
2. Select "Self Diagnostic Result" mode of "CAN GATEWAY" using CONSULT.
3. Check DTC.

Is DTC B2600 detected?YES-1 ("CONFIG ERROR WRONG DATA" is detected.)>>Proceed to [LAN-294, "WRONG DATA : Diagnosis Procedure"](#).YES-2 ("CONFIG ERROR NOT CONFIGURED" is detected.)>>Proceed to [LAN-294, "NOT CONFIGURED : Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: [GI-45, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

WRONG DATA**WRONG DATA : Diagnosis Procedure**

INFOID:000000012795181

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [LAN-294, "DTC Description"](#).
4. Check DTC.

Is DTC B2600 displayed?YES >> Replace CAN gateway. Refer to [LAN-297, "Removal and Installation"](#).

NO >> INSPECTION END

NOT CONFIGURED**NOT CONFIGURED : Diagnosis Procedure**

INFOID:000000012795182

1.PERFORM CONFIGURATION OF CAN GATEWAYPerform CAN gateway Configuration. Refer to [LAN-289, "Description"](#).

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

1. Turn ignition switch ON.

B2600 CONFIG ERROR

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

2. Perform DTC confirmation procedure again. Refer to [LAN-294, "DTC Description"](#).
3. Check DTC.

Is DTC B2600 displayed?

- YES >> Replace CAN gateway. Refer to [LAN-297, "Removal and Installation"](#).
NO >> INSPECTION END

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000012795183

1. CHECK FUSE

Check that the following fuse are not blown.

Signal name	Fuse No.
Battery power supply	17
Ignition power supply (2.0L turbo gasoline engine models)	12
Ignition power supply (VR30DDTT engine models)	14

Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the connector of CAN gateway.
3. Check voltage between CAN gateway harness connector and ground.

Terminals		Condition	Voltage (Standard)	Voltage (Reference value)
(+)	(-)			
CAN gateway		Ignition switch		
Connector	Terminal			
M24	3	OFF	6 – 16 V	Battery voltage
	9	ON	4.5 – 16 V	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M24	5		Existed
	11		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

REMOVAL AND INSTALLATION

CAN GATEWAY

Removal and Installation

INFOID:000000012795184

NOTE:

Before replacing CAN gateway, perform “Before Replace ECU” of “Read / Write Configuration” to save or print current vehicle specification (Type ID). Refer to [LAN-289, "Description"](#).

REMOVAL

1. Remove instrument lower panel LH. Refer to [IP-13, "Removal and Installation"](#).
2. Disconnect CAN gateway connector.
3. Remove mounting screw to remove CAN gateway.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

To prevent malfunction, be sure to perform “After Replace ECU” of “Read / Write Configuration” or “Manual Configuration” when replacing CAN gateway. Refer to [LAN-289, "Description"](#).

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MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013499343

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M40 and E25.
2. Check the continuity between the fuse block (J/B) harness connector and harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M40	37	Existed
	4C		38	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the fuse block (J/B) harness connector M133 and the harness connector M40.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

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MAIN LINE BETWEEN ABS AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499344

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ABS actuator and electric unit (control unit)
 - Harness connector E25 and M40
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E25	94	Existed
	15		95	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the combination meter.
2. Check the continuity between the harness connector and the combination meter harness connector.

Harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	94	M58	41	Existed
	95		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ABS actuator and electric unit (control unit) and the combination meter.

NO >> Repair the main line between the harness connector M40 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499347

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499350

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M19
 - Harness connector B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B1	1	Existed
	25		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the EMCM and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN ICC AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013499352

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit.
 - Harness connectors B158 and B159.
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	6	Existed
	2		5	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	6	B49	18	Existed
	5		2	Existed

Is the inspection result normal?

- YES >> Check CAN system type decision again.
 YES (Past error)>>Error was detected in the main line between the ADAS control unit and the active noise control unit.
 NO >> Replace the body harness.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499353

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499354

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499355

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499356

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499357

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499358

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499359

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499362

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499363

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

ANC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499367

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the active noise control unit branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499368

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499370

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499371

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499372

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499373

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499374

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932223

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499375

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M40 and E25.
2. Check the continuity between the fuse block (J/B) harness connector and harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M40	37	Existed
	4C		38	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the fuse block (J/B) harness connector M133 and the harness connector M40.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

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MAIN LINE BETWEEN ABS AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499377

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ABS actuator and electric unit (control unit)
 - Harness connector E25 and M40
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E25	94	Existed
	15		95	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the combination meter.
2. Check the continuity between the harness connector and the combination meter harness connector.

Harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	94	M58	41	Existed
	95		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ABS actuator and electric unit (control unit) and the combination meter.

NO >> Repair the main line between the harness connector M40 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499378

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499379

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M19
 - Harness connector B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B1	1	Existed
	25		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the EMCM and the ADAS control unit.

NO >> Replace the body harness.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499381

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499382

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499383

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499384

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499385

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499387

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499388

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499389

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499390

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499391

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499392

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499394

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499395

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499396

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499397

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932224

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013499398

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499400

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013499401

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors M19
 - Harness connectors B18
 - Harness connectors B158
 - Harness connectors B159

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B158 and B159.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B158	6	Existed
	25		5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	6	B49	18	Existed
	5		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

YES (Past error)>>Error was detected in the main line between the EMCM and the active noise control unit harness connector.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499403

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013499404

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499405

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

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MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499406

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499408

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the IPDM E/R branch line.
 NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499409

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499410

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499411

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499412

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499413

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499414

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499415

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499416

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499417

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499419

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499420

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

ANC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499421

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the active noise control unit branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499422

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499423

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499424

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499427

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499428

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499429

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499436

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000013499437

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932225

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013499439

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499440

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499455

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499456

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499457

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

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MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499458

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499464

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the IPDM E/R branch line.
NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499469

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499470

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499471

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499472

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499473

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499474

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499475

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499476

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499477

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499479

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499480

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the EMCM branch line.
 NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499481

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499482

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

- YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.
 YES-2 >> VR30DDTT engine without FEB models: GO TO 3.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.
 NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the driver seat control unit branch line.
 NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499484

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499485

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499486

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499487

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499488

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499489

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932226

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499491

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499492

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499495

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499496

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

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MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499497

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499498

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499499

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499500

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499501

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499502

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499503

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499504

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499505

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499506

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499507

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499508

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499509

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499510

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499511

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the TCU branch line.
 NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499512

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499513

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499514

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499515

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499516

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499517

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499518

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499519

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932227

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499520

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499521

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499522

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499523

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

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MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499524

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499525

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013499526

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013499527

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499528

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499529

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499530

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499531

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499532

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
- NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the steering force control module branch line.
- NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499533

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499534

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499535

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499536

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499537

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499543

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499544

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the EMCM branch line.
 NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499548

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499552

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499553

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499558

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499564

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499565

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499566

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499567

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499568

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the side radar RH branch line.
 NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499569

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499570

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M124	3	9	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).
 YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.
 NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499571

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499580

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499581

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499582

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499583

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499584

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		
	7		Not existed

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Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

C

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

D

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

E
F

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

G
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Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

I

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

J

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

K

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

L

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

N

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

O

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932228

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499585

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND AFS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

Diagnosis Procedure

INFOID:000000013499586

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R (2.0L turbo gasoline engine models)
 - ECM (VR30DDTT engine models)
 - Combination meter
 - AFS control unit
4. Check the continuity between the combination meter harness connector and the AFS control unit harness connector.

Combination meter harness connector		AFS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M4	1	Existed
	42		13	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the AFS control unit.

NO >> Repair the main line between the combination meter and the AFS control unit.

MAIN LINE BETWEEN AFS AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN AFS AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499587

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R
 - AFS control unit
 - EMCM
4. Check the continuity between the AFS control unit harness connector and the EMCM harness connector.

AFS control unit harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M147	9	Existed
	13		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the EMCM.

NO >> Repair the main line between the AFS control unit and the EMCM.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499588

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013499589

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499590

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

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MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499591

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013499592

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013499593

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499594

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499595

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499596

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499597

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.
 NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the ECM. Refer to the following.
- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
 - VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
 - VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

- NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499598

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499599

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499600

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499601

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499602

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499603

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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AFS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499604

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.
2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M4	1	13	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the AFS control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to [EXL-164, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-221, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the AFS control unit branch line.
NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499605

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499606

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

HBA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

HBA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499607

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Auto anti- dazzling inside mirror (High beam assist control module)
 - Harness connector R15
 - Harness connector M159

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of auto anti - dazzling inside mirror (High beam assist control module).
2. Check the resistance between the auto anti - dazzling inside mirror (High beam assist control module) harness connector terminals.

Auto anti - dazzling inside mirror (High beam assist control module) harness connector		Resistance (Ω)
Connector No.	Terminal No.	
R9	12	Approx. 54 – 66
	11	

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the anti - dazzling inside mirror (High beam assist control module) branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the anti - dazzling inside mirror (High beam assist control module). Refer to [EXL-164. "HIGH BEAM ASSIST CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the inside mirror. Refer to the following.
- With automatic drive positioner system: [MIR-47. "Removal and Installation"](#)
 - Without automatic drive positioner system: [MIR-73. "Removal and Installation"](#)
- YES (Past error)>>Error was detected in the anti - dazzling inside mirror (High beam assist control module) branch line.
- NO >> Repair the power supply and the ground circuit.

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TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499608

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499609

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499610

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499611

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Pre-crash seat belt control unit (driver side)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of pre-crash seat belt control unit (driver side).
3. Check the resistance between the pre-crash seat belt control unit (driver side) harness connector terminals.

Pre-crash seat belt control unit (driver side) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B97	14	4	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> Repair the pre-crash seat belt control unit (driver side) branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the pre-crash seat belt control unit (driver side). Refer to [SBC-66, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SBC-80, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the pre-crash seat belt control unit (driver side) branch line.
 NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499612

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499613

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499614

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499615

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499616

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar LH branch line.
NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499617

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the side radar RH branch line.
 NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499618

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499619

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499620

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499621

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Lane camera unit
 - Harness connector R15
 - Harness connector M159
 - Chassis control module (With direct adaptive steering)

Is the inspection result normal?

- YES-1 >> With direct adaptive steering: GO TO 2.
YES-2 >> Without direct adaptive steering: GO TO 3.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module (With direct adaptive steering).
2. Disconnect the connector of lane camera unit.
3. Check the resistance between the lane camera unit harness connector terminals.
 - 2.0L turbo gasoline engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R1	4	8	Approx. 54 – 66

- VR30DDTT engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R13	4	8	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the lane camera unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to [DAS-798, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the lane camera unit. Refer to [DAS-808, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the lane camera unit branch line.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499622

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499623

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499624

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector			Continuity
Connector No.	Terminal No.		
M25	6	14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499625

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499626

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932229

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499627

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M40 and E25.
2. Check the continuity between the fuse block (J/B) harness connector and harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M40	37	Existed
	4C		38	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the fuse block (J/B) harness connector M133 and the harness connector M40.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499628

1.CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ABS actuator and electric unit (control unit)
 - Harness connector E25 and M40
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E25	94	Existed
	15		95	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E25.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the combination meter.
2. Check the continuity between the harness connector and the combination meter harness connector.

Harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	94	M58	41	Existed
	95		42	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the ABS actuator and electric unit (control unit) and the combination meter.
NO >> Repair the main line between the harness connector M40 and the combination meter.

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MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499629

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499630

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M19
 - Harness connector B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B1	1	Existed
	25		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the EMCM and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN ICC AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013499631

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit.
 - Harness connectors B158 and B159.
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	6	Existed
	2		5	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	6	B49	18	Existed
	5		2	Existed

Is the inspection result normal?

YES >> Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the active noise control unit.

NO >> Replace the body harness.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499632

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499633

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499634

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499635

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499636

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499637

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499638

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499639

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499640

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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ANC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499641

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the active noise control unit branch line.
NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499642

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the BCM branch line.
NO >> Repair the power supply and the ground circuit.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499643

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499644

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499645

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499646

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499647

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499648

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932230

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013499652

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M40 and E25.
2. Check the continuity between the fuse block (J/B) harness connector and harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M40	37	Existed
	4C		38	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the fuse block (J/B) harness connector M133 and the harness connector M40.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DLC AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

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MAIN LINE BETWEEN ABS AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN ABS AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499653

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ABS actuator and electric unit (control unit)
 - Harness connector E25 and M40
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E25	94	Existed
	15		95	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the combination meter.
2. Check the continuity between the harness connector and the combination meter harness connector.

Harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	94	M58	41	Existed
	95		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ABS actuator and electric unit (control unit) and the combination meter.

NO >> Repair the main line between the harness connector M40 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499654

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN EMCM AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499656

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M19
 - Harness connector B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B1	1	Existed
	25		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the EMCM and the ADAS control unit.

NO >> Replace the body harness.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499657

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the IPDM E/R branch line.
NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499658

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499659

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.
 NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the ECM. Refer to the following.
- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
 - VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
 - VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

- NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499660

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499661

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499662

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499663

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499664

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499665

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499666

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499667

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499668

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499669

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499670

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499671

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
 - Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499673

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932231

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499677

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499678

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013499679

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors M19
 - Harness connectors B18
 - Harness connectors B158
 - Harness connectors B159

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - EMCM
 - Harness connectors M19 and B18
2. Check the continuity between the EMCM harness connector and the harness connector.

EMCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M147	9	M19	15	Existed
	10		25	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the EMCM and the harness connector M19.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B158 and B159.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	15	B158	6	Existed
	25		5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	6	B49	18	Existed
	5		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EMCM AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

YES (Past error)>>Error was detected in the main line between the EMCM and the active noise control unit harness connector.

NO >> Replace the body harness.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499680

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499681

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

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MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499682

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499683

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499684

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499685

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499686

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499687

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499688

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499689

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499690

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499691

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499692

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499693

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499694

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499695

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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ANC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499696

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the active noise control unit branch line.
NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499697

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499698

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499699

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499700

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499701

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499702

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499703

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499704

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499705

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932232

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013499716

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499719

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499720

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499721

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499722

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

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MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499723

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499724

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499725

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499726

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499727

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499728

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499729

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499730

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).

NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499731

1.CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499732

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M88	1 21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499733

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499734

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499735

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499736

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60 59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499737

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499738

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499739

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499740

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499741

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499742

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499743

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000013499744

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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LAN

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 11)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932233

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013499745

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499746

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499747

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499748

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499749

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

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MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499750

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499751

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499752

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499753

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499754

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

LAN

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499755

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499756

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499757

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

LAN

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499758

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499759

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499760

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499761

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499762

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499763

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499764

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499765

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499766

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499767

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499768

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499769

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499770

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
 - Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499771

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499772

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 12)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932234

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499773

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN M&A AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499774

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - IPDM E/R
 - Combination meter
 - EMCM
2. Check the continuity between the combination meter harness connector and the EMCM harness connector.

Combination meter harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M147	9	Existed
	42		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the EMCM.

NO >> Repair the main line between the combination meter and the EMCM.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499775

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499776

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

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MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499777

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499778

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013499779

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013499780

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013499781

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499782

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499783

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499784

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499785

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499786

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499787

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499788

1.CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499789

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M88	1 21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499790

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499791

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499792

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499793

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499794

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499795

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499796

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499797

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499798

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499799

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499800

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
 - Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499801

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499802

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481. "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

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AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499803

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the around view monitor control unit branch line.
 NO >> Repair the power supply and the ground circuit.

APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499804

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M124	3	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

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BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499805

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482. "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499806

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

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LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499807

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3	Approx. 108 – 132
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499808

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499809

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499810

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 13)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932235

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

>> Perform diagnosis for each system. Refer to following.

- ECM: [EC4-146, "DTC Index"](#)
- Fuel pump control module: [EC4-159, "DTC Index"](#)
- TCM: [TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013499811

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

Diagnosis Procedure

INFOID:000000013499812

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R (2.0L turbo gasoline engine models)
 - ECM (VR30DDTT engine models)
 - Combination meter
 - AFS control unit
4. Check the continuity between the combination meter harness connector and the AFS control unit harness connector.

Combination meter harness connector		AFS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M4	1	Existed
	42		13	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the AFS control unit.

NO >> Repair the main line between the combination meter and the AFS control unit.

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MAIN LINE BETWEEN AFS AND EMCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN AFS AND EMCM CIRCUIT

Diagnosis Procedure

INFOID:000000013499813

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R
 - AFS control unit
 - EMCM
4. Check the continuity between the AFS control unit harness connector and the EMCM harness connector.

AFS control unit harness connector		EMCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M147	9	Existed
	13		10	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the EMCM.

NO >> Repair the main line between the AFS control unit and the EMCM.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013499814

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013499815

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B158
 - Harness connector B159
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connector B158 and B159
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B158	15	Existed
	2		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK THE CONNECTOR

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B159	15	B62	63	Existed
	14		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector and the data link connector.

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M25	13	Existed
	53		12	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the data link connector.

MAIN LINE BETWEEN ICC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

NO >> Repair the main line between the harness connector M22 and the data link connector.

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MAIN LINE BETWEEN DLC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN DLC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013499816

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering angle sensor
4. Check the continuity between the data link connector and the steering angle sensor harness connector.

Data link connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M77	5	Existed
	12		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the steering angle sensor.

NO >> Repair the main line between the data link connector and the steering angle sensor.

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN STRG AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000013499817

1. CHECK THE CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - CAN gateway
 - Harness connector M40
 - Harness connector E25

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle sensor
 - Harness connectors M40 and E25
2. Check the continuity between the steering angle sensor harness connector and the harness connector.

Steering angle sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M77	5	M40	37	Existed
	2		38	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle sensor and the harness connector M40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the ABS actuator and electric unit (control unit).
2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit).

Harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E25	37	E35	25	Existed
	38		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle sensor and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E25 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013499818

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013499819

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499820

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the IPDM E/R branch line.
 NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499821

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499822

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499823

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499824

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499825

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013499826

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).

NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013499827

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499828

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499829

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

AFS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499830

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.
2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M4	1	13	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the AFS control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to [EXL-164, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-221, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the AFS control unit branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499831

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

EMCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

EMCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499832

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the EMCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of EMCM.
2. Check the resistance between the EMCM harness connector terminals.

EMCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M147	9	10	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the EMCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the EMCM. Refer to [EC4-235, "EMCM : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the EMCM. Refer to [EC4-968, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the EMCM branch line.
NO >> Repair the power supply and the ground circuit.

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HBA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499833

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Auto anti- dazzling inside mirror (High beam assist control module)
 - Harness connector R15
 - Harness connector M159

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of auto anti - dazzling inside mirror (High beam assist control module).
2. Check the resistance between the auto anti - dazzling inside mirror (High beam assist control module) harness connector terminals.

Auto anti - dazzling inside mirror (High beam assist control module) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R9	12	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the anti - dazzling inside mirror (High beam assist control module) branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the anti - dazzling inside mirror (High beam assist control module). Refer to [EXL-164. "HIGH BEAM ASSIST CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the inside mirror. Refer to the following.
- With automatic drive positioner system: [MIR-47. "Removal and Installation"](#)
 - Without automatic drive positioner system: [MIR-73. "Removal and Installation"](#)
- YES (Past error)>>Error was detected in the anti - dazzling inside mirror (High beam assist control module) branch line.
- NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499834

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499835

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499836

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499837

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Pre-crash seat belt control unit (driver side)

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of pre-crash seat belt control unit (driver side).
3. Check the resistance between the pre-crash seat belt control unit (driver side) harness connector terminals.

Pre-crash seat belt control unit (driver side) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B97	14	4	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the pre-crash seat belt control unit (driver side) branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the pre-crash seat belt control unit (driver side). Refer to [SBC-66, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SBC-80, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the pre-crash seat belt control unit (driver side) branch line.
- NO >> Repair the power supply and the ground circuit.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499838

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499839

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013499840

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499841

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499842

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499843

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499844

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the side radar RH branch line.
 NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499845

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499846

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).
 YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.
 NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499847

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499848

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Lane camera unit
 - Harness connector R15
 - Harness connector M159
 - Chassis control module (With direct adaptive steering)

Is the inspection result normal?

- YES-1 >> With direct adaptive steering: GO TO 2.
YES-2 >> Without direct adaptive steering: GO TO 3.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module (With direct adaptive steering).
2. Disconnect the connector of lane camera unit.
3. Check the resistance between the lane camera unit harness connector terminals.
 - 2.0L turbo gasoline engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R1	4	8	Approx. 54 – 66

- VR30DDTT engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R13	4	8	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the lane camera unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to [DAS-798, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the lane camera unit. Refer to [DAS-808, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the lane camera unit branch line.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499849

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013499850

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013499851

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013499852

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013499853

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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DRIVETRAIN CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 14)]

DRIVETRAIN CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013932236

1. CHECK SELF-DIAGNOSIS RESULTS OF ECM, FUEL PUMP CONTROL MODULE AND TCM

When drivetrain CAN communication circuit has a malfunction, check "Self Diagnostic Result" of "ENGINE", "FPCM" and "TRANSMISSION".

- >> Perform diagnosis for each system. Refer to following.
- ECM: [EC4-146. "DTC Index"](#)
 - Fuel pump control module: [EC4-159. "DTC Index"](#)
 - TCM: [TM-102. "2.0L TURBO GASOLINE ENGINE : DTC Index"](#)

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013930240

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013930241

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

NO >> Replace the fuse block (J/B).

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013930242

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

MAIN LINE BETWEEN AV AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

MAIN LINE BETWEEN AV AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013930243

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M22
 - Harness connector B62

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Display control unit
 - Harness connectors M22 and B62
2. Check the continuity between the display control unit harness connector and the harness connector.

Display control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M100	29	M22	55	Existed
	17		56	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the display control unit and the harness connector M22.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B62	55	B49	18	Existed
	56		2	Existed

Is the inspection result normal?

YES >> Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the display control unit and the active noise control unit.

NO >> Replace the body No.2 harness.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930244

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930245

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930246

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930247

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930248

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930249

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930250

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930251

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930252

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930253

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the active noise control unit branch line.
 NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930254

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60 59	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the BCM branch line.
NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930255

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930256

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930257

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013930258

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 15)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013930513

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013930514

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

NO >> Replace the fuse block (J/B).

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013930515

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930517

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930518

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930519

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930520

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930521

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930522

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930523

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930524

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930525

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930527

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930528

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930529

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930530

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013930531

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 16)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013930532

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013930533

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

NO >> Replace the fuse block (J/B).

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013930534

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

MAIN LINE BETWEEN AV AND ANC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

MAIN LINE BETWEEN AV AND ANC CIRCUIT

Diagnosis Procedure

INFOID:000000013930535

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M22
 - Harness connector B62

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Display control unit
 - Harness connectors M22 and B62
2. Check the continuity between the display control unit harness connector and the harness connector.

Display control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M100	29	M22	55	Existed
	17		56	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the display control unit and the harness connector M22.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of active noise control unit.
2. Check the continuity between the harness connector and the active noise control unit harness connector.

Harness connector		Active noise control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B62	55	B49	18	Existed
	56		2	Existed

Is the inspection result normal?

YES >> Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the display control unit and the active noise control unit.

NO >> Replace the body No.2 harness.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930536

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930537

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930538

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.
 NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the ECM. Refer to the following.
- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
 - VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
 - VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930539

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930540

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

- YES-1 >> Without direct adaptive steering: GO TO 2.
 YES-2 >> With direct adaptive steering: GO TO 5.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.
 NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the power steering control module. Refer to the following.
 - 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
 - VR30DDTT engine models: [STC-109, "Removal and Installation"](#)
- YES (Past error)>>Error was detected in the power steering control module branch line.
 NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
- NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the steering force control module branch line.
- NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930541

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930542

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930543

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930544

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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ANC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

ANC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930545

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of active noise control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of active noise control unit.
2. Check the resistance between the active noise control unit harness connector terminals.

Active noise control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B49	18	2	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the active noise control unit. Refer to [AV-373, "ACTIVE NOISE CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the active noise control unit. Refer to [AV-429, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the active noise control unit branch line.
NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013930546

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930554

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930547

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930548

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930549

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

- YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.
- YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.
- NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line
- NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.
- NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013930550

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 17)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013614877

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

NO >> Replace the fuse block (J/B).

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013614878

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013614879

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614880

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614881

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614882

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614883

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614884

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614885

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614886

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614887

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614888

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614889

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614890

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

- YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.
 YES-2 >> VR30DDTT engine without FEB models: GO TO 3.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.
 NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the driver seat control unit branch line.
 NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013614891

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614892

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614893

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013614894

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 18)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013614895

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

NO >> Replace the fuse block (J/B).

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013614896

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013614897

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614898

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614899

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614900

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614901

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614902

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614903

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614904

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614905

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614906

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614907

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614908

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the BCM branch line.
 NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614909

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013614910

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614911

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013614912

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013614913

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 19)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013931724

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013931725

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013931726

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013931727

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

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MAIN LINE BETWEEN ADP AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

MAIN LINE BETWEEN ADP AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013931728

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors B37
 - Harness connectors B72

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors B600 and B12
 - Harness connectors B37 and B72
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B37	4	Existed
	17		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B50	27	Existed
	3		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

MAIN LINE BETWEEN AVM AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013931729

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connectors B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	63	Existed
	28		53	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the steering force control module harness connector.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931730

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013931731

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013931732

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931733

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931734

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931735

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931736

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013931737

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013931738

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931739

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931740

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

LAN

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931741

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931742

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931743

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013931744

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931745

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931746

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931747

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931748

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013931749

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle main control module branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle main control module branch line.

NO >> Repair the power supply and the ground circuit.

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LAN

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013931750

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013931751

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013931752

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 20)]

6. CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 7.
NO >> Replace the chassis control module.

7. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

- Reproduced >> GO TO 8.
Non-reproduced >> Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.
NOTE:
Chassis control module has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

- Reproduced >> Connect the connector. Check other units as per the above procedure.
Non-reproduced >> Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013626737

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

NO >> Replace the fuse block (J/B).

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013626738

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013626739

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013626740

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013626808

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013626809

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering angle sensor.
2. Check the continuity between the harness connector and the steering angle sensor harness connector.

Harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M77	5	Existed
	53		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering angle sensor.

NO >> Repair the main line between the harness connector M22 and the steering angle sensor.

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MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013626810

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:0000000013626811

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626496

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013626530

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000013626531

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626532

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626533

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626534

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
- NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the steering force control module branch line.
- NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626535

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000013626536

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

LAN

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013626537

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013626538

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626539

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626613

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626614

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the TCU branch line.
 NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013626615

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626616

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013626617

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:0000000013626618

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013626664

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626665

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626666

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626667

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626668

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481. "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013626669

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626670

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013626671

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626672

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013626673

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013626674

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013626675

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013626676

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		
	7		Not existed

A
B

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

C

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

D

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

E
F

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

G
H

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

I

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

J

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

K

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

L

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

N

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

O

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

P

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013626677

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 21)]

6. CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 7.
NO >> Replace the chassis control module.

7. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

- Reproduced>>GO TO 8.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.
NOTE:
Chassis control module has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

- Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013627380

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013627381

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013627382

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013627383

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013627384

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering force control module.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

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MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013627385

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013627386

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013627387

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

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MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013627388

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors E25
 - Harness connectors M40
 - Harness connectors M19
 - Harness connectors B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle main control module
 - Harness connector E25 and M40
2. Check the continuity between the steering angle main control module harness connector and the harness connector.

Steering angle main control module harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E26	14	E25	51	Existed
	15		52	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle main control module and the harness connector E25.

3. CHECK THE CONNECTOR

1. Disconnect the harness connector M19 and B18.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	51	M19	74	Existed
	52		75	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair main line between harness connector M40 and M19.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	74	B1	8	Existed
	75		9	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle main control module and the ADAS control unit.

NO >> Replace the body harness.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627389

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013627390

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013627391

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627392

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627393

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627394

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627395

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013627396

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013627397

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627398

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627399

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627400

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627401

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627402

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the BCM branch line.
 NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627403

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013627404

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013627405

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013627416

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627417

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627418

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
 - Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627419

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627420

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481. "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

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AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627421

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the around view monitor control unit branch line.
 NO >> Repair the power supply and the ground circuit.

APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627422

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M124	3	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

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BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627423

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482. "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627531

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M76	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

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LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627532

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3	Approx. 108 – 132
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627533

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle main control module branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle main control module branch line.

NO >> Repair the power supply and the ground circuit.

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LAN

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013627534

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
 2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
- 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013627535

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013627536

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7		Not existed

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Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

C

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

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ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

E
F

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

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Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

I

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

J

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

K

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

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1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

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NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

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Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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LAN

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013627537

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 22)]

6.CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 7.
NO >> Replace the chassis control module.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

- Reproduced>>GO TO 8.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.
NOTE:
Chassis control module has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

- Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013930574

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

Diagnosis Procedure

INFOID:000000013930575

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R (2.0L turbo gasoline engine models)
 - ECM (VR30DDTT engine models)
 - Combination meter
 - AFS control unit
4. Check the continuity between the combination meter harness connector and the AFS control unit harness connector.

Combination meter harness connector		AFS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M4	1	Existed
	42		13	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the AFS control unit.

NO >> Repair the main line between the combination meter and the AFS control unit.

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MAIN LINE BETWEEN AFS AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN AFS AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013930576

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AFS control unit
 - Display control unit
4. Check the continuity between the AFS control unit harness connector and the display control unit harness connector.

AFS control unit harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M100	29	Existed
	13		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the display control unit.

NO >> Repair the main line between the AFS control unit and display control unit.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000013930577

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013930578

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013930579

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering force control module.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013930580

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

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MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013930581

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013930582

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013930583

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors E25
 - Harness connectors M40
 - Harness connectors M19
 - Harness connectors B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle main control module
 - Harness connector E25 and M40
2. Check the continuity between the steering angle main control module harness connector and the harness connector.

Steering angle main control module harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E26	14	E25	51	Existed
	15		52	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle main control module and the harness connector E25.

3.CHECK THE CONNECTOR

1. Disconnect the harness connector M19 and B18.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	51	M19	74	Existed
	52		75	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair main line between harness connector M40 and M19.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	74	B1	8	Existed
	75		9	Existed

Is the inspection result normal?

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MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle main control module and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

MAIN LINE BETWEEN ICC AND LANE CIRCUIT

Diagnosis Procedure

INFOID:000000013930584

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B18
 - Harness connector M19

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect following harness connectors.
 - ADAS control unit.
 - Harness connectors B18 and M19
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	8	B18	84	Existed
	9		85	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M159 and R15.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M19	84	M159	12	Existed
	85		32	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
 YES (Past error)>>Error was detected in the main line between the ADAS control unit and the lane camera unit.
 NO >> Repair the main line between the harness connectors M19 and the lane camera unit.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930585

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013930586

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013930587

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930588

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.

NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930589

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930590

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930591

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013930592

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013930593

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930594

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M88	1 21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013930595

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
- NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the combination meter branch line.
- NO >> Repair the power supply and the ground circuit.

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AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930596

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.
2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M4	1	13	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the AFS control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to [EXL-164, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-221, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the AFS control unit branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930597

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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HBA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930598

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Auto anti- dazzling inside mirror (High beam assist control module)
 - Harness connector R15
 - Harness connector M159

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of auto anti - dazzling inside mirror (High beam assist control module).
2. Check the resistance between the auto anti - dazzling inside mirror (High beam assist control module) harness connector terminals.

Auto anti - dazzling inside mirror (High beam assist control module) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R9	12	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the anti - dazzling inside mirror (High beam assist control module) branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the anti - dazzling inside mirror (High beam assist control module). Refer to [EXL-164. "HIGH BEAM ASSIST CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the inside mirror. Refer to the following.
- With automatic drive positioner system: [MIR-47. "Removal and Installation"](#)
 - Without automatic drive positioner system: [MIR-73. "Removal and Installation"](#)
- YES (Past error)>>Error was detected in the anti - dazzling inside mirror (High beam assist control module) branch line.
- NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930600

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930601

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930602

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Pre-crash seat belt control unit (driver side)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of pre-crash seat belt control unit (driver side).
3. Check the resistance between the pre-crash seat belt control unit (driver side) harness connector terminals.

Pre-crash seat belt control unit (driver side) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B97	14	4	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> Repair the pre-crash seat belt control unit (driver side) branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the pre-crash seat belt control unit (driver side). Refer to [SBC-66, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SBC-80, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the pre-crash seat belt control unit (driver side) branch line.
 NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930603

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930604

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930605

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930606

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930607

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
 - Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930608

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930609

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481. "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

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AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930610

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the around view monitor control unit branch line.
 NO >> Repair the power supply and the ground circuit.

APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930611

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M124	3	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

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BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930612

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482. "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930613

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Lane camera unit
 - Harness connector R15
 - Harness connector M159
 - Chassis control module (With direct adaptive steering)

Is the inspection result normal?

- YES-1 >> With direct adaptive steering: GO TO 2.
YES-2 >> Without direct adaptive steering: GO TO 3.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module (With direct adaptive steering).
2. Disconnect the connector of lane camera unit.
3. Check the resistance between the lane camera unit harness connector terminals.
 - 2.0L turbo gasoline engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R1	4	8	Approx. 54 – 66

- VR30DDTT engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R13	4	8	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the lane camera unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to [DAS-798, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the lane camera unit. Refer to [DAS-808, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the lane camera unit branch line.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

NO >> Repair the power supply and the ground circuit.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930614

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M76	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

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LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930615

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930616

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle main control module branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle main control module branch line.

NO >> Repair the power supply and the ground circuit.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013930617

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector			Continuity
Connector No.	Terminal No.		
M25	6	14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013930618

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013930619

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		
	7		Not existed

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Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

C

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

D

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

E
F

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

G
H

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

I

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

J

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

K

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

L

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

N

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

O

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013930620

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 23)]

6.CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 7.
NO >> Replace the chassis control module.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

- Reproduced>>GO TO 8.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.
NOTE:
Chassis control module has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

- Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013627538

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

Diagnosis Procedure

INFOID:000000013627539

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R (2.0L turbo gasoline engine models)
 - ECM (VR30DDTT engine models)
 - Combination meter
 - AFS control unit
4. Check the continuity between the combination meter harness connector and the AFS control unit harness connector.

Combination meter harness connector		AFS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M4	1	Existed
	42		13	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the AFS control unit.

NO >> Repair the main line between the combination meter and the AFS control unit.

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MAIN LINE BETWEEN AFS AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN AFS AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013627540

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AFS control unit
 - Display control unit
4. Check the continuity between the AFS control unit harness connector and the display control unit harness connector.

AFS control unit harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M100	29	Existed
	13		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the display control unit.

NO >> Repair the main line between the AFS control unit and display control unit.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013627541

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.

NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013627559

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013627560

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering force control module.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013627601

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

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MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013627602

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013627603

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013627604

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors E25
 - Harness connectors M40
 - Harness connectors M19
 - Harness connectors B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle main control module
 - Harness connector E25 and M40
2. Check the continuity between the steering angle main control module harness connector and the harness connector.

Steering angle main control module harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E26	14	E25	51	Existed
	15		52	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle main control module and the harness connector E25.

3.CHECK THE CONNECTOR

1. Disconnect the harness connector M19 and B18.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	51	M19	74	Existed
	52		75	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair main line between harness connector M40 and M19.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	74	B1	8	Existed
	75		9	Existed

Is the inspection result normal?

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MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle main control module and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

MAIN LINE BETWEEN ICC AND LANE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627605

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B18
 - Harness connector M19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect following harness connectors.
 - ADAS control unit.
 - Harness connectors B18 and M19
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	8	B18	84	Existed
	9		85	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M159 and R15.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M19	84	M159	12	Existed
	85		32	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the lane camera unit.

NO >> Repair the main line between the harness connectors M19 and the lane camera unit.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627671

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013627672

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013627673

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627674

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627675

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627676

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627677

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013627678

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013627679

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627680

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M88	1	21
		Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627681

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M58	41 42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

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AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627682

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.
2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M4	1	13	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the AFS control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to [EXL-164, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-221, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the AFS control unit branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627683

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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HBA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

HBA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627741

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Auto anti- dazzling inside mirror (High beam assist control module)
 - Harness connector R15
 - Harness connector M159

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of auto anti - dazzling inside mirror (High beam assist control module).
2. Check the resistance between the auto anti - dazzling inside mirror (High beam assist control module) harness connector terminals.

Auto anti - dazzling inside mirror (High beam assist control module) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R9	12	11	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the anti - dazzling inside mirror (High beam assist control module) branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the anti - dazzling inside mirror (High beam assist control module). Refer to [EXL-164. "HIGH BEAM ASSIST CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the inside mirror. Refer to the following.

- With automatic drive positioner system: [MIR-47. "Removal and Installation"](#)
- Without automatic drive positioner system: [MIR-73. "Removal and Installation"](#)

YES (Past error)>>Error was detected in the anti - dazzling inside mirror (High beam assist control module) branch line.

NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627742

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627743

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627744

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627745

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Pre-crash seat belt control unit (driver side)

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of pre-crash seat belt control unit (driver side).
3. Check the resistance between the pre-crash seat belt control unit (driver side) harness connector terminals.

Pre-crash seat belt control unit (driver side) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B97	14	4	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the pre-crash seat belt control unit (driver side) branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the pre-crash seat belt control unit (driver side). Refer to [SBC-66, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SBC-80, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the pre-crash seat belt control unit (driver side) branch line.
- NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013627746

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:0000000013627747

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013627748

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627749

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627750

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627751

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar LH branch line.
NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627752

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627753

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627754

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013627755

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627756

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Lane camera unit
 - Harness connector R15
 - Harness connector M159
 - Chassis control module (With direct adaptive steering)

Is the inspection result normal?

- YES-1 >> With direct adaptive steering: GO TO 2.
YES-2 >> Without direct adaptive steering: GO TO 3.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module (With direct adaptive steering).
2. Disconnect the connector of lane camera unit.
3. Check the resistance between the lane camera unit harness connector terminals.
 - 2.0L turbo gasoline engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R1	4	8	Approx. 54 – 66

- VR30DDTT engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R13	4	8	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the lane camera unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to [DAS-798, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the lane camera unit. Refer to [DAS-808, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the lane camera unit branch line.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627757

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627758

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013627759

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle main control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467](#), "[Diagnosis Procedure](#)".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493](#), "[Removal and Installation](#)".

YES (Past error)>>Error was detected in the steering angle main control module branch line.

NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013627776

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013627777

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of CAN gateway.
- Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- Disconnect the fuse block (J/B) harness connector M133.
- Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- Disconnect all the unit connectors on CAN communication circuit 2.
- Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013627778

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		
	7		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013627779

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 24)]

6. CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 7.
NO >> Replace the chassis control module.

7. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

- Reproduced>>GO TO 8.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.
NOTE:
Chassis control module has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

- Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013930556

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000013930557

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

NO >> Replace the fuse block (J/B).

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013930558

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930559

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930560

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930561

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930562

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930563

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930564

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930565

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930566

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930567

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930568

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930573

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013930569

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930570

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013930571

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
 - Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013930572

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 25)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013628187

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

NO >> Replace the fuse block (J/B).

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013628188

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.
NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013628189

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628190

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628191

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628192

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628193

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628194

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

- YES-1 >> Without direct adaptive steering: GO TO 2.
 YES-2 >> With direct adaptive steering: GO TO 5.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.
 NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the power steering control module. Refer to the following.
 - 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
 - VR30DDTT engine models: [STC-109, "Removal and Installation"](#)
- YES (Past error)>>Error was detected in the power steering control module branch line.
 NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

LAN

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628195

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628512

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628513

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628514

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628515

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the BCM branch line.
 NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628516

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628517

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628518

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628519

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628520

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013628521

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 26)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013628522

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

NO >> Replace the fuse block (J/B).

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000013628523

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013628524

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628525

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628526

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628527

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.

NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
- VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
- VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628528

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628529

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628530

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628531

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628532

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628533

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628534

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628535

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	59
		Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the BCM branch line.
 NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628536

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628537

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628538

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628539

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628540

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013628541

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 27)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013628542

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector E25
 - Harness connector M40
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connectors E178 and E180
 - Harness connectors E25 and M40
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E180	3	E25	33	Existed
	4		34	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector E180 and the harness connector E25.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the harness connector and the fuse block (J/B) harness connector.

Harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	33	M133	21C	Existed
	34		3C	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector M40 and the fuse block (J/B) harness connector M133.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.		
21C	23C	Existed
3C	5C	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN EPS/DAST 3 AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

YES (Past error)>>Error was detected in the main line between the power steering control module and the data link connector.

NO >> Replace the fuse block (J/B).

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013628543

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.
NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013628544

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000013628545

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

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MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013628546

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013628547

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering angle sensor.
2. Check the continuity between the harness connector and the steering angle sensor harness connector.

Harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M77	5	Existed
	53		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

MAIN LINE BETWEEN ICC AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering angle sensor.

NO >> Repair the main line between the harness connector M22 and the steering angle sensor.

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013628548

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013628549

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628550

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the IPDM E/R branch line.
 NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013628551

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013628552

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628553

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.
 NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the ECM. Refer to the following.
- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
 - VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
 - VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

- NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628554

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628555

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628556

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013628557

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013628558

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628559

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628560

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the combination meter branch line.
NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628561

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628942

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628943

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628944

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628945

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628946

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628947

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628948

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628949

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628950

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628951

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar LH branch line.
NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628952

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628953

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628954

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628955

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628956

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628957

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013628958

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
 2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
- 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013628959

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

- YES >> GO TO 2.
- NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013628960

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013628961

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 28)]

6.CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 7.
NO >> Replace the chassis control module.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

- Reproduced>>GO TO 8.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.
NOTE:
Chassis control module has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

- Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013628962

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

MAIN LINE BETWEEN M&A AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN M&A AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013628963

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Display control unit
4. Check the continuity between the combination meter harness connector and the display control unit harness connector.

Combination meter harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M100	29	Existed
	42		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the display control unit.

NO >> Repair the main line between the combination meter and display control unit.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013628964

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013628965

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013628966

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering force control module.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

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MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013628967

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013628968

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013628969

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

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MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013628970

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors E25
 - Harness connectors M40
 - Harness connectors M19
 - Harness connectors B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle main control module
 - Harness connector E25 and M40
2. Check the continuity between the steering angle main control module harness connector and the harness connector.

Steering angle main control module harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E26	14	E25	51	Existed
	15		52	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle main control module and the harness connector E25.

3. CHECK THE CONNECTOR

1. Disconnect the harness connector M19 and B18.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	51	M19	74	Existed
	52		75	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair main line between harness connector M40 and M19.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	74	B1	8	Existed
	75		9	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle main control module and the ADAS control unit.

NO >> Replace the body harness.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628971

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013628972

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013628973

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628974

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.
 NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the ECM. Refer to the following.
- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
 - VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
 - VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

- NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628975

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628976

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
 NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 7.
 NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the steering force control module branch line.
 NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628977

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the display control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013628978

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013628979

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628980

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628981

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M58	41 42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628982

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628983

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628984

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M14	60	59	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-99. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the BCM branch line.
 NO >> Repair the power supply and the ground circuit.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628985

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628986

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

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ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628987

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628988

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

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CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013628989

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628990

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628991

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628992

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the side radar LH branch line.

NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628993

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481, "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013628994

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628995

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628996

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628997

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628998

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013628999

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle main control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467](#), "[Diagnosis Procedure](#)".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493](#), "[Removal and Installation](#)".

YES (Past error)>>Error was detected in the steering angle main control module branch line.

NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000013629000

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000013629001

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013629002

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013629003

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 29)]

6. CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Replace the chassis control module.

7. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.

NOTE:

Chassis control module has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000013629021

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
23C	22C	Existed
5C	4C	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of combination meter.
2. Check the continuity between the fuse block (J/B) harness connector and the combination meter harness connector.

Fuse block (J/B) harness connector		Combination meter harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M133	22C	M58	41	Existed
	4C		42	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the combination meter.

NO >> Repair the main line between fuse block (J/B) harness connector M133 and the combination meter.

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MAIN LINE BETWEEN M&A AND AFS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN M&A AND AFS CIRCUIT

Diagnosis Procedure

INFOID:000000013629022

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - IPDM E/R (2.0L turbo gasoline engine models)
 - ECM (VR30DDTT engine models)
 - Combination meter
 - AFS control unit
4. Check the continuity between the combination meter harness connector and the AFS control unit harness connector.

Combination meter harness connector		AFS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M58	41	M4	1	Existed
	42		13	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the combination meter and the AFS control unit.

NO >> Repair the main line between the combination meter and the AFS control unit.

MAIN LINE BETWEEN AFS AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN AFS AND AV CIRCUIT

Diagnosis Procedure

INFOID:000000013629067

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AFS control unit
 - Display control unit
4. Check the continuity between the AFS control unit harness connector and the display control unit harness connector.

AFS control unit harness connector		Display control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M4	1	M100	29	Existed
	13		17	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the AFS control unit and the display control unit.

NO >> Repair the main line between the AFS control unit and display control unit.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000013629068

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133 and B39.
2. Check the continuity between the fuse block (J/B) terminals.

Fuse block (J/B)		Continuity
Terminal No.	Terminal No.	
12C	6H	Existed
1C	4H	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the fuse block (J/B).

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B12 and B600.
2. Check the continuity between the fuse block (J/B) harness connector and the harness connector.

Fuse block (J/B) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B39	6H	B12	1	Existed
	4H		17	Existed

Is the inspection result normal?

- YES (Present error)>>Check CAN system type decision again.
YES (Past error)>>Error was detected in the main line between the data link connector and the driver seat control unit.
NO >> Repair the main line between the fuse block (J/B) harness connector B39 and the driver seat control unit.

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN ADP AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013629069

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Harness connectors B600
 - Harness connectors B12
 - ADAS control unit
4. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B12	1	B1	1	Existed
	17		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

Diagnosis Procedure

INFOID:000000013629070

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B37
 - Harness connector B72
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors B37 and B72
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	1	B37	4	Existed
	2		3	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B62 and M22.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B72	4	B62	63	Existed
	3		53	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of steering force control module.
2. Check the continuity between the harness connector and the steering force control module harness connector.

Harness connector		Steering force control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	63	M71	14	Existed
	53		15	Existed

Is the inspection result normal?

MAIN LINE BETWEEN ICC AND EPS/DAST 3 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the steering force control module.

NO >> Repair the main line between the harness connector M22 and the steering force control module.

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MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN EPS/DAST 3 AND STRG CIRCUIT

Diagnosis Procedure

INFOID:000000013629071

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - CAN gateway
 - Steering force control module
 - Steering angle sensor
4. Check the continuity between the steering force control module harness connector and the steering angle sensor harness connector.

Steering force control module harness connector		Steering angle sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M71	14	M77	5	Existed
	15		2	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering force control module and the steering angle sensor.

NO >> Repair the main line between the steering force control module and the steering angle sensor.

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:000000013629080

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B3
 - Harness connector B52

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Harness connector B87 and B8
 - Harness connector B3 and B52
2. Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B8	6	B3	1	Existed
	5		9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the around view monitor control unit.
2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	1	B50	27	Existed
	9		28	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the side radar LH and the around view monitor control unit.

NO >> Replace the body No.2 harness.

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MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:000000013629081

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B62
 - Harness connector M22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B62 and M22
2. Check the continuity between the around view monitor control unit harness connector and the harness connector.
 - 2.0L turbo gasoline engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	78	Existed
	28		77	Existed

- VR30DDTT engine models

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B50	27	B62	18	Existed
	28		17	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body No.2 harness.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of the driver assistance buzzer control module.
2. Check the continuity between the harness connector and the driver assistance buzzer control module harness connector.
 - 2.0L turbo gasoline engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M22	78	M56	3	Existed
	77		11	Existed

- VR30DDTT engine models

Harness connector		Driver assistance buzzer control module harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

MAIN LINE BETWEEN AVM AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

M22	18	M56	3	Existed
	17		11	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the around view monitor control unit and the driver assistance buzzer control module.

NO >> Repair the main line between the harness connector M22 and the driver assistance buzzer control module.

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MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

Diagnosis Procedure

INFOID:000000013629082

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connectors E25
 - Harness connectors M40
 - Harness connectors M19
 - Harness connectors B18

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - Steering angle main control module
 - Harness connector E25 and M40
2. Check the continuity between the steering angle main control module harness connector and the harness connector.

Steering angle main control module harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E26	14	E25	51	Existed
	15		52	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the steering angle main control module and the harness connector E25.

3. CHECK THE CONNECTOR

1. Disconnect the harness connector M19 and B18.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M40	51	M19	74	Existed
	52		75	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair main line between harness connector M40 and M19.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.
2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B18	74	B1	8	Existed
	75		9	Existed

Is the inspection result normal?

MAIN LINE BETWEEN DAST 1 AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the steering angle main control module and the ADAS control unit.

NO >> Replace the body harness.

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MAIN LINE BETWEEN ICC AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

MAIN LINE BETWEEN ICC AND LANE CIRCUIT

Diagnosis Procedure

INFOID:000000013629083

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector B18
 - Harness connector M19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect following harness connectors.
 - ADAS control unit.
 - Harness connectors B18 and M19
2. Check the continuity between the ADAS control unit harness connector and the harness connector.

ADAS control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	8	B18	84	Existed
	9		85	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the body harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M159 and R15.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M19	84	M159	12	Existed
	85		32	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the ADAS control unit and the lane camera unit.

NO >> Repair the main line between the harness connectors M19 and the lane camera unit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013629118

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - IPDM E/R
 - Harness connector E64 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.
 - 2.0L turbo gasoline engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 108 – 132

- VR30DDTT engine models

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E121	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-44. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the harness connector E64.
2. Check the continuity between the IPDM E/R harness connector and harness connector.

IPDM E/R harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E121	29	E64	6E	Existed
	28		2E	Existed

Is the measurement value within the specification?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the IPDM E/R harness connector E121 and harness connector E64.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:000000013629337

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 1 side).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	6	M133	23C	Existed
	14		5C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013629338

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Data link connector
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector branch line.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Check the resistance between the data link connector terminals.

Data link connector			Resistance (Ω)
Connector No.	Terminal No.		
M25	13	12	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit (CAN communication circuit 2 side).

NO-1 >> 2.0L turbo gasoline engine models: Repair the data link connector branch line.

NO-2 >> VR30DDTT engine models: GO TO 4.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the data link connector and the harness connector.

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M25	13	M133	12C	Existed
	12		1C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the data link connector M25 and the harness connector M133.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629339

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ECM
 - Harness connector E195 (2.0L turbo gasoline engine models)
 - Harness connector M146 (2.0L turbo gasoline engine models)
 - Harness connector E25 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M40 (VR30DDTT engine with direct adaptive steering models)
 - Harness connector M133 and fuse block (J/B) side connector (Except VR30DDTT engine without direct adaptive steering models)

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.
2. Check the resistance between the ECM harness connector terminals.
 - 2.0L turbo gasoline engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E200	137	150	Approx. 54 – 66

- VR30DDTT engine models

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E152	176	175	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO-1 >> Except VR30DDTT engine without direct adaptive steering models: GO TO 4.
 NO-2 >> VR30DDTT engine without direct adaptive steering models: Repair the ECM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to the following.

- 2.0L turbo gasoline engine models: [EC4-233, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for USA and Canada: [EC6-302, "ECM : Diagnosis Procedure"](#)
- VR30DDTT engine models for Mexico: [EC6-1228, "ECM : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the ECM. Refer to the following.
- 2.0L turbo gasoline engine models: [EC4-967, "Removal and Installation"](#)
 - VR30DDTT engine models for USA and Canada: [EC6-1014, "Removal and Installation"](#)
 - VR30DDTT engine models for Mexico: [EC6-1759, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the ECM harness connector and the fuse block (J/B) harness connector.
 - 2.0L turbo gasoline engine models

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E200	137	M133	21C	Existed
	150		3C	Existed

- VR30DDTT engine models

ECM harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E152	176	M133	21C	Existed
	175		3C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO-1 >> 2.0L turbo gasoline engine models: Repair the harness between the ECM harness connector E200 and the harness connector M133.
- NO-2 >> VR30DDTT engine models: Repair the harness between the ECM harness connector E152 and the harness connector M133.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629340

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - A/T assembly
 - Harness connector F12
 - Harness connector E10
 - Harness connector E65 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/T assembly.
2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector		Resistance (Ω)
Connector No.	Terminal No.	
F2	3 8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 5.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Remove the joint connector. Refer to [TM-296, "Removal and Installation"](#)
2. Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector	Continuity
Terminal No.	Terminal No.	
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- 2.0L turbo gasoline engine models: [TM-256, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure"](#)
- VR30DDTT engine models: [TM-257, "VR30DDTT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-296, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector E65.
2. Check the continuity between the A/T assembly harness connector and the harness connector.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F2	3	E65	9F	Existed
	8		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the A/T assembly harness connector F2 and the harness connector E65.

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629341

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Power steering control module (Without direct adaptive steering)
 - Steering force control module (With direct adaptive steering)
 - CAN gateway (With direct adaptive steering)
 - Harness connector E180 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E178 (VR30DDTT engine without direct adaptive steering models)
 - Harness connector E65 and fuse block (J/B) side connector (2.0L turbo gasoline engine models)

Is the inspection result normal?

YES-1 >> Without direct adaptive steering: GO TO 2.

YES-2 >> With direct adaptive steering: GO TO 5.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of power steering control module.
2. Check the resistance between the power steering control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E221	8	7	Approx. 54 – 66

- VR30DDTT engine models

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E176	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO-1 >> 2.0L turbo gasoline engine models: GO TO 4.

NO-2 >> VR30DDTT engine models: Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-51, "Diagnosis Procedure"](#)
- VR30DDTT engine models: [STC-99, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the power steering control module. Refer to the following.

- 2.0L turbo gasoline engine models: [STC-61, "Removal and Installation"](#)
- VR30DDTT engine models: [STC-109, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the power steering control module branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
2. Check the continuity between the power steering control module harness connector and the fuse block (J/B) harness connector.

Power steering control module harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

E221	8	E65	9F	Existed
	7		5F	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the power steering control module harness connector E221 and the harness connector E65.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is open] the root cause (CAN communication circuit 2 side).

6. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of steering force control module.
3. Check the resistance between the steering force control module harness connector terminals.

Steering force control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M71	14	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Repair the steering force control module branch line.

7. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering force control module. Refer to [STC-467. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering force control module. Refer to [STC-492. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering force control module branch line.

NO >> Repair the power supply and the ground circuit.

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629342

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the display control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of display control unit.
2. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M100	29	17	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the display control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to [AV-367, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the display control unit. Refer to [AV-407, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the display control unit branch line.
 NO >> Repair the power supply and the ground circuit.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000013629343

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.
2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M24	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the CAN gateway branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
- NO >> Repair the power supply and the ground circuit.

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:000000013629344

1.CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

- YES >> Perform a diagnosis of the indicated DTC.
- NO >> GO TO 2.

2.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector M133 and fuse block (J/B) side connector

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> GO TO 5.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to [LAN-296. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-297. "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the harness connector.

CAN gateway harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
- NO >> Repair the harness between the CAN gateway harness connector M24 and the harness connector M133.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629345

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the A/C auto amp. for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of A/C auto amp.
2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M88	1	21	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the A/C auto amp. branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to [HAC-114, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-137, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the A/C auto amp. branch line.
NO >> Repair the power supply and the ground circuit.

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629346

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the combination meter for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M58	41	42	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the combination meter branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to [MWI-120, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the combination meter. Refer to [MWI-141, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the combination meter branch line.
 NO >> Repair the power supply and the ground circuit.

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013629347

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the AFS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.
2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M4	1	13	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the AFS control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to [EXL-164, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-221, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the AFS control unit branch line.
 NO >> Repair the power supply and the ground circuit.

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629348

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-44, "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

HBA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

HBA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629349

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Auto anti- dazzling inside mirror (High beam assist control module)
 - Harness connector R15
 - Harness connector M159

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of auto anti - dazzling inside mirror (High beam assist control module).
2. Check the resistance between the auto anti - dazzling inside mirror (High beam assist control module) harness connector terminals.

Auto anti - dazzling inside mirror (High beam assist control module) harness connector		Resistance (Ω)
Connector No.	Terminal No.	
R9	12	Approx. 54 – 66
	11	

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the anti - dazzling inside mirror (High beam assist control module) branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the anti - dazzling inside mirror (High beam assist control module). Refer to [EXL-164. "HIGH BEAM ASSIST CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the inside mirror. Refer to the following.
- With automatic drive positioner system: [MIR-47. "Removal and Installation"](#)
 - Without automatic drive positioner system: [MIR-73. "Removal and Installation"](#)
- YES (Past error)>>Error was detected in the anti - dazzling inside mirror (High beam assist control module) branch line.
- NO >> Repair the power supply and the ground circuit.

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TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629350

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the TCU for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M144	6	7	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
 NO >> Repair the TCU branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to [AV-765, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-771, "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the TCU branch line.
 NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629351

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - BCM
 - Harness connector M22 (Except VR30DDTT engine with FEB models)
 - Harness connector B62 (Except VR30DDTT engine with FEB models)

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M14	60	Approx. 108 – 132
	59	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to [BCS-92, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-99, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629352

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Driver seat control unit
 - Harness connector B600
 - Harness connector B12
 - Harness connector B39 and fuse block (J/B) side connector (VR30DDTT engine without FEB models)
 - CAN gateway (Except VR30DDTT engine without FEB models)

Is the inspection result normal?

YES-1 >> Except VR30DDTT engine without FEB models: GO TO 2.

YES-2 >> VR30DDTT engine without FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (Except VR30DDTT engine without FEB models)
2. Disconnect the connector of driver seat control unit.
3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B601	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> Except VR30DDTT engine without FEB models: Repair the driver seat control unit branch line.

NO-2 >> VR30DDTT engine without FEB models: GO TO 5

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-82, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-152, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector B39.

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

2. Check the continuity between the driver seat control unit harness connector and the fuse block (J/B) harness connector.

Driver seat control unit harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B601	1	B39	3H	Existed
	17		8H	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the driver seat control unit harness connector B601 and the harness connector B39.

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PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629353

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Pre-crash seat belt control unit (driver side)

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of pre-crash seat belt control unit (driver side).
3. Check the resistance between the pre-crash seat belt control unit (driver side) harness connector terminals.

Pre-crash seat belt control unit (driver side) harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B97	14	4	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
- NO >> Repair the pre-crash seat belt control unit (driver side) branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the pre-crash seat belt control unit (driver side). Refer to [SBC-66, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SBC-80, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the pre-crash seat belt control unit (driver side) branch line.
- NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ICC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013629354

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models)

Is the inspection result normal?

YES-1 >> Except 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 2.

YES-2 >> 2.0L turbo gasoline engine without automatic drive positioner models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector		Continuity	
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (Except 2.0L turbo gasoline engine without automatic drive positioner models).
2. Disconnect the connector of ADAS control unit.
3. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector		Resistance (Ω)	
Connector No.	Terminal No.		
B1	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line.

NO >> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ICC BRANCH LINE CIRCUIT (CHASSIS COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013629355

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ADAS control unit
 - Chassis control module

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ADAS control unit.
2. Check the resistance between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B1	8	9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to [DAS-213, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-214, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ADAS control unit branch line circuit (chassis communication circuit side).

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629356

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AWD control unit
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of AWD control unit.
3. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M42	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the AWD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-59, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-68, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

Diagnosis Procedure

INFOID:000000013629357

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Harness connectors E25 (2.0L turbo gasoline engine models)
 - Harness connectors M40 (2.0L turbo gasoline engine models)
 - Harness connectors E47 (VR30DDTT engine models)
 - Harness connectors M39 (VR30DDTT engine models)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of chassis control module.
3. Check the resistance between the chassis control module harness connector terminals.
 - 2.0L turbo gasoline engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E22	4	3	Approx. 54 – 66

- VR30DDTT engine models

Chassis control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	10	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the chassis control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

CCM BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

Check the power supply and the ground circuit of the chassis control module. Refer to the following.

- Models with digital motion control: [DAS-710, "Diagnosis Procedure \(Models with Digital Motion Control\)"](#)
- Models without digital motion control: [DAS-711, "Diagnosis Procedure \(Models without Digital Motion Control\)"](#)

Is the inspection result normal?

YES (Present error)>>Replace the chassis control module. Refer to [DAS-713, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the chassis control module branch line.

NO >> Repair the power supply and the ground circuit.

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629358

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Steering angle sensor
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of steering angle sensor.
3. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M77	5	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the steering angle sensor branch line

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to [BRC-142, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-197, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629359

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ABS actuator and electric unit (control unit)
 - CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models)
 - Harness connector E65 and fuse block (J/B) side connector (VR30DDTT engine models)

Is the inspection result normal?

YES-1 >> 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 2.

YES-2 >> Except 2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models: GO TO 3.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway (2.0L turbo gasoline engine with automatic drive positioner models and VR30DDTT engine with FEB models).
2. Disconnect the connector of ABS actuator and electric unit (control unit).
3. Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E35	25	15	Approx. 54 - 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO-1 >> 2.0L turbo gasoline engine models: Repair the ABS actuator and electric unit (control unit) branch line

NO-2 >> VR30DDTT engine models: GO TO 5.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to [BRC-171, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-195, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector E65.
 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the fuse block (J/B) harness connector.
- Models without FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	8F	Existed
	15		3F	Existed

- Models with FEB

ABS actuator and electric unit (control unit) harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E35	25	E65	6F	Existed
	15		7F	Existed

Is the inspection result normal?

- YES >> Replace the fuse block (J/B).
NO >> Repair the harness between the ABS actuator and electric unit (control unit) harness connector E35 and the harness connector E65.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629360

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar LH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.
2. Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B92	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Replace the body harness.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-480, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-508, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar LH branch line.
NO >> Repair the power supply and the ground circuit.

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629361

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Side radar RH
 - Harness connector B87
 - Harness connector B8

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-483. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the root cause.

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.
2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B93	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-481. "SIDE RADAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-508. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the side radar RH branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013629362

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of around view monitor control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of around view monitor control unit.
2. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B50	27	28	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the around view monitor control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to [AV-599, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the around view monitor control unit. Refer to [AV-619, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629363

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Harness connector M158
 - Harness connector M157

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of accelerator pedal actuator / accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accelerator pedal actuator / accelerator pedal position sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M124	3 9	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the accelerator pedal actuator / accelerator pedal position sensor. Refer to [DAS-479, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-6, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629364

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the drive assistance buzzer control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of drive assistance buzzer control module.
2. Check the resistance between the drive assistance buzzer control module harness connector terminals.

Drive assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M56	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the drive assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the drive assistance buzzer control module. Refer to [DAS-482, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the drive assistance buzzer control module. Refer to [DAS-511, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the drive assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629365

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Lane camera unit
 - Harness connector R15
 - Harness connector M159
 - Chassis control module (With direct adaptive steering)

Is the inspection result normal?

- YES-1 >> With direct adaptive steering: GO TO 2.
YES-2 >> Without direct adaptive steering: GO TO 3.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module (With direct adaptive steering).
2. Disconnect the connector of lane camera unit.
3. Check the resistance between the lane camera unit harness connector terminals.
 - 2.0L turbo gasoline engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R1	4	8	Approx. 54 – 66

- VR30DDTT engine models

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R13	4	8	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the lane camera unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to [DAS-798, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the lane camera unit. Refer to [DAS-808, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the lane camera unit branch line.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

NO >> Repair the power supply and the ground circuit.

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629366

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Sonar control unit
 - Harness connector M95
 - Harness connector M155

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of sonar control unit.
2. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector		Resistance (Ω)
Connector No.	Terminal No.	
M76	5	Approx. 54 – 66
	6	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the sonar control unit branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-600, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to [AV-623, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the sonar control unit branch line.

NO >> Repair the power supply and the ground circuit.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629367

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - ICC sensor
 - Harness connector E76 (2.0L turbo gasoline engine models)
 - Harness connector E14 (2.0L turbo gasoline engine models)
 - Harness connector E171 (VR30DDTT engine models)
 - Harness connector E170 (VR30DDTT engine models)
 - Harness connector E25
 - Harness connector M40

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector		Resistance (Ω)
Connector No.	Terminal No.	
E80	3 6	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to [CCS-149, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-166, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

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DAST 1 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

DAST 1 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000013629368

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Chassis control module
 - Steering angle main control module

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace (if shield line is open) the root cause (chassis communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of chassis control module.
2. Disconnect the connector of steering angle main control module.
3. Check the resistance between the steering angle main control module harness connector terminals.

Steering angle main control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E26	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the steering angle main control module branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle main control module. Refer to [STC-467](#), "[Diagnosis Procedure](#)".

Is the inspection result normal?

- YES (Present error)>>Replace the steering angle main control module. Refer to [STC-493](#), "[Removal and Installation](#)".
YES (Past error)>>Error was detected in the steering angle main control module branch line.
NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:000000013629369

1. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect all the unit connectors on CAN communication system.
4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

Data link connector		Continuity
Connector No.	Terminal No.	
M25	6 14	Not existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

3. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector		Ground	Continuity
Connector No.	Terminal No.		
M25	6		Not existed
	14		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

4. CHECK IPDM E/R (2.0L TURBO GASOLINE ENGINE MODELS) OR ECM (VR30DDTT ENGINE MODELS) AND BCM TERMINATION CIRCUIT

1. Remove the IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and the BCM.
2. Check the resistance between the IPDM E/R terminals (2.0L turbo gasoline engine models) or ECM terminals (VR30DDTT engine models).
 - 2.0L turbo gasoline engine models

IPDM E/R		Resistance (Ω)
Terminal No.		
29	28	Approx. 108 – 132

- VR30DDTT engine models

ECM		Resistance (Ω)
Terminal No.		
176	175	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO-1 >> 2.0L turbo gasoline engine models: Replace the IPDM E/R and/or the BCM.

NO-2 >> VR30DDTT engine models: Replace the ECM and/or the BCM.

5.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication system.

NOTE:

IPDM E/R (2.0L turbo gasoline engine models) or ECM (VR30DDTT engine models) and BCM have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:000000013629370

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 has no malfunction.

Is the CAN communication circuit 1 normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - CAN gateway
 - Harness connector B39 and fuse block (J/B) side connector

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	6	Existed
	10	12	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the fuse block (J/B) harness connector M133.
2. Check the continuity between the CAN gateway harness connector and the fuse block (J/B) harness connector.

CAN gateway harness connector		Fuse block (J/B) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M24	4	M133	13C	Existed
	10		2C	Existed

Is the inspection result normal?

YES >> Replace the fuse block (J/B).

NO >> Repair the harness between the CAN gateway harness connector M24 and the fuse block (J/B) harness connector M133.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on CAN communication circuit 2.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M24	4	10	Not existed

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M24	4		Not existed
	10		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Check the harness and repair or replace the root cause.

7.CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
4	10	Approx. 108 – 132
6	12	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.

NO >> Replace the CAN gateway.

8.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of CAN communication circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013629371

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the ADAS control unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.
 - ADAS control unit
 - ICC sensor
2. Check the continuity between the ADAS control unit harness connector and the ICC sensor harness connector.

ADAS control unit harness connector		ICC sensor harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	6	E80	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness between the ADAS control unit and the ICC sensor.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Around view monitor control unit
 - Accelerator pedal actuator / accelerator pedal position sensor
 - Driver assistance buzzer control module
 - Lane camera unit
 - Sonar control unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B1	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B1	6		Not existed
	7	Not existed	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace [if shield line or fuse block (J/B) is short] the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the ADAS control unit and the ICC sensor.
2. Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)
Terminal No.		
6	7	Approx. 108 – 132

3. Check the resistance between the ICC sensor terminals.

ICC sensor		Resistance (Ω)
Terminal No.		
3	6	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS control unit and/or the ICC sensor.

7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor have a termination circuit. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

CHASSIS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000013629372

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of the chassis control module for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of chassis control module.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	8	Existed
	5	21	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace the root cause.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on chassis communication circuit.
2. Check the continuity between the chassis control module harness connector terminals.

Chassis control module harness connector			Continuity
Connector No.	Terminal No.		
E219	19	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace the root cause.

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Chassis control module harness connector		Ground	Continuity
Connector No.	Terminal No.		
E219	19		Not existed
	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

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CHASSIS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 30)]

6. CHECK CHASSIS CONTROL MODULE TERMINATION CIRCUIT

1. Remove the chassis control module.
2. Check the resistance between the chassis control module terminals.

Chassis control module		Resistance (Ω)
Terminal No.		
19	5	Approx. 108 – 132
8	21	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 7.

NO >> Replace the chassis control module.

7. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 8.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

8. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of chassis communication circuit.

NOTE:

Chassis control module has two termination circuits. Check other units first.

4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.