

SECTION

LAN

LAN SYSTEM

A

B

C

CONTENTS

E

CAN FUNDAMENTAL		Abbreviation List30	F
PRECAUTION15		PRECAUTION31	
PRECAUTIONS15		PRECAUTIONS31	G
Precautions for Trouble Diagnosis15		Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"31	H
Precautions for Harness Repair15		Precautions for Removing Battery Terminal31	
SYSTEM DESCRIPTION16		Precautions for Trouble Diagnosis31	
SYSTEM16		Precautions for Harness Repair32	I
CAN COMMUNICATION SYSTEM16		SYSTEM DESCRIPTION33	
CAN COMMUNICATION SYSTEM : System Description16		COMPONENT PARTS33	J
CAN COMMUNICATION SYSTEM : System Diagram16		Component Parts Location33	
CAN COMMUNICATION SYSTEM : CAN Communication Control Circuit17		SYSTEM34	K
DIAG ON CAN17		CAN COMMUNICATION SYSTEM34	
DIAG ON CAN : Description17		CAN COMMUNICATION SYSTEM : CAN System Specification Chart34	L
DIAG ON CAN : System Diagram18		CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart35	
TROUBLE DIAGNOSIS19		WIRING DIAGRAM41	LAN
Condition of Error Detection19		CAN SYSTEM (WITH ICC)41	
Symptom When Error Occurs in CAN Communication System19		Wiring Diagram41	N
CAN Diagnosis with CONSULT22		CAN SYSTEM (WITHOUT ICC)59	
Self-Diagnosis22		Wiring Diagram59	O
CAN Diagnostic Support Monitor22		BASIC INSPECTION74	
How to Use CAN Communication Signal Chart24		DIAGNOSIS AND REPAIR WORKFLOW74	P
BASIC INSPECTION25		Interview Sheet74	
DIAGNOSIS AND REPAIR WORKFLOW25		DTC/CIRCUIT DIAGNOSIS75	
Trouble Diagnosis Flow Chart25		MALFUNCTION AREA CHART75	
CAN		System Diagram75	
HOW TO USE THIS MANUAL30		CAN Communication Circuit76	
HOW TO USE THIS SECTION30			
Caution30			

ITS Communication Circuit	77
MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT	79
Diagnosis Procedure	79
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	80
Diagnosis Procedure	80
MAIN LINE BETWEEN M&A AND TCU CIRCUIT	81
Diagnosis Procedure	81
MAIN LINE BETWEEN M&A AND TPMS CIRCUIT	82
Diagnosis Procedure	82
MAIN LINE BETWEEN TCU AND TPMS CIRCUIT	83
Diagnosis Procedure	83
MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	84
Diagnosis Procedure	84
MAIN LINE BETWEEN HVAC AND AV CIRCUIT	85
Diagnosis Procedure	85
MAIN LINE BETWEEN AV AND BCM CIRCUIT	86
Diagnosis Procedure	86
MAIN LINE BETWEEN BCM AND TCM CIRCUIT	87
Diagnosis Procedure	87
MAIN LINE BETWEEN TCM AND STRG CIRCUIT	88
Diagnosis Procedure	88
MAIN LINE BETWEEN STRG AND ADP CIRCUIT	89
Diagnosis Procedure	89
MAIN LINE BETWEEN STRG AND CGW CIRCUIT	91
Diagnosis Procedure	91
MAIN LINE BETWEEN CGW AND 4WD CIRCUIT	92
Diagnosis Procedure	92
MAIN LINE BETWEEN CGW AND ABS CIRCUIT	94
Diagnosis Procedure	94
MAIN LINE BETWEEN ADP AND ABS CIRCUIT	96
Diagnosis Procedure	96

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT	98
Diagnosis Procedure	98
MAIN LINE BETWEEN DLC AND AVM CIRCUIT	100
Diagnosis Procedure	100
MAIN LINE BETWEEN AVM AND ADP CIRCUIT	101
Diagnosis Procedure	101
MAIN LINE BETWEEN DLC AND ICC CIRCUIT	102
Diagnosis Procedure	102
MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT	104
Diagnosis Procedure	104
MAIN LINE BETWEEN RDR-R AND APA CIRCUIT	105
Diagnosis Procedure	105
MAIN LINE BETWEEN APA AND LANE CIRCUIT	107
Diagnosis Procedure	107
ECM BRANCH LINE CIRCUIT	108
Diagnosis Procedure	108
DLC BRANCH LINE CIRCUIT	110
Diagnosis Procedure	110
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	111
Diagnosis Procedure	111
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	112
Diagnosis Procedure	112
A-BAG BRANCH LINE CIRCUIT	113
Diagnosis Procedure	113
M&A BRANCH LINE CIRCUIT	114
Diagnosis Procedure	114
TCU BRANCH LINE CIRCUIT	115
Diagnosis Procedure	115
TPMS BRANCH LINE CIRCUIT	116
Diagnosis Procedure	116
HVAC BRANCH LINE CIRCUIT	117
Diagnosis Procedure	117
AV BRANCH LINE CIRCUIT	118
Diagnosis Procedure	118
BCM BRANCH LINE CIRCUIT	120
Diagnosis Procedure	120

TCM BRANCH LINE CIRCUIT	121	Diagnosis Procedure	143	
Diagnosis Procedure	121			A
STRG BRANCH LINE CIRCUIT	123	CAN COMMUNICATION CIRCUIT 2	145	
Diagnosis Procedure	123	Diagnosis Procedure	145	B
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	124	ITS COMMUNICATION CIRCUIT	147	
Diagnosis Procedure	124	Diagnosis Procedure	147	B
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	125	CAN GATEWAY		C
Diagnosis Procedure	125	PRECAUTION	149	
4WD BRANCH LINE CIRCUIT	126	PRECAUTIONS	149	
Diagnosis Procedure	126	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	149	D
ABS BRANCH LINE CIRCUIT	127	Precautions for Removing Battery Terminal	149	E
Diagnosis Procedure	127	SYSTEM DESCRIPTION	150	
AFS BRANCH LINE CIRCUIT	128	COMPONENT PARTS	150	F
Diagnosis Procedure	128	Component Parts Location	150	
IPDM-E BRANCH LINE CIRCUIT	129	SYSTEM	151	G
Diagnosis Procedure	129	System Description	151	
AVM BRANCH LINE CIRCUIT	130	DIAGNOSIS SYSTEM (CAN GATEWAY)	152	H
Diagnosis Procedure	130	CONSULT Function	152	
SONAR BRANCH LINE CIRCUIT	131	ECU DIAGNOSIS INFORMATION	153	
Diagnosis Procedure	131	CAN GATEWAY	153	I
ADP BRANCH LINE CIRCUIT	132	Reference Value	153	
Diagnosis Procedure	132	DTC Inspection Priority Chart	153	J
ICC BRANCH LINE CIRCUIT	133	DTC Index	153	
Diagnosis Procedure	133	WIRING DIAGRAM	155	
PSB BRANCH LINE CIRCUIT	134	CAN GATEWAY SYSTEM	155	K
Diagnosis Procedure	134	Wiring Diagram	155	
RDR-L BRANCH LINE CIRCUIT	135	BASIC INSPECTION	157	L
Diagnosis Procedure	135	ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY	157	
BSW/BUZZER BRANCH LINE CIRCUIT	136	Description	157	LAN
Diagnosis Procedure	136	Work Procedure	157	
RDR-R BRANCH LINE CIRCUIT	137	CONFIGURATION (CAN GATEWAY)	158	N
Diagnosis Procedure	137	Description	158	
APA BRANCH LINE CIRCUIT	138	Work Procedure	158	
Diagnosis Procedure	138	DTC/CIRCUIT DIAGNOSIS	159	O
LANE BRANCH LINE CIRCUIT	139	U1000 CAN COMM CIRCUIT	159	P
Diagnosis Procedure	139	Description	159	
LASER BRANCH LINE CIRCUIT	140	DTC Logic	159	
Diagnosis Procedure	140	Diagnosis Procedure	159	
CAN COMMUNICATION CIRCUIT	141	U1010 CONTROL UNIT (CAN)	160	
Diagnosis Procedure	141	Description	160	
CAN COMMUNICATION CIRCUIT 1	143	DTC Logic	160	
		Diagnosis Procedure	160	

B2600 CONFIG ERROR	161	A-BAG BRANCH LINE CIRCUIT	179
Description	161	Diagnosis Procedure	179
DTC Logic	161	M&A BRANCH LINE CIRCUIT	180
Diagnosis Procedure	161	Diagnosis Procedure	180
POWER SUPPLY AND GROUND CIRCUIT ..	162	TPMS BRANCH LINE CIRCUIT	181
Diagnosis Procedure	162	Diagnosis Procedure	181
REMOVAL AND INSTALLATION	163	HVAC BRANCH LINE CIRCUIT	182
CAN GATEWAY	163	Diagnosis Procedure	182
Removal and Installation	163	AV BRANCH LINE CIRCUIT	183
CAN SYSTEM (TYPE 1)		Diagnosis Procedure	183
DTC/CIRCUIT DIAGNOSIS	164	BCM BRANCH LINE CIRCUIT	185
MAIN LINE BETWEEN DLC AND A-BAG CIR-		Diagnosis Procedure	185
CUIT	164	TCM BRANCH LINE CIRCUIT	186
Diagnosis Procedure	164	Diagnosis Procedure	186
MAIN LINE BETWEEN A-BAG AND M&A		STRG BRANCH LINE CIRCUIT	188
CIRCUIT	165	Diagnosis Procedure	188
Diagnosis Procedure	165	ABS BRANCH LINE CIRCUIT	189
MAIN LINE BETWEEN M&A AND TPMS CIR-		Diagnosis Procedure	189
CUIT	166	IPDM-E BRANCH LINE CIRCUIT	190
Diagnosis Procedure	166	Diagnosis Procedure	190
MAIN LINE BETWEEN TPMS AND HVAC		ADP BRANCH LINE CIRCUIT	191
CIRCUIT	167	Diagnosis Procedure	191
Diagnosis Procedure	167	CAN COMMUNICATION CIRCUIT	192
MAIN LINE BETWEEN HVAC AND AV CIR-		Diagnosis Procedure	192
CUIT	168	CAN SYSTEM (TYPE 2)	
Diagnosis Procedure	168	DTC/CIRCUIT DIAGNOSIS	194
MAIN LINE BETWEEN AV AND BCM CIR-		MAIN LINE BETWEEN DLC AND A-BAG CIR-	
CUIT	169	CUIT	194
Diagnosis Procedure	169	Diagnosis Procedure	194
MAIN LINE BETWEEN BCM AND TCM CIR-		MAIN LINE BETWEEN A-BAG AND M&A	
CUIT	170	CIRCUIT	195
Diagnosis Procedure	170	Diagnosis Procedure	195
MAIN LINE BETWEEN TCM AND STRG CIR-		MAIN LINE BETWEEN M&A AND TCU CIR-	
CUIT	171	CUIT	196
Diagnosis Procedure	171	Diagnosis Procedure	196
MAIN LINE BETWEEN STRG AND ADP CIR-		MAIN LINE BETWEEN TCU AND TPMS CIR-	
CUIT	172	CUIT	197
Diagnosis Procedure	172	Diagnosis Procedure	197
MAIN LINE BETWEEN ADP AND ABS CIR-		MAIN LINE BETWEEN TPMS AND HVAC	
CUIT	174	CIRCUIT	198
Diagnosis Procedure	174	Diagnosis Procedure	198
ECM BRANCH LINE CIRCUIT	176	MAIN LINE BETWEEN HVAC AND AV CIR-	
Diagnosis Procedure	176	CUIT	199
DLC BRANCH LINE CIRCUIT	178	Diagnosis Procedure	199
Diagnosis Procedure	178		

MAIN LINE BETWEEN AV AND BCM CIRCUIT	200	
Diagnosis Procedure	200	
MAIN LINE BETWEEN BCM AND TCM CIRCUIT	201	
Diagnosis Procedure	201	
MAIN LINE BETWEEN TCM AND STRG CIRCUIT	202	
Diagnosis Procedure	202	
MAIN LINE BETWEEN STRG AND CGW CIRCUIT	203	
Diagnosis Procedure	203	
MAIN LINE BETWEEN CGW AND ABS CIRCUIT	204	
Diagnosis Procedure	204	
MAIN LINE BETWEEN DLC AND AVM CIRCUIT	206	
Diagnosis Procedure	206	
MAIN LINE BETWEEN AVM AND ADP CIRCUIT	207	
Diagnosis Procedure	207	
ECM BRANCH LINE CIRCUIT	208	
Diagnosis Procedure	208	
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	210	
Diagnosis Procedure	210	
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	211	
Diagnosis Procedure	211	
A-BAG BRANCH LINE CIRCUIT	212	
Diagnosis Procedure	212	
M&A BRANCH LINE CIRCUIT	213	
Diagnosis Procedure	213	
TCU BRANCH LINE CIRCUIT	214	
Diagnosis Procedure	214	
TPMS BRANCH LINE CIRCUIT	215	
Diagnosis Procedure	215	
HVAC BRANCH LINE CIRCUIT	216	
Diagnosis Procedure	216	
AV BRANCH LINE CIRCUIT	217	
Diagnosis Procedure	217	
BCM BRANCH LINE CIRCUIT	219	
Diagnosis Procedure	219	
TCM BRANCH LINE CIRCUIT	220	
Diagnosis Procedure	220	
STRG BRANCH LINE CIRCUIT	222	
Diagnosis Procedure	222	A
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	223	
Diagnosis Procedure	223	B
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	224	
Diagnosis Procedure	224	C
ABS BRANCH LINE CIRCUIT	225	
Diagnosis Procedure	225	D
IPDM-E BRANCH LINE CIRCUIT	226	
Diagnosis Procedure	226	E
AVM BRANCH LINE CIRCUIT	227	
Diagnosis Procedure	227	F
SONAR BRANCH LINE CIRCUIT	228	
Diagnosis Procedure	228	G
ADP BRANCH LINE CIRCUIT	229	
Diagnosis Procedure	229	
CAN COMMUNICATION CIRCUIT 1	230	
Diagnosis Procedure	230	H
CAN COMMUNICATION CIRCUIT 2	232	
Diagnosis Procedure	232	I
CAN SYSTEM (TYPE 3)		
DTC/CIRCUIT DIAGNOSIS	234	J
MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT	234	
Diagnosis Procedure	234	K
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	235	
Diagnosis Procedure	235	L
MAIN LINE BETWEEN M&A AND TCU CIRCUIT	236	
Diagnosis Procedure	236	LAN
MAIN LINE BETWEEN TCU AND TPMS CIRCUIT	237	
Diagnosis Procedure	237	N
MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	238	
Diagnosis Procedure	238	O
MAIN LINE BETWEEN HVAC AND AV CIRCUIT	239	
Diagnosis Procedure	239	P
MAIN LINE BETWEEN AV AND BCM CIRCUIT	240	
Diagnosis Procedure	240	

MAIN LINE BETWEEN BCM AND TCM CIRCUIT	241	Diagnosis Procedure	263
Diagnosis Procedure	241	TCM BRANCH LINE CIRCUIT	264
MAIN LINE BETWEEN TCM AND STRG CIRCUIT	242	Diagnosis Procedure	264
Diagnosis Procedure	242	STRG BRANCH LINE CIRCUIT	266
MAIN LINE BETWEEN STRG AND CGW CIRCUIT	243	Diagnosis Procedure	266
Diagnosis Procedure	243	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	267
MAIN LINE BETWEEN CGW AND ABS CIRCUIT	244	Diagnosis Procedure	267
Diagnosis Procedure	244	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	268
MAIN LINE BETWEEN DLC AND ICC CIRCUIT	246	Diagnosis Procedure	268
Diagnosis Procedure	246	ABS BRANCH LINE CIRCUIT	269
MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT	248	Diagnosis Procedure	269
Diagnosis Procedure	248	AFS BRANCH LINE CIRCUIT	270
MAIN LINE BETWEEN RDR-R AND APA CIRCUIT	249	Diagnosis Procedure	270
Diagnosis Procedure	249	IPDM-E BRANCH LINE CIRCUIT	271
MAIN LINE BETWEEN APA AND LANE CIRCUIT	251	Diagnosis Procedure	271
Diagnosis Procedure	251	AVM BRANCH LINE CIRCUIT	272
ECM BRANCH LINE CIRCUIT	252	Diagnosis Procedure	272
Diagnosis Procedure	252	SONAR BRANCH LINE CIRCUIT	273
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	254	Diagnosis Procedure	273
Diagnosis Procedure	254	ADP BRANCH LINE CIRCUIT	274
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	255	Diagnosis Procedure	274
Diagnosis Procedure	255	ICC BRANCH LINE CIRCUIT	275
A-BAG BRANCH LINE CIRCUIT	256	Diagnosis Procedure	275
Diagnosis Procedure	256	PSB BRANCH LINE CIRCUIT	276
M&A BRANCH LINE CIRCUIT	257	Diagnosis Procedure	276
Diagnosis Procedure	257	RDR-L BRANCH LINE CIRCUIT	277
TCU BRANCH LINE CIRCUIT	258	Diagnosis Procedure	277
Diagnosis Procedure	258	BSW/BUZZER BRANCH LINE CIRCUIT	278
TPMS BRANCH LINE CIRCUIT	259	Diagnosis Procedure	278
Diagnosis Procedure	259	RDR-R BRANCH LINE CIRCUIT	279
HVAC BRANCH LINE CIRCUIT	260	Diagnosis Procedure	279
Diagnosis Procedure	260	APA BRANCH LINE CIRCUIT	280
AV BRANCH LINE CIRCUIT	261	Diagnosis Procedure	280
Diagnosis Procedure	261	LANE BRANCH LINE CIRCUIT	281
BCM BRANCH LINE CIRCUIT	263	Diagnosis Procedure	281
		LASER BRANCH LINE CIRCUIT	282
		Diagnosis Procedure	282
		CAN COMMUNICATION CIRCUIT 1	283
		Diagnosis Procedure	283
		CAN COMMUNICATION CIRCUIT 2	285
		Diagnosis Procedure	285

ITS COMMUNICATION CIRCUIT	287	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	305	A
Diagnosis Procedure	287	Diagnosis Procedure	305	
CAN SYSTEM (TYPE 4)				
DTC/CIRCUIT DIAGNOSIS	289	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	306	B
MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT	289	Diagnosis Procedure	306	
Diagnosis Procedure	289	A-BAG BRANCH LINE CIRCUIT	307	C
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	290	Diagnosis Procedure	307	
Diagnosis Procedure	290	M&A BRANCH LINE CIRCUIT	308	D
MAIN LINE BETWEEN M&A AND TCU CIRCUIT	291	Diagnosis Procedure	308	
Diagnosis Procedure	291	TCU BRANCH LINE CIRCUIT	309	E
MAIN LINE BETWEEN TCU AND TPMS CIRCUIT	292	Diagnosis Procedure	309	
Diagnosis Procedure	292	TPMS BRANCH LINE CIRCUIT	310	F
MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	293	Diagnosis Procedure	310	
Diagnosis Procedure	293	HVAC BRANCH LINE CIRCUIT	311	G
MAIN LINE BETWEEN HVAC AND AV CIRCUIT	294	Diagnosis Procedure	311	
Diagnosis Procedure	294	AV BRANCH LINE CIRCUIT	312	H
MAIN LINE BETWEEN AV AND BCM CIRCUIT	295	Diagnosis Procedure	312	
Diagnosis Procedure	295	BCM BRANCH LINE CIRCUIT	314	I
MAIN LINE BETWEEN BCM AND TCM CIRCUIT	296	Diagnosis Procedure	314	
Diagnosis Procedure	296	TCM BRANCH LINE CIRCUIT	315	J
MAIN LINE BETWEEN TCM AND STRG CIRCUIT	297	Diagnosis Procedure	315	
Diagnosis Procedure	297	STRG BRANCH LINE CIRCUIT	317	K
MAIN LINE BETWEEN STRG AND CGW CIRCUIT	298	Diagnosis Procedure	317	
Diagnosis Procedure	298	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	318	L
MAIN LINE BETWEEN CGW AND ABS CIRCUIT	299	Diagnosis Procedure	318	
Diagnosis Procedure	299	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	319	
MAIN LINE BETWEEN DLC AND AVM CIRCUIT	301	Diagnosis Procedure	319	
Diagnosis Procedure	301	ABS BRANCH LINE CIRCUIT	320	LAN
MAIN LINE BETWEEN AVM AND ADP CIRCUIT	302	Diagnosis Procedure	320	
Diagnosis Procedure	302	IPDM-E BRANCH LINE CIRCUIT	321	N
ECM BRANCH LINE CIRCUIT	303	Diagnosis Procedure	321	
Diagnosis Procedure	303	AVM BRANCH LINE CIRCUIT	322	O
		Diagnosis Procedure	322	
		SONAR BRANCH LINE CIRCUIT	323	P
		Diagnosis Procedure	323	
		ADP BRANCH LINE CIRCUIT	324	
		Diagnosis Procedure	324	
		CAN COMMUNICATION CIRCUIT 1	325	
		Diagnosis Procedure	325	
		CAN COMMUNICATION CIRCUIT 2	327	
		Diagnosis Procedure	327	

CAN SYSTEM (TYPE 5)

DTC/CIRCUIT DIAGNOSIS	329
MAIN LINE BETWEEN DLC AND A-BAG CIR- CUIT	329
Diagnosis Procedure	329
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	330
Diagnosis Procedure	330
MAIN LINE BETWEEN M&A AND TCU CIR- CUIT	331
Diagnosis Procedure	331
MAIN LINE BETWEEN TCU AND TPMS CIR- CUIT	332
Diagnosis Procedure	332
MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	333
Diagnosis Procedure	333
MAIN LINE BETWEEN HVAC AND AV CIR- CUIT	334
Diagnosis Procedure	334
MAIN LINE BETWEEN AV AND BCM CIR- CUIT	335
Diagnosis Procedure	335
MAIN LINE BETWEEN BCM AND TCM CIR- CUIT	336
Diagnosis Procedure	336
MAIN LINE BETWEEN TCM AND STRG CIR- CUIT	337
Diagnosis Procedure	337
MAIN LINE BETWEEN STRG AND CGW CIR- CUIT	338
Diagnosis Procedure	338
MAIN LINE BETWEEN CGW AND ABS CIR- CUIT	339
Diagnosis Procedure	339
MAIN LINE BETWEEN DLC AND ICC CIR- CUIT	341
Diagnosis Procedure	341
MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT	343
Diagnosis Procedure	343
MAIN LINE BETWEEN RDR-R AND APA CIR- CUIT	344
Diagnosis Procedure	344

MAIN LINE BETWEEN APA AND LANE CIR- CUIT	346
Diagnosis Procedure	346
ECM BRANCH LINE CIRCUIT	347
Diagnosis Procedure	347
DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 1)	349
Diagnosis Procedure	349
DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 2)	350
Diagnosis Procedure	350
A-BAG BRANCH LINE CIRCUIT	351
Diagnosis Procedure	351
M&A BRANCH LINE CIRCUIT	352
Diagnosis Procedure	352
TCU BRANCH LINE CIRCUIT	353
Diagnosis Procedure	353
TPMS BRANCH LINE CIRCUIT	354
Diagnosis Procedure	354
HVAC BRANCH LINE CIRCUIT	355
Diagnosis Procedure	355
AV BRANCH LINE CIRCUIT	356
Diagnosis Procedure	356
BCM BRANCH LINE CIRCUIT	358
Diagnosis Procedure	358
TCM BRANCH LINE CIRCUIT	359
Diagnosis Procedure	359
STRG BRANCH LINE CIRCUIT	361
Diagnosis Procedure	361
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 1)	362
Diagnosis Procedure	362
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 2)	363
Diagnosis Procedure	363
ABS BRANCH LINE CIRCUIT	364
Diagnosis Procedure	364
AFS BRANCH LINE CIRCUIT	365
Diagnosis Procedure	365
IPDM-E BRANCH LINE CIRCUIT	366
Diagnosis Procedure	366
AVM BRANCH LINE CIRCUIT	367
Diagnosis Procedure	367
SONAR BRANCH LINE CIRCUIT	368

Diagnosis Procedure	368	Diagnosis Procedure	389
ADP BRANCH LINE CIRCUIT	369	MAIN LINE BETWEEN BCM AND TCM CIR-	390
Diagnosis Procedure	369	CUIT	390
ICC BRANCH LINE CIRCUIT	370	Diagnosis Procedure	390
Diagnosis Procedure	370	MAIN LINE BETWEEN TCM AND STRG CIR-	391
PSB BRANCH LINE CIRCUIT	371	CUIT	391
Diagnosis Procedure	371	Diagnosis Procedure	391
RDR-L BRANCH LINE CIRCUIT	372	MAIN LINE BETWEEN STRG AND ADP CIR-	392
Diagnosis Procedure	372	CUIT	392
BSW/BUZZER BRANCH LINE CIRCUIT	373	Diagnosis Procedure	392
Diagnosis Procedure	373	MAIN LINE BETWEEN ADP AND ABS CIR-	394
RDR-R BRANCH LINE CIRCUIT	374	CUIT	394
Diagnosis Procedure	374	Diagnosis Procedure	394
APA BRANCH LINE CIRCUIT	375	ECM BRANCH LINE CIRCUIT	396
Diagnosis Procedure	375	Diagnosis Procedure	396
LANE BRANCH LINE CIRCUIT	376	DLC BRANCH LINE CIRCUIT	398
Diagnosis Procedure	376	Diagnosis Procedure	398
LASER BRANCH LINE CIRCUIT	377	A-BAG BRANCH LINE CIRCUIT	399
Diagnosis Procedure	377	Diagnosis Procedure	399
CAN COMMUNICATION CIRCUIT 1	378	M&A BRANCH LINE CIRCUIT	400
Diagnosis Procedure	378	Diagnosis Procedure	400
CAN COMMUNICATION CIRCUIT 2	380	TPMS BRANCH LINE CIRCUIT	401
Diagnosis Procedure	380	Diagnosis Procedure	401
ITS COMMUNICATION CIRCUIT	382	HVAC BRANCH LINE CIRCUIT	402
Diagnosis Procedure	382	Diagnosis Procedure	402
CAN SYSTEM (TYPE 6)		AV BRANCH LINE CIRCUIT	403
DTC/CIRCUIT DIAGNOSIS	384	Diagnosis Procedure	403
MAIN LINE BETWEEN DLC AND A-BAG CIR-		BCM BRANCH LINE CIRCUIT	405
CUIT	384	Diagnosis Procedure	405
Diagnosis Procedure	384	TCM BRANCH LINE CIRCUIT	406
MAIN LINE BETWEEN A-BAG AND M&A		Diagnosis Procedure	406
CIRCUIT	385	STRG BRANCH LINE CIRCUIT	408
Diagnosis Procedure	385	Diagnosis Procedure	408
MAIN LINE BETWEEN M&A AND TPMS CIR-		4WD BRANCH LINE CIRCUIT	409
CUIT	386	Diagnosis Procedure	409
Diagnosis Procedure	386	ABS BRANCH LINE CIRCUIT	410
MAIN LINE BETWEEN TPMS AND HVAC		Diagnosis Procedure	410
CIRCUIT	387	IPDM-E BRANCH LINE CIRCUIT	411
Diagnosis Procedure	387	Diagnosis Procedure	411
MAIN LINE BETWEEN HVAC AND AV CIR-		ADP BRANCH LINE CIRCUIT	412
CUIT	388	Diagnosis Procedure	412
Diagnosis Procedure	388	CAN COMMUNICATION CIRCUIT	413
MAIN LINE BETWEEN AV AND BCM CIR-		Diagnosis Procedure	413
CUIT	389	CAN SYSTEM (TYPE 7)	

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DTC/CIRCUIT DIAGNOSIS	415	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	433
MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT	415	Diagnosis Procedure	433
Diagnosis Procedure	415	DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	434
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	416	Diagnosis Procedure	434
Diagnosis Procedure	416	A-BAG BRANCH LINE CIRCUIT	435
MAIN LINE BETWEEN M&A AND TCU CIRCUIT	417	Diagnosis Procedure	435
Diagnosis Procedure	417	M&A BRANCH LINE CIRCUIT	436
MAIN LINE BETWEEN TCU AND TPMS CIRCUIT	418	Diagnosis Procedure	436
Diagnosis Procedure	418	TCU BRANCH LINE CIRCUIT	437
MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	419	Diagnosis Procedure	437
Diagnosis Procedure	419	TPMS BRANCH LINE CIRCUIT	438
MAIN LINE BETWEEN HVAC AND AV CIRCUIT	420	Diagnosis Procedure	438
Diagnosis Procedure	420	HVAC BRANCH LINE CIRCUIT	439
MAIN LINE BETWEEN AV AND BCM CIRCUIT	421	Diagnosis Procedure	439
Diagnosis Procedure	421	AV BRANCH LINE CIRCUIT	440
MAIN LINE BETWEEN BCM AND TCM CIRCUIT	422	Diagnosis Procedure	440
Diagnosis Procedure	422	BCM BRANCH LINE CIRCUIT	442
MAIN LINE BETWEEN TCM AND STRG CIRCUIT	423	Diagnosis Procedure	442
Diagnosis Procedure	423	TCM BRANCH LINE CIRCUIT	443
MAIN LINE BETWEEN STRG AND CGW CIRCUIT	424	Diagnosis Procedure	443
Diagnosis Procedure	424	STRG BRANCH LINE CIRCUIT	445
MAIN LINE BETWEEN CGW AND 4WD CIRCUIT	425	Diagnosis Procedure	445
Diagnosis Procedure	425	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	446
MAIN LINE BETWEEN 4WD AND ABS CIRCUIT	427	Diagnosis Procedure	446
Diagnosis Procedure	427	CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	447
MAIN LINE BETWEEN DLC AND AVM CIRCUIT	429	Diagnosis Procedure	447
Diagnosis Procedure	429	4WD BRANCH LINE CIRCUIT	448
MAIN LINE BETWEEN AVM AND ADP CIRCUIT	430	Diagnosis Procedure	448
Diagnosis Procedure	430	ABS BRANCH LINE CIRCUIT	449
ECM BRANCH LINE CIRCUIT	431	Diagnosis Procedure	449
Diagnosis Procedure	431	IPDM-E BRANCH LINE CIRCUIT	450
		Diagnosis Procedure	450
		AVM BRANCH LINE CIRCUIT	451
		Diagnosis Procedure	451
		SONAR BRANCH LINE CIRCUIT	452
		Diagnosis Procedure	452
		ADP BRANCH LINE CIRCUIT	453
		Diagnosis Procedure	453
		CAN COMMUNICATION CIRCUIT 1	454
		Diagnosis Procedure	454

CAN COMMUNICATION CIRCUIT 2	456	
Diagnosis Procedure	456	
CAN SYSTEM (TYPE 8)		
DTC/CIRCUIT DIAGNOSIS	458	
MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT	458	
Diagnosis Procedure	458	
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	459	
Diagnosis Procedure	459	
MAIN LINE BETWEEN M&A AND TCU CIRCUIT	460	
Diagnosis Procedure	460	
MAIN LINE BETWEEN TCU AND TPMS CIRCUIT	461	
Diagnosis Procedure	461	
MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	462	
Diagnosis Procedure	462	
MAIN LINE BETWEEN HVAC AND AV CIRCUIT	463	
Diagnosis Procedure	463	
MAIN LINE BETWEEN AV AND BCM CIRCUIT	464	
Diagnosis Procedure	464	
MAIN LINE BETWEEN BCM AND TCM CIRCUIT	465	
Diagnosis Procedure	465	
MAIN LINE BETWEEN TCM AND STRG CIRCUIT	466	
Diagnosis Procedure	466	
MAIN LINE BETWEEN STRG AND CGW CIRCUIT	467	
Diagnosis Procedure	467	
MAIN LINE BETWEEN CGW AND 4WD CIRCUIT	468	
Diagnosis Procedure	468	
MAIN LINE BETWEEN 4WD AND ABS CIRCUIT	470	
Diagnosis Procedure	470	
MAIN LINE BETWEEN DLC AND ICC CIRCUIT	472	
Diagnosis Procedure	472	
MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT	474	
Diagnosis Procedure	474	
MAIN LINE BETWEEN RDR-R AND APA CIRCUIT	475	A
Diagnosis Procedure	475	
MAIN LINE BETWEEN APA AND LANE CIRCUIT	477	B
Diagnosis Procedure	477	
ECM BRANCH LINE CIRCUIT	478	C
Diagnosis Procedure	478	
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	480	D
Diagnosis Procedure	480	
DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	481	E
Diagnosis Procedure	481	
A-BAG BRANCH LINE CIRCUIT	482	F
Diagnosis Procedure	482	
M&A BRANCH LINE CIRCUIT	483	G
Diagnosis Procedure	483	
TCU BRANCH LINE CIRCUIT	484	H
Diagnosis Procedure	484	
TPMS BRANCH LINE CIRCUIT	485	I
Diagnosis Procedure	485	
HVAC BRANCH LINE CIRCUIT	486	J
Diagnosis Procedure	486	
AV BRANCH LINE CIRCUIT	487	K
Diagnosis Procedure	487	
BCM BRANCH LINE CIRCUIT	489	L
Diagnosis Procedure	489	
TCM BRANCH LINE CIRCUIT	490	
Diagnosis Procedure	490	
STRG BRANCH LINE CIRCUIT	492	LAN
Diagnosis Procedure	492	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)	493	N
Diagnosis Procedure	493	
CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)	494	O
Diagnosis Procedure	494	
4WD BRANCH LINE CIRCUIT	495	P
Diagnosis Procedure	495	
ABS BRANCH LINE CIRCUIT	496	
Diagnosis Procedure	496	
AFS BRANCH LINE CIRCUIT	497	
Diagnosis Procedure	497	

IPDM-E BRANCH LINE CIRCUIT	498
Diagnosis Procedure	498
AVM BRANCH LINE CIRCUIT	499
Diagnosis Procedure	499
SONAR BRANCH LINE CIRCUIT	500
Diagnosis Procedure	500
ADP BRANCH LINE CIRCUIT	501
Diagnosis Procedure	501
ICC BRANCH LINE CIRCUIT	502
Diagnosis Procedure	502
PSB BRANCH LINE CIRCUIT	503
Diagnosis Procedure	503
RDR-L BRANCH LINE CIRCUIT	504
Diagnosis Procedure	504
BSW/BUZZER BRANCH LINE CIRCUIT	505
Diagnosis Procedure	505
RDR-R BRANCH LINE CIRCUIT	506
Diagnosis Procedure	506
APA BRANCH LINE CIRCUIT	507
Diagnosis Procedure	507
LANE BRANCH LINE CIRCUIT	508
Diagnosis Procedure	508
LASER BRANCH LINE CIRCUIT	509
Diagnosis Procedure	509
CAN COMMUNICATION CIRCUIT 1	510
Diagnosis Procedure	510
CAN COMMUNICATION CIRCUIT 2	512
Diagnosis Procedure	512
ITS COMMUNICATION CIRCUIT	514
Diagnosis Procedure	514
CAN SYSTEM (TYPE 9)	
DTC/CIRCUIT DIAGNOSIS	516
MAIN LINE BETWEEN DLC AND A-BAG CIR- CUIT	516
Diagnosis Procedure	516
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	517
Diagnosis Procedure	517
MAIN LINE BETWEEN M&A AND TCU CIR- CUIT	518
Diagnosis Procedure	518
MAIN LINE BETWEEN TCU AND TPMS CIR- CUIT	519
Diagnosis Procedure	519

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	520
Diagnosis Procedure	520
MAIN LINE BETWEEN HVAC AND AV CIR- CUIT	521
Diagnosis Procedure	521
MAIN LINE BETWEEN AV AND BCM CIR- CUIT	522
Diagnosis Procedure	522
MAIN LINE BETWEEN BCM AND TCM CIR- CUIT	523
Diagnosis Procedure	523
MAIN LINE BETWEEN TCM AND STRG CIR- CUIT	524
Diagnosis Procedure	524
MAIN LINE BETWEEN STRG AND CGW CIR- CUIT	525
Diagnosis Procedure	525
MAIN LINE BETWEEN CGW AND 4WD CIR- CUIT	526
Diagnosis Procedure	526
MAIN LINE BETWEEN 4WD AND ABS CIR- CUIT	528
Diagnosis Procedure	528
MAIN LINE BETWEEN DLC AND AVM CIR- CUIT	530
Diagnosis Procedure	530
MAIN LINE BETWEEN AVM AND ADP CIR- CUIT	531
Diagnosis Procedure	531
ECM BRANCH LINE CIRCUIT	532
Diagnosis Procedure	532
DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 1)	534
Diagnosis Procedure	534
DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 2)	535
Diagnosis Procedure	535
A-BAG BRANCH LINE CIRCUIT	536
Diagnosis Procedure	536
M&A BRANCH LINE CIRCUIT	537
Diagnosis Procedure	537
TCU BRANCH LINE CIRCUIT	538
Diagnosis Procedure	538
TPMS BRANCH LINE CIRCUIT	539
Diagnosis Procedure	539

HVAC BRANCH LINE CIRCUIT	540	MAIN LINE BETWEEN TCU AND TPMS CIR- CUIT	562
Diagnosis Procedure	540	Diagnosis Procedure	562
AV BRANCH LINE CIRCUIT	541	MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT	563
Diagnosis Procedure	541	Diagnosis Procedure	563
BCM BRANCH LINE CIRCUIT	543	MAIN LINE BETWEEN HVAC AND AV CIR- CUIT	564
Diagnosis Procedure	543	Diagnosis Procedure	564
TCM BRANCH LINE CIRCUIT	544	MAIN LINE BETWEEN AV AND BCM CIR- CUIT	565
Diagnosis Procedure	544	Diagnosis Procedure	565
STRG BRANCH LINE CIRCUIT	546	MAIN LINE BETWEEN BCM AND TCM CIR- CUIT	566
Diagnosis Procedure	546	Diagnosis Procedure	566
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 1)	547	MAIN LINE BETWEEN TCM AND STRG CIR- CUIT	567
Diagnosis Procedure	547	Diagnosis Procedure	567
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 2)	548	MAIN LINE BETWEEN STRG AND CGW CIR- CUIT	568
Diagnosis Procedure	548	Diagnosis Procedure	568
4WD BRANCH LINE CIRCUIT	549	MAIN LINE BETWEEN CGW AND 4WD CIR- CUIT	569
Diagnosis Procedure	549	Diagnosis Procedure	569
ABS BRANCH LINE CIRCUIT	550	MAIN LINE BETWEEN 4WD AND ABS CIR- CUIT	571
Diagnosis Procedure	550	Diagnosis Procedure	571
IPDM-E BRANCH LINE CIRCUIT	551	MAIN LINE BETWEEN DLC AND ICC CIR- CUIT	573
Diagnosis Procedure	551	Diagnosis Procedure	573
AVM BRANCH LINE CIRCUIT	552	MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT	575
Diagnosis Procedure	552	Diagnosis Procedure	575
SONAR BRANCH LINE CIRCUIT	553	MAIN LINE BETWEEN RDR-R AND APA CIR- CUIT	576
Diagnosis Procedure	553	Diagnosis Procedure	576
ADP BRANCH LINE CIRCUIT	554	MAIN LINE BETWEEN APA AND LANE CIR- CUIT	578
Diagnosis Procedure	554	Diagnosis Procedure	578
CAN COMMUNICATION CIRCUIT 1	555	ECM BRANCH LINE CIRCUIT	579
Diagnosis Procedure	555	Diagnosis Procedure	579
CAN COMMUNICATION CIRCUIT 2	557	DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 1)	581
Diagnosis Procedure	557	Diagnosis Procedure	581
CAN SYSTEM (TYPE 10)		DLC BRANCH LINE CIRCUIT (CAN COMMU- NICATION CIRCUIT 2)	582
DTC/CIRCUIT DIAGNOSIS	559		
MAIN LINE BETWEEN DLC AND A-BAG CIR- CUIT	559		
Diagnosis Procedure	559		
MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT	560		
Diagnosis Procedure	560		
MAIN LINE BETWEEN M&A AND TCU CIR- CUIT	561		
Diagnosis Procedure	561		

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

Diagnosis Procedure	582	IPDM-E BRANCH LINE CIRCUIT	599
A-BAG BRANCH LINE CIRCUIT	583	Diagnosis Procedure	599
Diagnosis Procedure	583	AVM BRANCH LINE CIRCUIT	600
M&A BRANCH LINE CIRCUIT	584	Diagnosis Procedure	600
Diagnosis Procedure	584	SONAR BRANCH LINE CIRCUIT	601
TCU BRANCH LINE CIRCUIT	585	Diagnosis Procedure	601
Diagnosis Procedure	585	ADP BRANCH LINE CIRCUIT	602
TPMS BRANCH LINE CIRCUIT	586	Diagnosis Procedure	602
Diagnosis Procedure	586	ICC BRANCH LINE CIRCUIT	603
HVAC BRANCH LINE CIRCUIT	587	Diagnosis Procedure	603
Diagnosis Procedure	587	PSB BRANCH LINE CIRCUIT	604
AV BRANCH LINE CIRCUIT	588	Diagnosis Procedure	604
Diagnosis Procedure	588	RDR-L BRANCH LINE CIRCUIT	605
BCM BRANCH LINE CIRCUIT	590	Diagnosis Procedure	605
Diagnosis Procedure	590	BSW/BUZZER BRANCH LINE CIRCUIT	606
TCM BRANCH LINE CIRCUIT	591	Diagnosis Procedure	606
Diagnosis Procedure	591	RDR-R BRANCH LINE CIRCUIT	607
STRG BRANCH LINE CIRCUIT	593	Diagnosis Procedure	607
Diagnosis Procedure	593	APA BRANCH LINE CIRCUIT	608
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 1)	594	Diagnosis Procedure	608
Diagnosis Procedure	594	LANE BRANCH LINE CIRCUIT	609
CGW BRANCH LINE CIRCUIT (CAN COM- MUNICATION CIRCUIT 2)	595	Diagnosis Procedure	609
Diagnosis Procedure	595	LASER BRANCH LINE CIRCUIT	610
4WD BRANCH LINE CIRCUIT	596	Diagnosis Procedure	610
Diagnosis Procedure	596	CAN COMMUNICATION CIRCUIT 1	611
ABS BRANCH LINE CIRCUIT	597	Diagnosis Procedure	611
Diagnosis Procedure	597	CAN COMMUNICATION CIRCUIT 2	613
AFS BRANCH LINE CIRCUIT	598	Diagnosis Procedure	613
Diagnosis Procedure	598	ITS COMMUNICATION CIRCUIT	615
		Diagnosis Procedure	615

PRECAUTION

PRECAUTIONS

Precautions for Trouble Diagnosis

INFOID:0000000011255133

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.

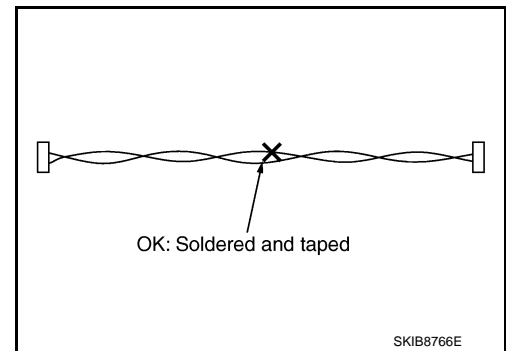
Precautions for Harness Repair

INFOID:0000000011255134

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

NOTE:

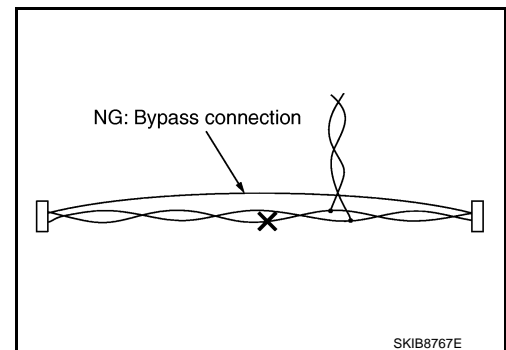
A fray of twisted lines must be within 110 mm (4.33 in).



- 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.

LAN

SYSTEM DESCRIPTION

SYSTEM

CAN COMMUNICATION SYSTEM

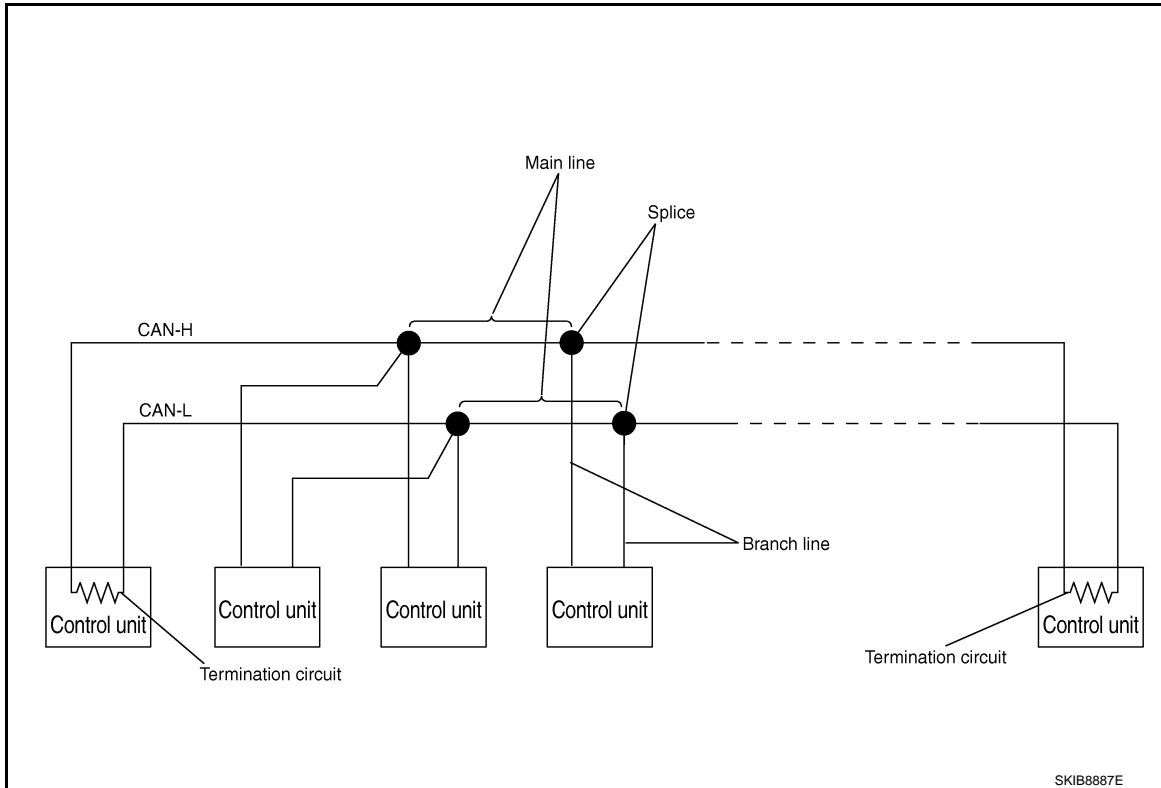
CAN COMMUNICATION SYSTEM : System Description

INFOID:0000000011255135

- CAN communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with two communication lines (CAN-H and CAN-L).
- Control units on the CAN network transmit signals using the CAN communication control circuit. They receive only necessary signals from other control units to operate various functions.
- CAN communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

CAN COMMUNICATION SYSTEM : System Diagram

INFOID:0000000011255136

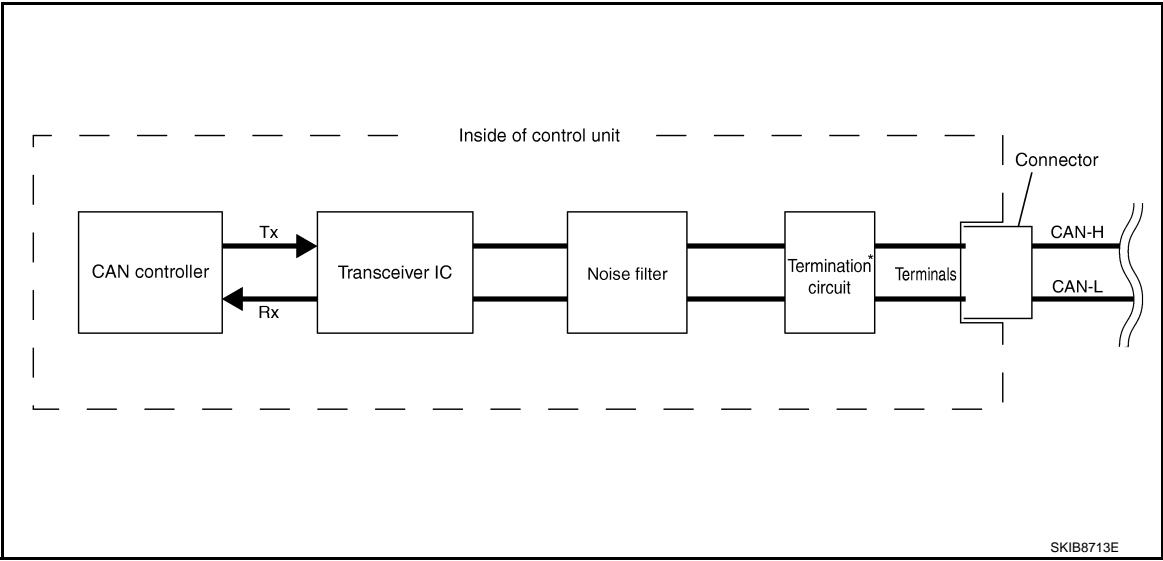


Each control unit passes an electric current to the termination circuits when transmitting CAN communication signal. The termination circuits produce an electrical potential difference between CAN-H and CAN-L. CAN communication system transmits and receives CAN communication signals by the potential difference.

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	Refer to LAN-17, "CAN COMMUNICATION SYSTEM : CAN Communication Control Circuit" .

CAN COMMUNICATION SYSTEM : CAN Communication Control Circuit

INFOID:0000000011255137



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)	It produces potential difference.

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

DIAG ON CAN

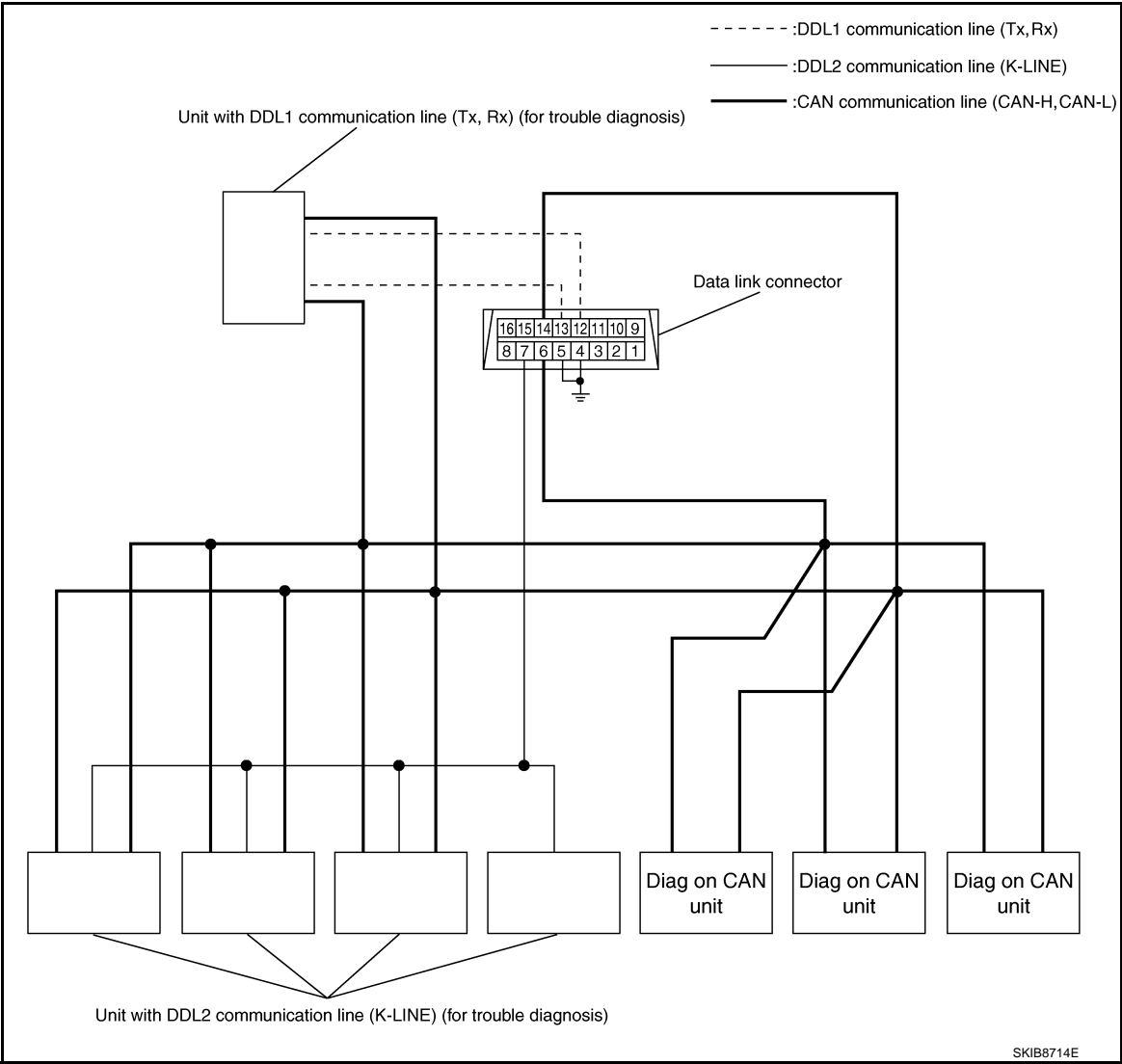
DIAG ON CAN : Description

INFOID:0000000011255138

“Diag on CAN” is a diagnosis using CAN communication instead of previous DDL1 and DDL2 communication lines, between control units and diagnosis unit.

DIAG ON CAN : System Diagram

INFOID:0000000011255139



Name	Harness	Description
DDL1	Tx Rx	It is used for trouble diagnosis. (CAN-H and CAN-L are used for controlling)
DDL2	K-LINE	It is used for trouble diagnosis. (CAN-H and CAN-L are used for controlling)
Diag on CAN	CAN-H CAN-L	It is used for trouble diagnosis and control.

TROUBLE DIAGNOSIS

Condition of Error Detection

INFOID:0000000011255140

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.

CAUTION:

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 unit.

Symptom When Error Occurs in CAN Communication System

INFOID:0000000011255141

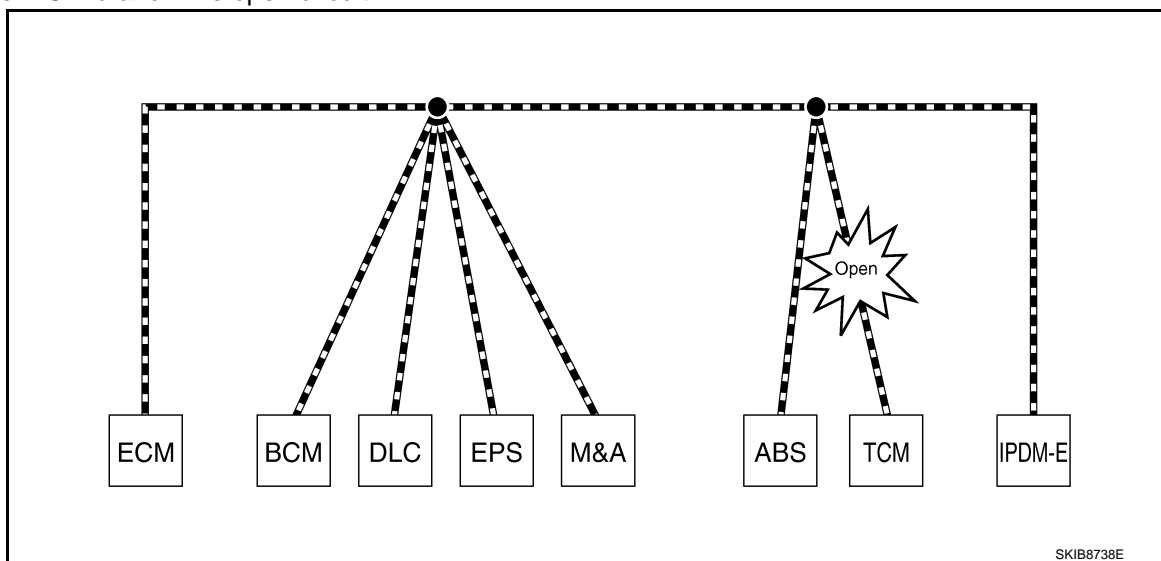
In CAN communication system, multiple units mutually transmit and receive signals. Each unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

ERROR EXAMPLE

NOTE:

- Each vehicle differs in symptom of each unit under fail-safe mode and CAN communication line wiring.
- Refer to [LAN-30, "Abbreviation List"](#) for the unit abbreviation.

Example: TCM branch line open circuit



Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	Reverse warning chime does not sound.

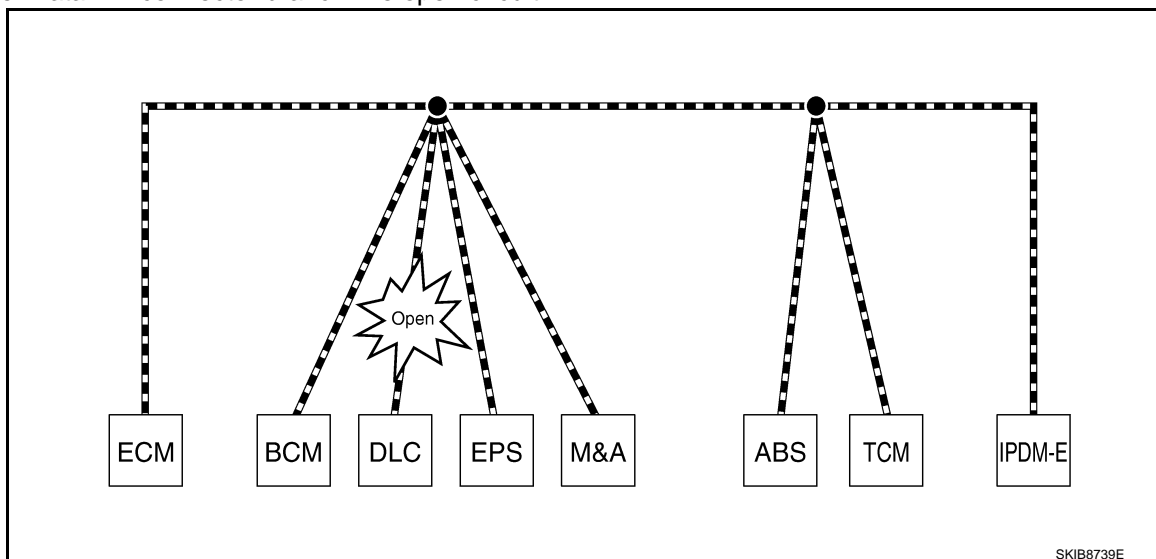
TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Unit name	Major symptom
EPS control unit	Normal operation.
Combination meter	<ul style="list-style-type: none"> Shift position indicator and OD 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.

Example: Data link connector branch line open circuit



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.
- The model (all 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.

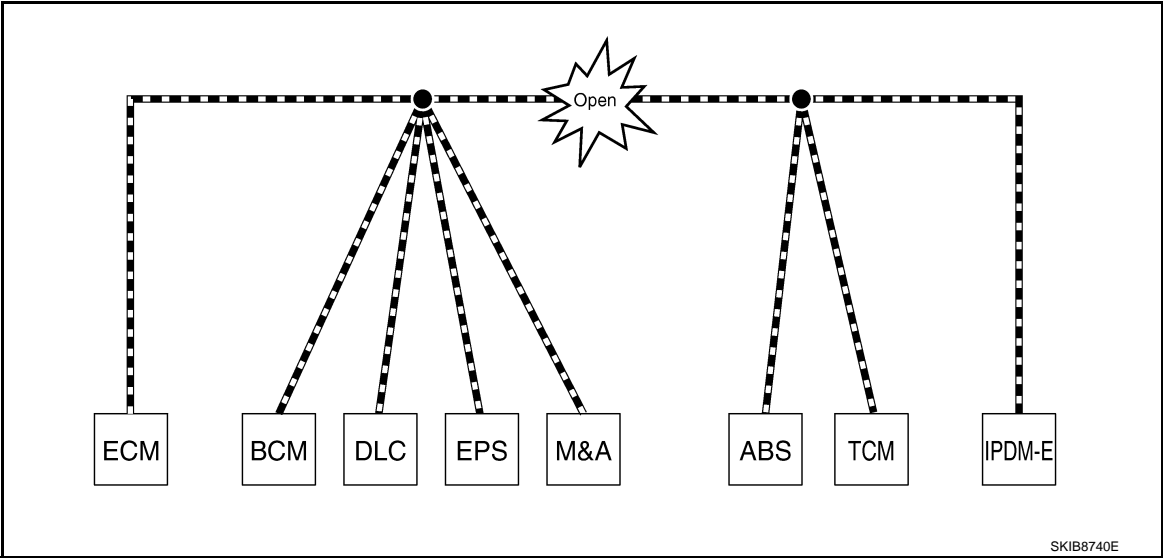
Error	Difference of symptom
Data link connector branch line open circuit	Normal operation.
CAN-H, CAN-L harness short-circuit	Most of the units which are connected to the CAN communication system enter fail-safe mode or are deactivated.

TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

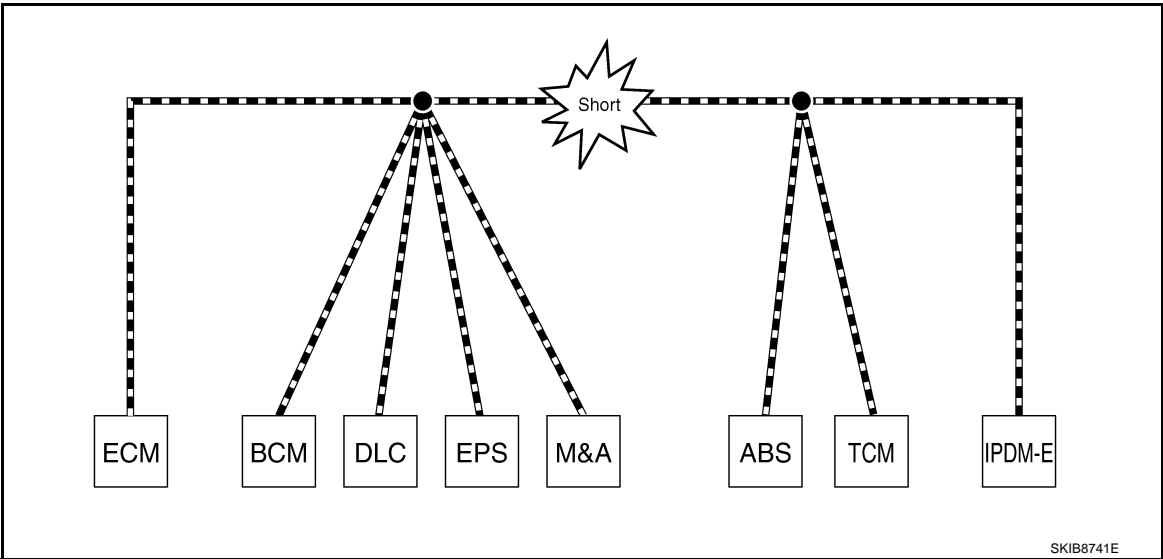
[CAN FUNDAMENTAL]

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 chime 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	<p>When the ignition switch is ON,</p> <ul style="list-style-type: none">The headlamps (Lo) turn ON.The cooling fan continues to rotate.

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



TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

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 chime 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:0000000011255142

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

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

Self-Diagnosis

INFOID:0000000011255143

If communication signals cannot be transmitted or received among 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:0000000011255144

MONITOR ITEM (CONSULT)

TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

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	-

JSMIA0964GB

Without PAST

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

MONITOR ITEM (ON-BOARD DIAGNOSIS)

NOTE:

For some models, CAN communication diagnosis result is received from the vehicle monitor.

TROUBLE DIAGNOSIS

[CAN FUNDAMENTAL]

< SYSTEM DESCRIPTION >

Example: Vehicle Display

Item	Result indicated	Error counter	Description
CAN_COMM (Initial diagnosis)	OK	0	Normal at present
	NG	1 – 50	Control unit error (The number indicates how many times diagnosis has been run.)
CAN_CIRC_1 (Transmission diagnosis)	OK	0	Normal at present
	UNKWN	1 – 50	Unable to transmit for 2 seconds or more at present. (The number indicates how many times diagnosis has been run.)
CAN_CIRC_2 – 9 (Reception diagnosis of each unit)	OK	0	Normal at present
	UNKWN	1 – 50	Unable to transmit for 2 seconds or more at present. (The number indicates how many times diagnosis has been run.)
			Diagnosis not performed. No control unit for receiving signals. (No applicable optional parts)

How to Use CAN Communication Signal Chart

INFOID:000000011255145

The CAN communication signal chart lists the signals needed for trouble diagnosis. It is useful for detecting the root cause by finding a signal related to the symptom, and by checking transmission and reception unit.

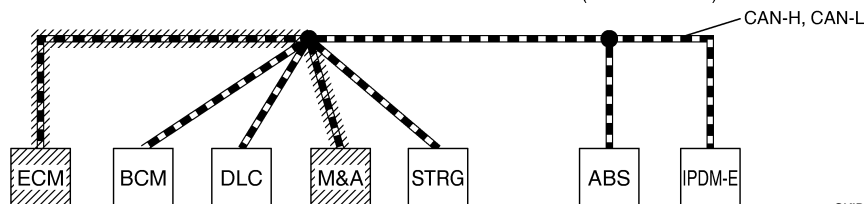
Example: Tachometer does not move even though the engine rotates.

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.

It indicates that an error occurs between ECM and M&A (Shaded area).



SKIB8715E

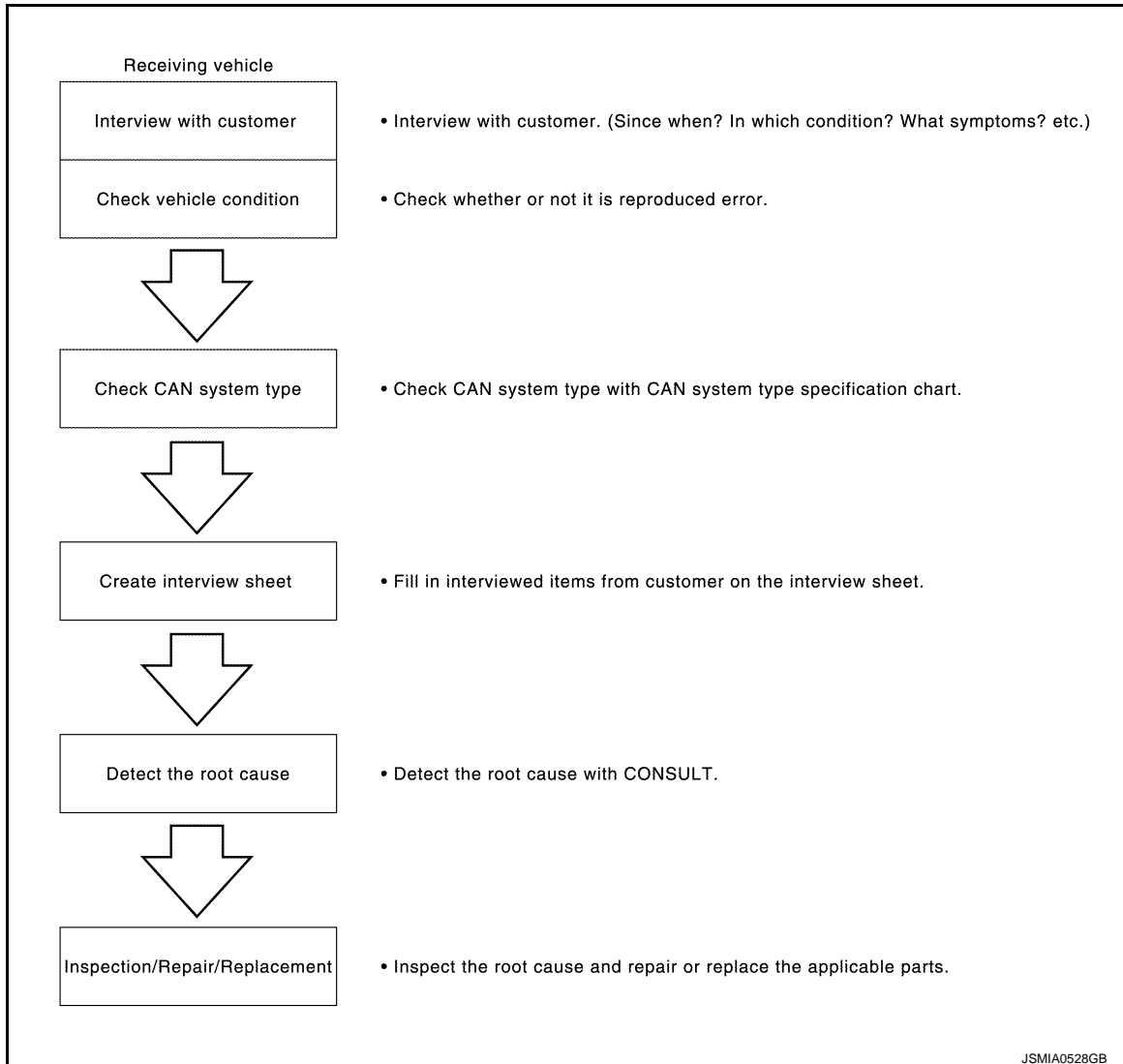
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart

INFOID:0000000011255146

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:

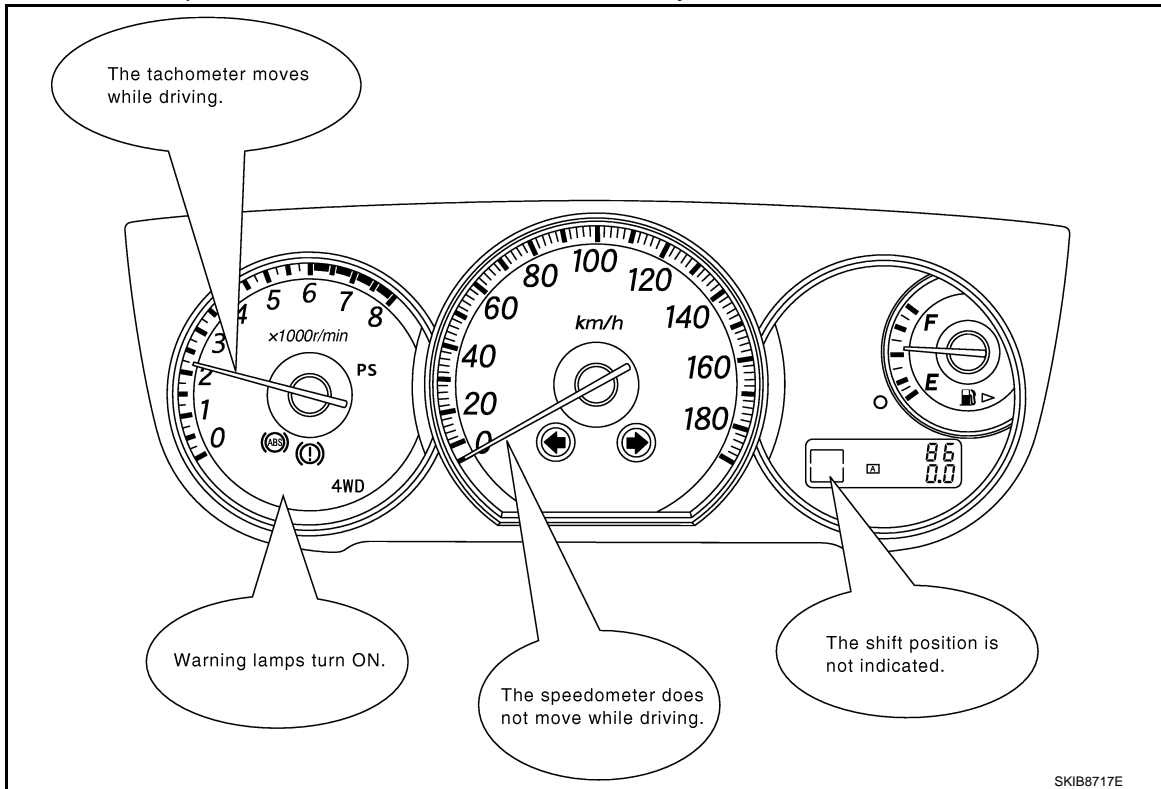
- Check normal units as well as error symptoms.
- Example: Circuit between ECM and the combination meter is judged normal if the customer indicates tachometer functions normally.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

- 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.

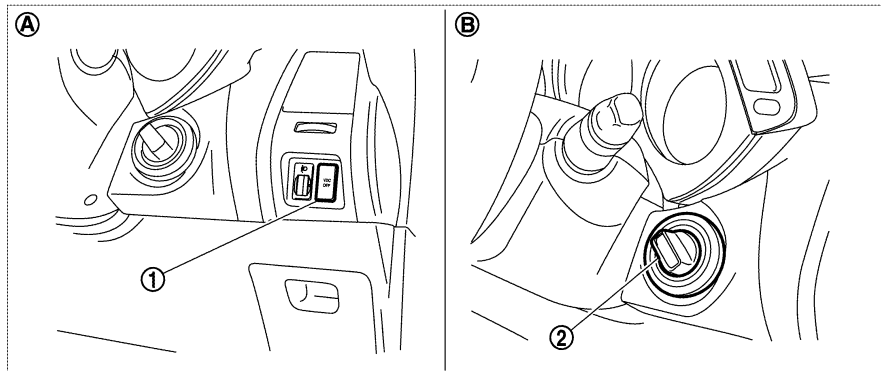
Body type	Wagon					
Axle	2WD				AWD	
Engine	QR25DE		VQ35DE			
Transmission	A/T		CVT			
Brake control	ABS				VDC	
Intelligent Key system		×		×		×
CAN system type	1	2	3	4	5	6
CAN communication control unit						
ECM	×	×	×	×	×	×
AWD control unit					×	×
Air bag diagnosis sensor unit	×	×	×	×	×	×
BCM	×	×	×	×	×	×
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.



1. VDC OFF switch

A. With VDC

2. Ignition knob

B. With Intelligent Key system

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

In the above example,
• Checking VDC OFF switch leads to judge whether or not VDC is equipped.

• Checking the ignition knob leads to judge whether or not Intelligent Key system is equipped.

• CAN System Type Specification Chart (Style B)

NOTE:

JSMIA0529GB

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		x			x	x			x	x		x
Intelligent Key system			x		x		x	x	x	x	x	x
Navigation system				x		x	x		x		x	x
Automatic drive positioner								x		x	x	x
CAN system type	9	10	11	12	13	14	15	16	17	18	19	20
CAN communication control unit												
ECM	x	x	x	x	x	x	x	x	x	x	x	x
AFS control unit		x			x	x			x	x		x
BCM	x	x	x	x	x	x	x	x	x	x	x	x
IPDM E/R	x	x	x	x	x	x	x	x	x	x	x	x

×: Applicable

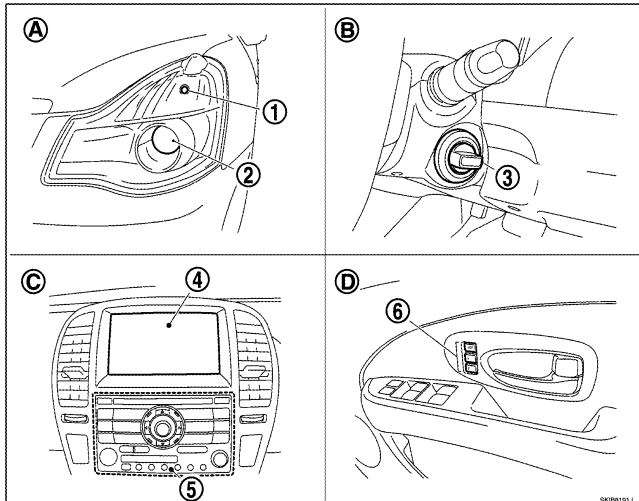
Check the vehicle equipment.

← 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.



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

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.

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

JSMIA0530GB

>> 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:

Interview Sheet (Example)

CAN Communication System Diagnosis Interview Sheet	
	Date received: <input style="width: 100%;" type="text" value="3, Feb. 2006"/>
Type: <input style="width: 100%;" type="text" value="DBA-KG11"/>	VIN No.: <input style="width: 100%;" type="text" value="KG11-005040"/>
Model: <input style="width: 100%;" type="text" value="BDRARGZG11EDA-E-J-"/>	
First registration: <input style="width: 100%;" type="text" value="10, Jan. 2001"/>	Mileage: <input style="width: 100%;" type="text" value="62,140"/>
CAN system type: <input style="width: 100%;" type="text" value="Type 19"/>	
<p>Symptom (Results from interview with customer)</p> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <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. </div>	
<p>Condition at inspection</p> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>Error Symptom: Present / Past</p> <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. </div>	

JSMIA0531GB

>> 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-76, "CAN Communication Circuit"](#).
ITS communication circuit>> Refer to [LAN-77, "ITS Communication Circuit"](#).

LAN

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Caution

INFOID:0000000011255148

- This section describes information peculiar to a vehicle and inspection procedures.
- For trouble diagnosis procedure, refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).

Abbreviation List

INFOID:0000000011255149

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
APA	Accelerator pedal actuator
AV	AV control unit
AVM	Around view monitor control unit
BCM	BCM
BSW/BUZZER	Driver assistance buzzer control module
CGW	CAN gateway
DLC	Data link connector
ECM	ECM
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
TPMS	Low tire pressure warning control unit

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011255150

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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, 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, and wait at least 3 minutes before performing any service.

Precautions for Removing Battery Terminal

INFOID:0000000011255151

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

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.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

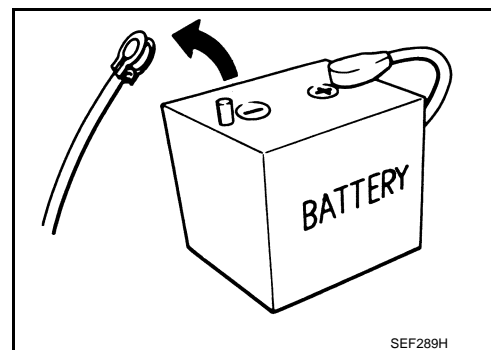
NOTE:

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:0000000011255152

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.

PRECAUTIONS

< PRECAUTION >

[CAN]

- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

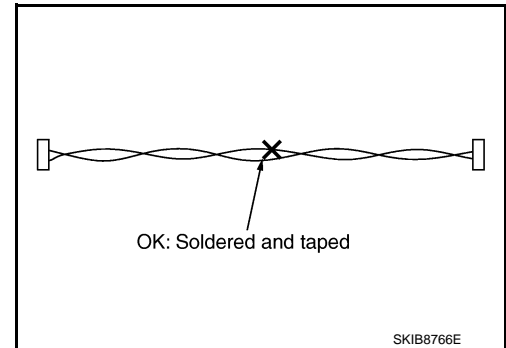
Precautions for Harness Repair

INFOID:0000000011255153

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

NOTE:

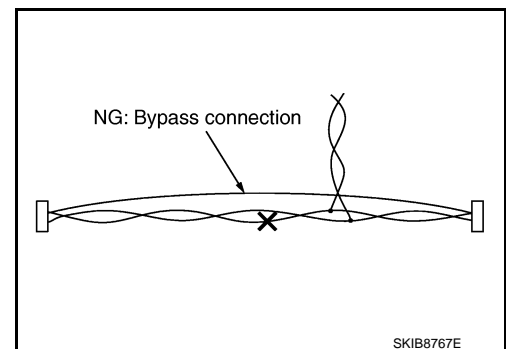
A fray of twisted lines must be within 110 mm (4.33 in).



- 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.



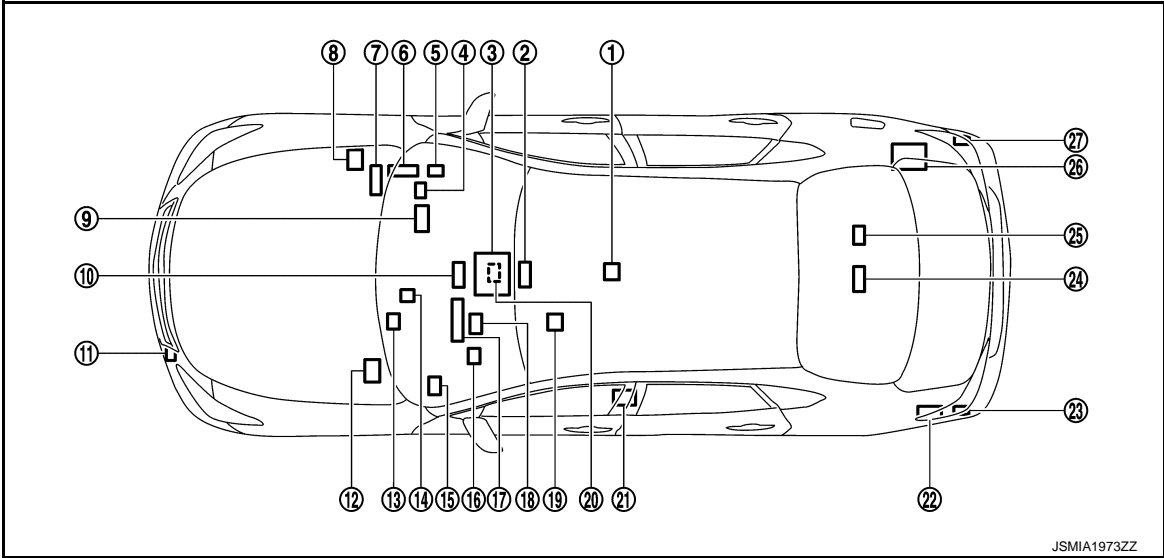
- Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011255154



- | | | |
|---|---|--|
| 1. Air bag diagnosis sensor unit | 2. Lane camera unit | 3. A/T assembly |
| 4. CAN gateway | 5. Low tire pressure warning control unit | 6. A/C auto amp. |
| 7. ECM | 8. IPDM E/R | 9. TCU |
| 10. AV control unit | 11. ICC sensor | 12. ABS actuator and electric unit (control unit) |
| 13. BCM | 14. Accelerator pedal actuator | 15. AFS control unit |
| 16. Data link connector | 17. Combination meter | 18. Steering angle sensor |
| 19. Driver seat control unit | 20. Sonar control unit | 21. Pre-crash seat belt control unit (driver side) |
| 22. AWD control unit | 23. Side radar LH | 24. ADAS control unit |
| 25. Driver assistance buzzer control module | 26. Around view monitor control unit | 27. Side radar RH |

LAN

SYSTEM

CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM : CAN System Specification Chart

INFOID:0000000011255155

Determine CAN system type from the following specification chart.

NOTE:

Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#) for how to use CAN system specification chart.

Body type	Sedan									
Axle	2WD					AWD				
Engine	VQ37VHR		VK56VD			VQ37VHR			VK56VD	
Transmission	A/T									
Brake control	VDC									
Telematics system		×	×	×	×		×	×	×	×
Active AFS			×		×			×		×
CAN system type	1	2	3	4	5	6	7	8	9	10
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
Air bag diagnosis sensor unit	×	×	×	×	×	×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×
TCU		×	×	×	×		×	×	×	×
AV control unit	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×
CAN gateway		×	×	×	×		×	×	×	×
A/C auto amp.	×	×	×	×	×	×	×	×	×	×
Low tire pressure warning control unit	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×	×	×	×	×	×	×
AWD control unit						×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×
AFS control unit			×		×			×		×
IPDM E/R	×	×	×	×	×	×	×	×	×	×
Around view monitor control unit		×		×			×		×	
Sonar control unit		×		×			×		×	
Driver seat control unit	×	×	×	×	×	×	×	×	×	×
ADAS control unit			×		×			×		×
Pre-crash seat belt control unit (driver side)			×		×			×		×
ITS communication unit										
ADAS control unit			×		×			×		×
Side radar LH			×		×			×		×
Around view monitor control unit			×		×			×		×
Sonar control unit			×		×			×		×
Side radar RH			×		×			×		×
Accelerator pedal actuator			×		×			×		×

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

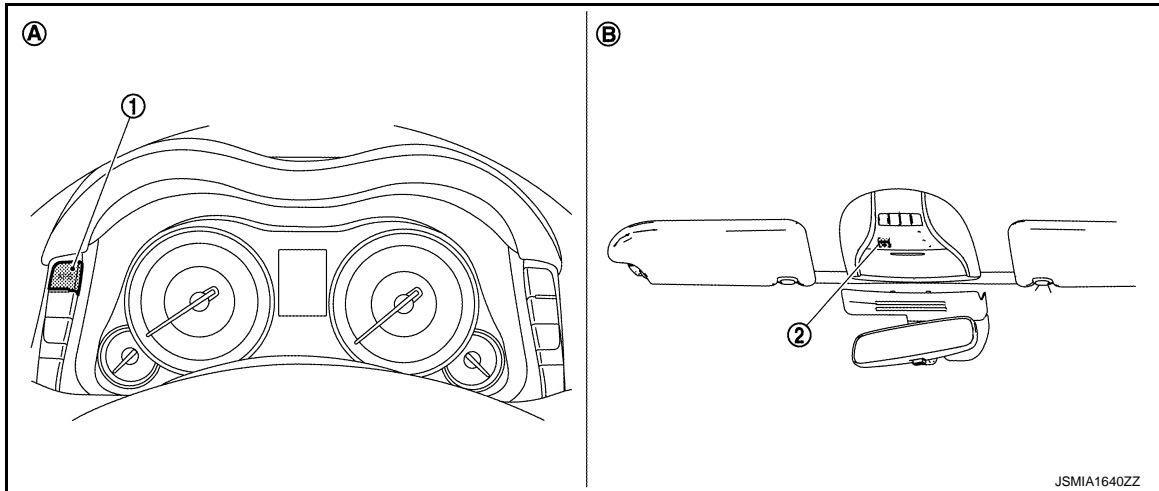
Body type	Sedan									
Axle	2WD					AWD				
Engine	VQ37VHR		VK56VD		VQ37VHR		VK56VD			
Transmission	A/T									
Brake control	VDC									
Telematics system		×	×	×	×		×	×	×	×
Active AFS			×		×			×		×
CAN system type	1	2	3	4	5	6	7	8	9	10
Lane camera unit			×		×			×		×
ICC sensor			×		×			×		×

×: Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION

NOTE:

Check CAN system type from the vehicle shape and equipment.



1. AFS switch

2. Telematics switch

A. With active AFS

B. With telematics system

CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart

INFOID:0000000011255156

Refer to [LAN-24, "How to Use CAN Communication Signal Chart"](#) for how to use CAN communication signal chart.

NOTE:

Refer to [LAN-30, "Abbreviation List"](#) for the abbreviations of the connecting units.

T: Transmit R: Receive

Signal name	ECM	A-BAG	M&A	TCU	AV	BCM	CGW	HVAC	TPMS	STRG	TCM	4WD	ABS	AFS	IPDM-E	AVM ^{*1}	SONAR ^{*1}	ADP	ICC	PSB
A/C compressor request signal	T														R					
Accelerator pedal position signal	T										R	R	R						R	
ASCD OD cancel request signal	T										R									
ASCD operation signal	T										R									
ASCD status signal	T		R																	

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	A-BAG	M&A	TCU	AV	BCM	CGW	HVAC	TPMS	STRG	TCM	4WD	ABS	AFS	IPDM-E	AVM ^{*1}	SONAR ^{*1}	ADP	ICC	PSB
Closed throttle position signal	T										R								R	
Cooling fan speed request 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					R	
Engine status signal	T		R	R	R	R														
Fuel consumption monitor signal	T		R		R															
ICC brake switch signal	T																		R	
ICC operation signal	T										R									
	R												R						T	
ICC prohibition signal	T																		R	
ICC steering switch signal	T																		R	
Malfunctioning indicator lamp signal	T		R	R																
N idle instruction signal	R										T									
	T										R									
Oil pressure warning lamp signal	T		R																	
Power generation command value signal	T														R					
Snow mode switch signal	T												R						R	
Stop lamp switch signal	T																		R	
						T					R									
												R	T						R	
Wide open throttle position signal	T										R									
Car crash information signal		T		R																
Sleep-ready signal				T		R														
			T			R														
						R									T					
Wake up signal				T		R														
			T			R														
Brake fluid level switch signal			T										R							

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	A-BAG	M&A	TCU	AV	BCM	CGW	HVAC	TPMS	STRG	TCM	4WD	ABS	AFS	IPDM-E	AVM ^{*1}	SONAR ^{*1}	ADP	ICC	PSB
Distance to empty signal			T		R															
Fuel level low warning signal			T		R															
Fuel level sensor signal	R		T																	
Manual mode shift down signal			T								R									
Manual mode shift up signal			T								R									
Manual mode signal			T								R									
Non-manual mode signal			T								R									
Odometer signal			T			R														
Paddle shifter shift down signal ^{*2}			T								R			R						
Paddle shifter shift up signal ^{*2}			T								R									
Parking brake switch signal			T			R						R	R						R	
Seat belt buckle switch signal (driver side)			T			R														
Vehicle speed signal	R		T		R	R		R			R			R	R			R		R
			R			R			R			R	T			R	R	R	R	
Door lock/unlock request signal				T		R														
A/C switch operation signal					T			R												
Rear window defogger switch signal					T	R														
System selection signal					T														R	
System setting signal					T	R														
					R	T														
Voice recognition signal					T			R												
Buzzer request signal						R			T											
			R			T														
Low tire pressure warning lamp signal			R			T														
			R		R	R			T											
Blower fan motor switch signal	R					T														
Buzzer output signal			R			T														
Daytime running light request signal						T									R					
Dimmer signal			R			T													R	
Door switch signal			R			T									R	R		R		R
Door lock status signal				R		T														
Door unlock signal						T												R		
Front fog light request signal			R			T									R	R				

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	A-BAG	M&A	TCU	AV	BCM	CGW	HVAC	TPMS	STRG	TCM	4WD	ABS	AFS	IPDM-E	AVM ^{*1}	SONAR ^{*1}	ADP	ICC	PSB
Front wiper request signal						T									R				R	
Handle position signal						T												R		
High beam request signal			R			T									R	R				
Horn reminder signal						T									R					
Ignition switch ON signal						T									R					R
						R									T					
Ignition switch signal						T												R		R
Intelligent Key system warning display signal			R			T														
Interlock/PNP switch signal						T									R					
						R									T					
Key ID signal						T		R										R		
Low beam request signal						T									R	R				
Meter display signal			R			T														
			R																T	
Meter ring illumination request signal			R			T														
Oil pressure switch signal			R	R		T														
						R									T					
Position light request signal			R			T									R	R				
Rear window defogger control signal						T									R					
	R				R										T					
Sleep wake up signal			R	R		T	R								R			R		R
Starter control relay signal						T									R					
Starter relay status signal			R			T									R					
						R									T					
Starting mode signal						T												R		
Theft warning horn request signal						T									R					
Trunk switch signal			R			T														
Turn indicator signal			R			T					R								R	
A/C display signal					R			T												
A/C evaporator temperature signal	R							T												
A/C ON signal	R							T												
Ambient sensor signal			R					T												
Blower fan ON signal	R							T												
ECO mode signal			R					T			R								R	
	R										T									
SNOW mode signal			R					T			R								R	
	R										T									
SPORT mode signal			R					T			R								R	
	R										T									

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	A-BAG	M&A	TCU	AV	BCM	CGW	HVAC	TPMS	STRG	TCM	4WD	ABS	AFS	IPDM-E	AVM ^{*1}	SONAR ^{*1}	ADP	ICC	PSB
STANDARD mode signal	R		R					T			R								R	
Target A/C evaporator temperature signal	R							T			T									
Tire pressure data signal					R				T											
Steering angle sensor malfunction signal										T				R					R	R
Steering angle sensor signal					R					T			R	R		R			R	R
Steering angle speed signal										T									R	R
Steering calibration signal										T				R						R
A/T CHECK indicator lamp signal			R								T			R						
A/T self-diagnosis signal	R										T									
Current gear position signal	R										T								R	
Drive mode select signal	R										T								R	
Input speed signal											T								R	
Manual mode shift refusal signal			R								T									
N range signal						R					T		R							
Next gear position signal	R										T									
Output shaft revolution signal	R										T								R	
P range signal						R					T									
R range signal											T		R							
Shift position signal			R								T			R		R		R	R	R
Shift schedule signal	R										T									
AWD signal												T	R							
AWD warning lamp signal			R									T								
A/T shift schedule change demand signal											R		T							
ABS malfunction signal													T						R	
ABS operation signal											R		T						R	R
ABS warning lamp signal			R	R									T						R	
Brake warning lamp signal			R										T							
Decel G sensor signal			T	R																
Pressure sensor signal											R		T							
Rear LH wheel speed signal													T			R				
Rear RH wheel speed signal													T			R				
Side G sensor signal											R		T						R	

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

Signal name	ECM	A-BAG	M&A	TCU	AV	BCM	CGW	HVAC	TPMS	STRG	TCM	4WD	ABS	AFS	IPDM-E	AVM ^{*1}	SONAR ^{*1}	ADP	ICC	PSB
TCS gear keep request signal											R		T							
TCS malfunction signal													T						R	
TCS operation signal													T						R	
VDC malfunction signal											R		T						R	
VDC OFF indicator lamp signal			R										T							
VDC OFF switch signal													T						R	
VDC operation signal													T						R	
VDC warning lamp signal			R	R									T							
Yaw rate signal													T						R	
AFS OFF indicator lamp signal			R											T						
A/C compressor feedback signal	R							R							T					
Front wiper position signal						R									T					
High beam status signal	R														T					
Hood switch signal						R									T					
Low beam status signal	R													R	T					
Push-button ignition switch status signal						R									T					
Sonar setting change signal																T	R			
Sonar status signal																R	T			
Active Trace control signal													R						T	
Brake fluid pressure control signal													R						T	
BSI ON indicator signal			R																T	
BSW/BSI warning lamp signal			R																T	
FEB warning lamp signal			R																T	
FEB operation signal																			T	R
ICC warning lamp signal			R																T	
Lane departure warning lamp signal			R																T	
LDP ON indicator lamp signal			R																T	
Target yaw moment signal													R						T	

*1: Models without ICC system

*2: Models with paddle shifter

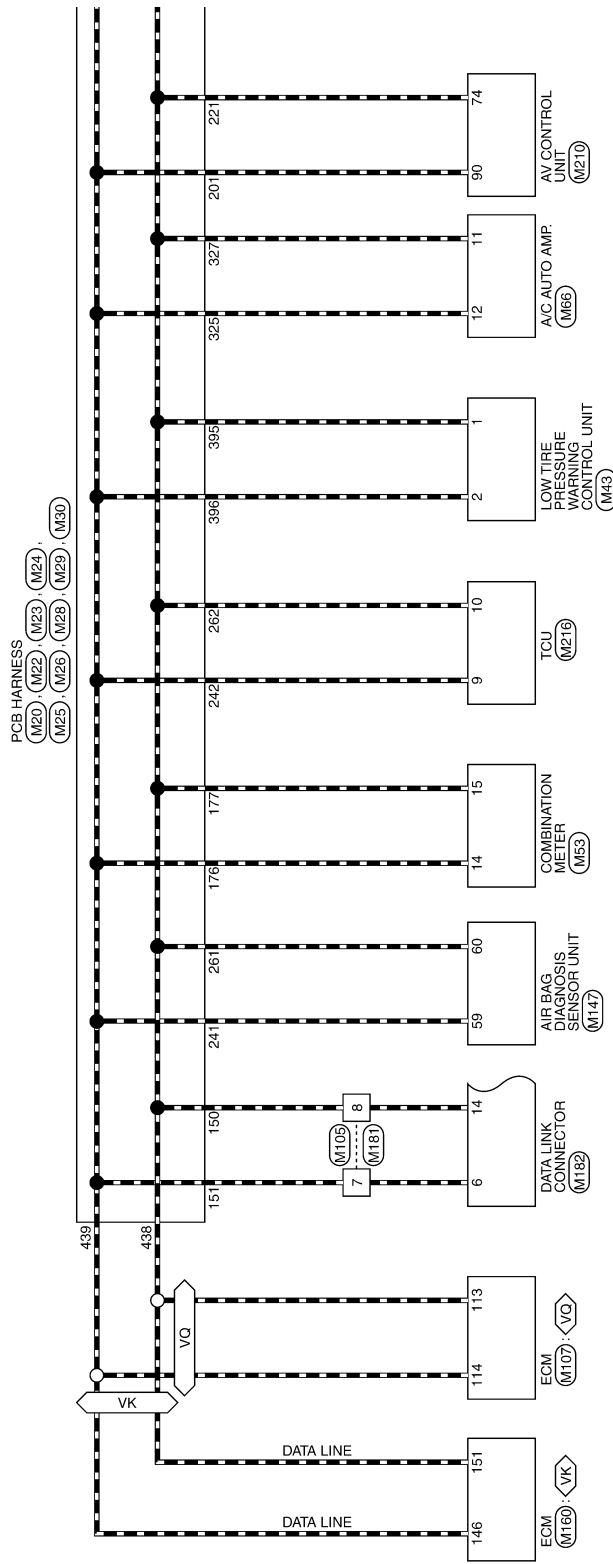
WIRING DIAGRAM

CAN SYSTEM (WITH ICC)

Wiring Diagram

INFOID:0000000011255157

<VQ> : With VQ engine
 <VK> : With VK engine
 <AW> : AWD models



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

2014/07/11

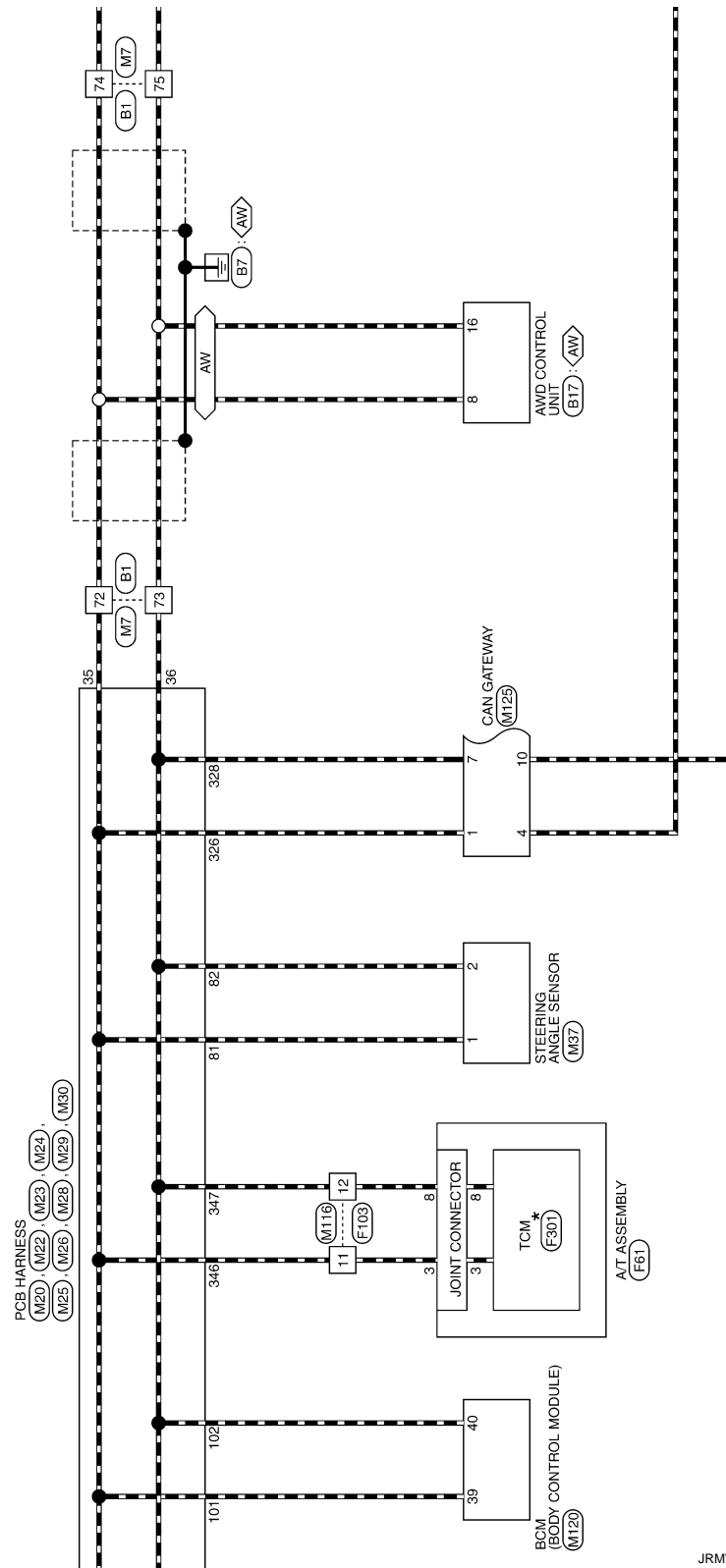
JRMWG1230GB

CAN SYSTEM (WITH ICC)

CAN SYSTEM (WITH ICC)

< WIRING DIAGRAM >

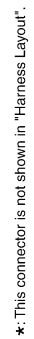
[CAN]



JRMWG1231GB

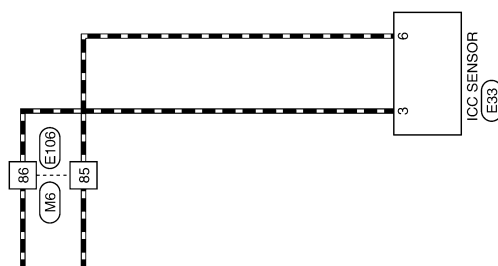
[CAN]

A
B
C
D
E
F
G
H
I
J
K
L
AN
N
O
P



[CAN]

2015 Q70



JRMWG1234GB

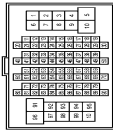
CAN SYSTEM (WITH ICC)

[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITH ICC)

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
4	LG	-
5	P	-
7	GR	-
8	Y	-
9	LG	-
10	V	-
11	GR	- [With climate controlled seat]
11	L	- [With heated seat]
12	GR	- [With heated seat]
12	P	- [With climate controlled seat]
13	BR	-
14	R	-
15	O	-
16	V	-
17	B	-
18	R	-
19	W	-
20	L	-
21	B	-
22	LG	-
23	V	-
24	Y	-
25	G	-
26	GR	-
27	SB	-
28	L/O	-
29	W/L	-
30	SHIELD	-
32	L	-
33	R	-
34	G	-
35	SHIELD	-
36	G	-

37	SB	-
40	SHIELD	-
41	GR/V	-
42	W/L	-
43	L	-
44	B	-
45	V	-
46	P	-
47	O	-
48	Y	-
49	BR	-
50	SB	-
51	V	-
52	LG	-
53	G	-
55	G	-
56	P	-
57	BR	-
58	LG	-
59	Y	-
60	W	-
61	B	-
62	LG	-
63	V	-
65	O	-
66	BR	-
67	V	-
68	LG	-
69	GR	-
70	R	-
72	L	-
73	P	-
74	L	-
75	P	-
76	Y	-
77	R	-
78	W	-
79	G	-
81	LG	-
82	BR	-
83	SB	-
84	Y	-
85	W	-
86	R	-
87	G	-
88	GR	-
91	SB	-
92	G	-
96	Y	-

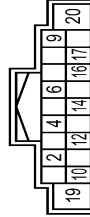
97	O	-
98	SB	-
99	LG	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	W	-
6	B	-
7	R	-
8	SHIELD	-
9	G	-
12	V	-
13	L	-
14	R	-
15	B	-
16	SHIELD	-
17	R	-
18	G	-
19	W	-
20	P	-
21	V	-
22	G	-
24	SB	-

Connector No.	B9
Connector Name	FIRE CRASH SEAT BELT CONTROL UNIT (POWER SIDE)
Connector Type	TH18FW-CS2



Terminal No.	Color Of Wire	Signal Name [Specification]
2	G	OUT 1
4	R	CAN L
6	LG	BUCKLE SW LH NO
9	SHIELD	SHIELD GND
10	R	SENS POWER 1
12	B	OUT 2
14	L	CAN H
16	Y	LOCAL COMM 1
17	W	SENS GND 1
19	Y	MOTOR BAT
20	B	MOTOR GND

Connector No.	B10
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN H
2	R	CAN L
5	BR	GROUND
6	L	ITS COMM-H
7	P	ITS COMM-L
12	GR	IGNITION
17	SB	BRAKE HOLD RLY DRIVE SIGNAL
18	Y	WARNING SYSTEMS SW

JRMWG1529GB

CAN SYSTEM (WITH ICC)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITH ICC)

19	O	WARNING SYSTEMS ON IND
22	BR	BCI SW

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



29	30	31	32	<div></div>	23	24		
25	26	1	27	2	28	35	41	40

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	B	-
23	L	-
24	P	- [Without CAN gateway]
24	R	- [With CAN gateway]
25	BR	-
26	W	-
27	L	-
28	P	-
29	O	-
30	V	-
31	BR	-
32	LG	-
35	LG	-
40	O	-
41	B	-

Connector No.	B17
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH



1	2	3	4	7	8
9	10	11	13	15	16

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	AWD SOL (+)
2	R	AWD SOL (-)
3	W	FLUID TEMP (-)
7	Y	IGN
8	L	CAN-H
9	SB	AWD SOL BAT
10	B/Y	GND
11	B/Y	GND
13	LG	FLUID TEMP (+)
15	G	BATTERY POWER SUPPLY
16	P	CAN-L

Connector No.	B33
Connector Name	WIRE TO WIRE
Connector Type	NS16FGY-CS



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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	O	-
3	O	-
6	G	-
8	GR	-
9	O	-
10	P	-
11	R/L	-
12	P/L	-

13	L	-
14	Y	-
15	SHIELD	-

Connector No.	B52
Connector Name	SIDE RADAR LH
Connector Type	AAO36FB-WP-5P



2	3	4	5	6
---	---	---	---	---

Terminal No.	Color Of Wire	Signal Name [Specification]
2	B/Y	GROUND
3	Y	ITS COMM-L
4	L	ITS COMM-H
5	GR	IGNITION
6	BR	BLU DOT IMPROVING STOP INTERVENTION INDICATOR

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-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
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
3	R	-
6	R	-
7	W	-
8	V	-
11	R	-
12	G	-
13	Y	-
14	L	-
15	R	- [Without ADAS]

15	Y	- [With ADAS]
17	GR	-
18	P	-
19	BR	-
20	GR	-
21	Y	-
22	GR	-
23	R	-
24	V	-
25	B	-
26	W	-
28	V	-
29	P	-
30	O	-
31	BR	-
32	Y	-
40	SHIELD	-
41	WR	-
42	V	-
45	SB	-
46	R	- [With climate controlled seat]
46	Y	- [With heated seat]
47	G	- [With climate controlled seat]
47	GR	- [With heated seat]
48	V	-
49	O	-
50	R	-
51	GR	-
52	LG	-
53	P	-
56	P	-
57	W	-
58	O	-
59	Y	-
61	SB	-
62	L	-
63	W	-
64	SB	-
65	LG	-
66	L	-
67	Y	-
68	SB	-
69	B	-
71	L	-
72	L	-
73	R	-
74	B	-
75	L	-
76	SHIELD	-
77	G	-

JRMWG1530GB

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

LAN

CAN SYSTEM (WITH ICC)

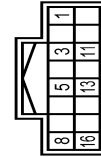
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITH ICC)

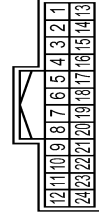
Terminal No.	Color Of Wire	Signal Name [Specification]
78	R	-
79	P	-
80	G	-
81	O	-
82	BR	-
83	GR	-
84	V	-
85	LG	-
86	W	-
87	O	-
88	Y	-
89	BR	-
90	L	-
91	BR	-
93	O	- [With heated seat] - [With climate controlled seat]
94	GR	-
96	W	-
97	P	-
98	LG	-
99	LG	-
100	Y	-

Connector No.	Signal Name [Specification]
B210	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Name	Connector Type
TH16FW-NH	



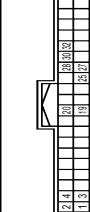
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	IGNITION
3	L	ITS COMM-H
5	B/R	GROUND
8	R	SPEAKER OUT(+)
11	Y	ITS COMM-L
13	B/R	GROUND
16	G	SPEAKER OUT(-)

Connector No.	Signal Name [Specification]
B222	WIRE TO WIRE
Connector Name	Connector Type
TH24FW-NH	



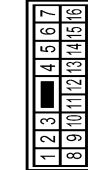
Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	B	-
6	R	-
7	G	-
8	SHIELD	-
9	W	-
12	P	-
13	L	-
14	R	-
15	B	-
16	SHIELD	-
17	R	-
18	G	-
19	W	-
20	P	-
21	V	-
22	G	-
24	SB	-

Connector No.	Signal Name [Specification]
B231	AROUND VIEW MONITOR CONTROL UNIT
Connector Name	Connector Type
TH40FW-NH	



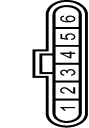
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/R	GROUND
2	Y	BATTERY POWER SUPPLY
3	W	IGNITION SIGNAL
4	V	ACC POWER SUPPLY
19	SB	AV COMMUNICATION SIGNAL (H)
20	LG	AV COMMUNICATION SIGNAL (L)
25	B	REVERSE SIGNAL
27	L	CAN-H
28	R	CAN-L [With ICC]
30	SB	RETRACT MOTOR OPERATION SIGNAL (OPEN)
32	P	RETRACT MOTOR OPERATION SIGNAL (CLOSE)

Connector No.	Signal Name [Specification]
B245	WIRE TO WIRE
Connector Name	Connector Type
NS18MGY-CS	



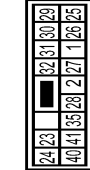
Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	O	-
3	Y	-
6	G	-
8	G	-
9	V	-
10	P	-
11	R/L	-
12	P/L	-
13	L	-
14	Y	-
15	SHIELD	-

Connector No.	Signal Name [Specification]
B252	SIDE RADAR RH
Connector Name	Connector Type
AA036FB-WP	



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/R	RIGHT/LEFT SWITCHING SIGNAL
2	B/R	GROUND
3	Y	ITS COMM-L
4	L	ITS COMM-H
5	G	IGNITION
6	BR	BUS STOP MANAGEMENT STOP INTERVENTION INDICATOR

Connector No.	Signal Name [Specification]
B501	WIRE TO WIRE
Connector Name	Connector Type
NS16MW-CS	



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
23	P	-
24	P/L	-
25	G/O	-
26	L/O	-
27	V	-
28	V/W	-
29	L	-
30	BR	-
31	BR/W	-
32	W/L	-
35	W/T	-
40	W/G	-

CAN SYSTEM (WITH ICC)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITH ICC)

41	GR	-
----	----	---

Connector No.	B514
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	TH32FW-NH



23	32	20	31	28	11	13	17	15	33																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</
----	----	----	----	----	----	----	----	----	----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

Terminal No.	Color Of Wire	Signal Name [Specification]
11	GB	SLIDE SW (BACKWARD)
12	GW	SLIDE SW (FORWARD)
13	R/G	RECLINER SW (BACKWARD)
14	R/W	RECLINER SW (FORWARD)
15	Y/B	REAR LIFTER SW (DOWNWARD)
16	Y/R	REAR LIFTER SW (UPWARD)
17	LG/B	FRONT LIFTER SW (DOWNWARD)
18	LG/R	FRONT LIFTER SW (UPWARD)
19	G/Y	PULSE (SLIDE)
20	R/Y	PULSE (RECLINER)
21	Y	PULSE (REAR LIFTER)
22	R	PULSE (FRONT LIFTER)
23	P	CAN-H
24	P/L	CAN-L
25	G/O	IND 1
26	L/O	IND 2
27	V	ADDRESS 1
28	V/W	ADDRESS 2
29	L	SET SW
30	BR	PULSE(TILT)
31	BR/W	PULSE(TELESCOPIC)
32	W/L	UART (TX/RX)
33	W	POWER SUPPLY (ENCODER)

Connector No.	E5
Connector Name	FROM E/R INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	TH38FW-NH



42	41	40	39
46	45	44	43

CAN SYSTEM (WITH ICC)

< WIRING DIAGRAM >

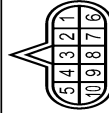
[CAN]

CAN SYSTEM (WITH ICC)

9	Y	-
10	BR	-
11	SB	-
12	L	-
13	GR	-
14	GR	-
15	Y	-
16	Y	-
17	GR	-
18	V	-
20	BR	-
21	P	-
22	L	-
23	P	-
27	SHIELD	-
28	L/O	-
29	W/L	-
31	BR	-
32	G	-
33	O	-
34	Y	-
36	G	-
37	V	-
41	BR	-
44	W	-
45	L	-
46	GR	-
47	V	-
48	G	-
49	O	-
50	LG	-
54	R	-
55	B	-
60	W	-
61	G	-
62	Y	-
63	BR	-
64	B	-
65	Y	-
66	R	-
67	SB	-
68	G	-
69	SHIELD	-
70	W	-
71	W	-
72	R	-
73	G	-
74	V	-
75	B	-
76	SHIELD	-

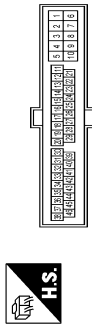
77	O	-
78	SB	-
80	V	-
82	SB	-
83	GR	-
84	Y	-
85	Y	-
86	L	-
87	V	-
88	BR	-
89	LG	-
90	W	-
91	W	-
92	P	-
93	LG	-
94	BR	-
95	W	-
97	R	-
98	Y	-
99	V	-
100	V	-

Connector No.	F61
Connector Name	AT ASSEMBLY
Connector Type	RK10FG-DGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	POWER SUPPLY (BACK UP)
2	R	POWER SUPPLY (BACK UP)
3	L	CANH
4	V	K-LINE
5	B	GND
6	G	POWER SUPPLY (IGN)
7	SB	BACK-UP LAMP RELAY
8	P	CANL
9	BR	P/N SIGNAL
10	B	GROUND

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK38FW-NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	G	-
4	B	- [With VK engine]
4	R	- [With VK engine]
5	B	- [With VK engine]
5	GR	- [With VK engine]
7	LG	-
8	Y	-
9	SB	- [With VK engine]
9	W	- [With VK engine]
10	BR	- [With VK engine]
10	V	- [With VK engine]
11	L	-
12	P	-
13	V	-
14	SB	-
15	R	-
16	W	-
17	GR	-
18	LG	-
21	LG	-
22	B	-
23	G	-
24	BR	-
25	O	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	SB	-
4	LG	-
5	W	-
6	W	-
7	RG	-
8	G	-
9	Y	-
10	W	-

Connector No.	F301
Connector Name	TCM
Connector Type	SP10FG



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	VGN
2	-	BATT
3	-	CANH
4	-	K-LINE
5	-	GND
6	-	VGN
7	-	REV LAMP RLY
8	-	CANL
9	-	START RLY
10	-	GND

JRMWG1533GB

CAN SYSTEM (WITH ICC)

[CAN]

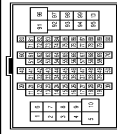
< WIRING DIAGRAM >

CAN SYSTEM (WITH ICC)

11	R	-
12	V	-
13	LG	-
14	L	-
15	V	-
16	B	-
17	GR	-
18	V	-
20	SB	-
21	BR	-
22	L	-
23	P	-
27	SHIELD	-
28	V	-
29	SB	-
31	EG	-
32	P	-
33	R	-
34	EG	-
36	V	-
37	G	-
41	BR	-
44	BR	-
45	Y	-
46	EG	-
47	V	-
48	G	-
49	EG	-
50	W	-
54	W	-
55	G	-
60	GR	-
61	B	-
62	LG	-
63	BR	-
64	L	- [With ICC] - [Without ICC]
64	SB	- [With ICC] - [Without ICC]
65	R	- [With ICC] - [Without ICC]
65	Y	- [With ICC] - [Without ICC]
66	P	-
67	L	-
68	R	-
69	SHIELD	-
70	B	-
71	W	-
72	R	-
73	G	-
74	Y	-
75	B	-
76	SHIELD	-

77	B	-
78	V	-
80	G	-
82	B	-
83	EG	-
84	SB	-
85	Y	-
86	L	-
87	V	-
88	V	-
89	LG	-
90	EG	-
91	W	-
92	EG	-
93	G	-
94	Y	-
95	W	-
97	SB	-
98	R	-
99	W	-
100	L	-

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	Y	-
4	BR	-
5	P	-
7	G	-
8	Y	-
9	G	-
10	V	-
11	L	- [With heated seat] - [With climate controlled seat]
12	GR	- [With heated seat] - [With climate controlled seat]
13	BR	-

14	GR	-
15	BG	-
16	V	-
17	BG	-
18	L	- [Without CAN gateway] - [With CAN gateway]
18	Y	-
19	W	-
20	L	-
21	B	-
22	LG	-
23	W	-
24	V	-
25	G	-
26	BR	-
27	SB	-
28	P	-
29	L	-
30	SHIELD	-
32	L	-
33	P	-
34	W	-
35	SHIELD	-
36	BG	-
37	SB	-
41	SB	-
42	V	-
44	B	-
45	BG	-
46	P	-
47	L	-
48	LG	-
49	BR	-
50	V	-
51	V	-
52	P	-
53	BG	-
55	G	-
56	SB	-
57	P	-
58	LG	-
59	Y	-
60	GR	-
61	B	-
62	LG	-
63	BR	-
65	W	-
66	R	-
67	V	-
68	LG	-

Connector No.	M20
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	G	-
5	R	-
6	W	-
11	BR	-
12	R	-
15	B	-
16	SHIELD	-

JRMWG1534GB

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

LAN

CAN SYSTEM (WITH ICC)

[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITH ICC)

17	R	-
18	P	-
19	W	-
21	B	-
22	R	- [With ICC]
22	Y	- [Without ICC]
23	L	- [With ICC]
23	SB	- [Without ICC]
24	L	-
27	P	-
31	V	-
33	V	-
35	L	-
36	P	-
38	L	-
40	Y	-

Connector No.	M22
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Connector No.	M23
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
81	L	-
82	P	-
83	B	-
84	B	-
85	B	-
86	B	-
87	B	-
88	B	-
89	Y	-
91	V	-
92	V	-
93	B	-
94	B	-
95	LG	-
96	BR	-
97	G	-
98	G	-
99	G	-

100	G	-
101	L	-
102	P	-
103	B	-
104	BR	-
105	R	-
107	Y	-
108	Y	-
109	BR	-
110	Y	-
112	B	-
113	P	-
114	L	-
116	B	-
117	B	- [With VK engine]
117	BG	- [With VQ engine]
118	B	-
119	LG	-
120	V	-

Connector No.	M24
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
161	BG	-
162	BG	-
164	V	-
165	V	-
166	R	-
167	LG	-
169	R	-
171	BG	-
172	B	-
174	W	-
176	L	-
177	P	-
178	Y	-
179	L	-
180	LG	-
182	BR	- [With VQ engine or with VK engine without ICC]
182	R	- [With VK engine with ICC]
183	G	-
184	V	-
185	P	-
186	R	-
187	L	- [Without CAN gateway]

145	B	-
146	LG	-
147	B	-
149	B	-
150	P	-
151	L	-
152	B	-
153	W	-
154	W	-
155	W	-
158	R	-
159	R	-

Connector No.	M25
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
201	L	-
206	P	-
207	Y	-
208	G	-
209	G	- [Without BOSE system]
209	L	- [With BOSE system]
210	L	- [Without BOSE system]
210	P	- [With BOSE system]
211	SHIELD	-
212	BR	- [Without BOSE system]
212	G	- [With BOSE system]
213	R	-
214	SHIELD	-
215	GR	- [Without BOSE system]
215	V	- [With BOSE system]
216	G	- [Without BOSE system]
216	LG	- [With BOSE system]
217	SHIELD	-
218	BR	- [Without BOSE system]
218	P	- [With BOSE system]
219	GR	- [Without BOSE system]
219	V	- [With BOSE system]

JRMWG1535GB

CAN SYSTEM (WITH ICC)

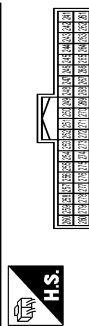
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITH ICC)

220	SHIELD	-
221	P	-
222	LG	-
223	SB	-
224	SB	-
225	LG	-
226	R	-
229	SB	-
230	BR	-
231	SB	-
232	V	-
233	L	-
234	P	-
235	B	-
239	V	-
240	W	-

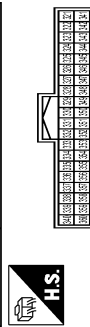
Connector No.	M26
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
241	L	-
242	L	-
243	R	- [With ICC]
243	Y	- [Without ICC]
244	L	- [With ICC]
244	SB	- [Without ICC]
245	B	-
246	B	-
247	B	-
248	SHIELD	-
251	SHIELD	-
252	B	-
253	B	-
254	B	- [With heated seat]
254	W	- [With climate controlled seat]
255	B	-
258	R	-
259	L	-

260	BG	-
261	P	-
262	P	-
267	P	-
268	Y	-
269	G	-
270	Y	-
271	BR	-
272	G	-
273	R	-
274	R	-
275	Y	-
276	B	-
277	G	-
278	R	-
279	R	-
280	Y	-

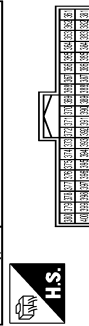
Connector No.	M28
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
321	V	-
322	V	-
324	B	-
325	L	-
326	L	-
327	P	-
328	P	-
330	B	-
331	V	-
332	V	-
335	B	-
337	W	-
338	W	-
343	L	-
344	B	-
345	Y	-
346	L	-

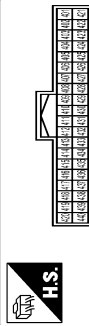
347	P	-
348	GR	-
349	V	-
350	LG	-
351	P	-
352	R	-
353	P	-
355	W	-
359	W	-
360	G	-

Connector No.	M29
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
361	W	-
362	W	-
363	Y	-
366	B	-
367	B	-
368	G	-
374	BG	-
375	BG	-
376	V	-
377	V	-
378	B	-
380	R	-
381	G	-
382	V	-
384	GR	-
385	P	-
386	L	-
400	V	-

Connector No.	M30
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
402	R	-
403	R	-
406	B	-
407	V	-
408	B	-
409	B	-
410	B	-
411	B	-
413	Y	-
414	BR	-
416	LG	-
417	B	-
419	SB	-
420	SHIELD	-
422	V	-
427	P	-
428	V	-
429	P	-
430	LG	-
431	B	-
432	Y	-
435	V	-
436	BG	-
437	B	-
438	P	-
439	L	-
440	B	-

JRMWG1536GB

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

LAN

CAN SYSTEM (WITH ICC)

[CAN]

< WIRING DIAGRAM >

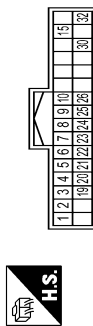
CAN SYSTEM (WITH ICC)

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH38FW-NH



Terminal No.	Signal Name [Specification]
1	L CANH
2	P CANL
7	B GND
8	G IGN

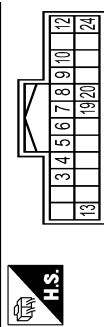
Connector No.	M43
Connector Name	LOW TIRE PRESSURE WARNING CONTROL UNIT
Connector Type	TH2FW-NH



Terminal No.	Signal Name [Specification]
1	P CANL
2	L CANH
3	B RL TUNER (SIG)
4	B RR TUNER (SIG)
5	B FL TUNER (SIG)
6	G FR TUNER (SIG)
7	R RL TUNER (VCC)
8	W RR TUNER (VCC)
9	W FL TUNER (VCC)
10	Y FR TUNER (VCC)
15	Y IGN
19	G RL TUNER (RSSI)
20	G RR TUNER (RSSI)
21	G FL TUNER (RSSI)
22	R FR TUNER (RSSI)
23	W RL TUNER (GND)

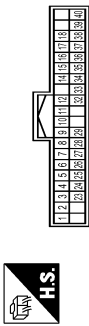
24	R RL TUNER (GND)
25	R FR TUNER (GND)
26	B FL TUNER (GND)
30	G BCM FLASHER
32	B GND

Connector No.	M47
Connector Name	SOMAR CONTROL UNIT
Connector Type	TH24FW-NH



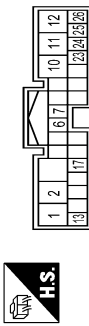
Terminal No.	Signal Name [Specification]
3	R CORNER SENSOR SIGNAL FRONT LH
4	W CORNER SENSOR SIGNAL FRONT RH
5	W CORNER SENSOR SIGNAL REAR LH
6	B CORNER SENSOR SIGNAL REAR RH
7	G CENTER SENSOR SIGNAL REAR LH
8	R CENTER SENSOR SIGNAL REAR RH
9	Y CENTER SENSOR SIGNAL FRONT LH
10	G CENTER SENSOR SIGNAL FRONT RH
12	B GROUND
13	LG IGNITION POWER SUPPLY
19	L CAN-H
20	R CANL [Without ICC]
20	Y CANL [With ICC]
24	B GROUND

Connector No.	M53
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH



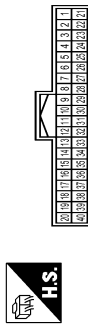
Terminal No.	Signal Name [Specification]
1	W BATTERY POWER SUPPLY
2	BG IGNITION SIGNAL
3	GR VEHICLE SPEED SIGNAL (2-PULSE)
4	R VEHICLE SPEED SIGNAL (8-PULSE)
5	R ILLUMINATION CONTROL SIGNAL
6	B METER CONTROL SWITCH GROUND
7	SB ENTER SWITCH SIGNAL
8	LG SELECT SWITCH SIGNAL
9	G ILLUMINATION CONTROL SWITCH SIGNAL (+)
10	GR ILLUMINATION CONTROL SWITCH SIGNAL (-)
11	L TRIP RESET SWITCH SIGNAL
12	B GROUND
14	L CANH
15	P AIR BAG SIGNAL
16	R LED HEADLAMP (RH) WARNING SIGNAL
17	G LED HEADLAMP (LH) WARNING SIGNAL
18	V FUEL LEVEL SENSOR GROUND
23	B ALTERNATOR SIGNAL
24	B PARKING BRAKE SWITCH SIGNAL
25	W BRAKE FLUID LEVEL SWITCH SIGNAL
27	V SECURITY SIGNAL
28	G WASHER LEVEL SWITCH SIGNAL
29	L PADDLE SHIFTER SHIFT DOWN SIGNAL
32	G PADDLE SHIFTER SHIFT UP SIGNAL
33	BG FUEL LEVEL SENSOR SIGNAL
34	G SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SEAT)
35	W PASSENGER SEAT BELT WARNING SIGNAL
36	G NON-MANUAL MODE SIGNAL
37	G MANUAL MODE SHIFT DOWN SIGNAL
38	V MANUAL MODE SHIFT UP SIGNAL
39	L MANUAL MODE SIGNAL
40	W MANUAL MODE SIGNAL

Connector No.	M66
Connector Name	A/C AUTO AMP.
Connector Type	TH20FW-TB6



Terminal No.	Signal Name [Specification]
1	L BATTERY POWER SUPPLY
2	W IGNITION POWER SUPPLY
6	R BLOWER MOTOR F/R SIGNAL
7	L POWER TRANSISTOR CONTROL SIGNAL
10	B GROUND
11	P CANH
12	L CANH
13	V ACC POWER SUPPLY
17	BG ECU CONTROL SIGNAL
23	W DRIVE MODE SELECT SW (SNOW)
24	L DRIVE MODE SELECT SW (ECO)
25	G DRIVE MODE SELECT SW (STANDARD)
26	Y DRIVE MODE SELECT SW (SPORT)

Connector No.	M105
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-NH



Terminal No.	Signal Name [Specification]
2	R -
3	B -
5	LG -
6	P -
7	L -
8	P -
9	B -

CAN SYSTEM (WITH ICC)

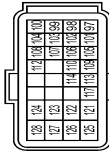
[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITH ICC)

Terminal No.	Wire	Signal Name [Specification]
10	W	-
11	W	-
12	SB	-
13	G	-
14	SB	-
15	BR	-
16	V	-
17	P	-
18	G	-
22	EG	-
23	B	-
25	W	-
30	R	-
31	BR	-
32	BR	-
33	P	-
34	LG	-
35	W	-
36	LG	-
37	L	-
38	EG	-
39	SHIELD	-
40	W	-

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FGY-R28-RH-Z



Terminal No.	Wire	Signal Name [Specification]
97	R	ACCELERATOR PEDAL POSITION SENSOR 1
98	Y	ACCELERATOR PEDAL POSITION SENSOR 2
99	G	SENSOR UNIT FOR STEERING SW (WITH ICC)
100	W	SENSOR UNIT FOR STEERING SW (WITHOUT ICC)
101	SB	ASCD STEERING SWITCH
102	P	FUEL TANK PRESSURE SENSOR
103	L	SENSOR UNIT FOR FUEL TANK PRESSURE
104	B	SENSOR GROUND [With ICC]
104	BR	SENSOR GROUND [Without ICC]
105	LG	REFRIGERANT PRESSURE SENSOR
106	P	FUEL TANK TEMPERATURE SENSOR

Terminal No.	Wire	Signal Name [Specification]
107	BG	AVCC2 PDPRES/FTPRES
108	Y	GND ASCD SW
109	BR	TRANSMISSION RANGE SWITCH
110	V	ENGINE SPEED SIGNAL OUTPUT
112	V	GND PDPRES/FTPRES
113	P	CAN COMMUNICATION LINE
114	L	CAN COMMUNICATION LINE
117	V	DATA LINK CONNECTOR
121	G	EVAP CANISTER VENT CONTROL VALVE
122	P	STOP LAMP SWITCH
123	B	ECM GROUND
124	B	ECM GROUND
125	SB	POWER SUPPLY FOR ECM
126	BR	ASCD BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

Connector No.	M110
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



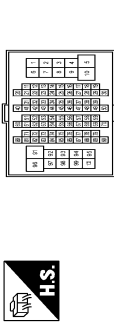
Terminal No.	Wire	Signal Name [Specification]
1	G	-
2	Y	-
3	W	-
4	R	-
5	L	-
6	B	-
7	BR	-
8	R	-
9	B	-
10	V	-
11	BR	-
12	G	-
13	L	-
20	V	-
21	R	-
22	G	-
23	L	-
24	LG	-

Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TK36MW-NS10



Terminal No.	Wire	Signal Name [Specification]
2	SB	-
3	Y	-
4	B	- [With VK engine]
4	SB	- [With VQ engine]
5	B	-
7	W	-
8	Y	-
9	SB	- [With VQ engine]
9	W	- [With VK engine]
10	SB	-
11	L	-
12	P	-
13	V	-
14	R	-
15	Y	-
16	SB	-
17	BR	-
18	LG	-
21	LG	-
22	B	-
23	W	-
24	W	-
25	BG	-

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Wire	Signal Name [Specification]
1	Y	-
3	Y	-
6	R	-
7	W	-
8	V	-
11	R	-
12	G	-
13	W	-
14	L	-
15	R	-
15	Y	- [Without ADAS]
15	Y	- [With ADAS]
17	GR	-
18	P	-
19	BR	-
20	GR	-
21	Y	-
22	LG	-
23	R	-
24	BG	-
25	BG	-
26	W	-
28	V	-
29	P	-
30	B	-
31	G	-
32	Y	-
40	SHIELD	-
41	R	-
42	V	-
45	SB	-
46	BG	-
46	L	- [With heated seat]
47	G	- [With female controlled seat]
47	GR	- [With male controlled seat]
48	V	-
48	V	- [With heated seat]
49	BG	-

JRMWG1538GB

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

LAN

CAN SYSTEM (WITH ICC)

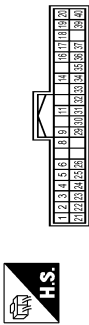
[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITH ICC)

50	LG	-
51	SB	-
52	Y	-
53	W	-
56	B	-
57	G	-
58	R	-
59	W	-
61	LG	-
62	V	-
63	R	-
64	SB	-
65	LG	-
66	L	-
67	Y	-
68	SB	-
69	B	-
71	L	-
72	L	-
73	P	-
74	B	-
75	L	-
76	SHIELD	-
77	G	-
78	R	-
79	L	-
80	G	-
81	B	-
82	BR	-
83	GR	-
84	V	-
85	LG	-
86	V	-
87	R	-
88	Y	-
89	BR	-
90	L	-
91	Y	-
93	G	- [With heated seat]
94	W	- [With climate controlled seat]
96	W	-
97	Y	-
98	BR	-
99	G	-
100	Y	-

Connector No.	M120
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



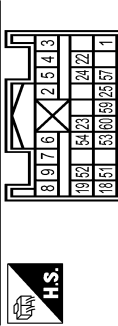
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	RR WINDOW DEFGRPLY CONT
2	B	COMBI SW INPUT 5
3	SB	COMBI SW INPUT 4
4	L	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	P	COMBI SW INPUT 1
8	V	POWER WINDOW SW COMM
9	P	STOP LAMP SW 1
11	R	RAIN SENSOR SERIAL LINK
14	W	OPTICAL SENSOR
16	SB	DIMMER SIGNAL
17	Y	SENSOR PWR SPLY
18	B	RECEIVER / SENSOR GND
19	V	TURN SIG RH OUTPUT (FRONT)
20	G	TURN SIG LH OUTPUT (FRONT)
21	P	NATS ANT AMP
22	GR	KYLS ENT RECEIVER RSSI
23	G	SECURITY IND CONT
24	L	DONGLE LINK
25	G	NATS ANT AMP
26	G	I-KEY IDENTIFICATION
29	G	HAZARD SW
30	O	TR LID OPNR SW
31	W	DR DOOR UNLK SENSOR
32	BR	COMBI SW OUTPUT 5
33	R	COMBI SW OUTPUT 4
34	V	COMBI SW OUTPUT 3
35	Y	COMBI SW OUTPUT 2
36	LG	COMBI SW OUTPUT 1
37	R	P POSITION
39	L	CANH
40	P	CANL

Connector No.	M125
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CANH
3	GR	BATTERY
4	L	CANH
5	B	GND
6	L	CANH
7	P	CANL
9	W	IGNITION
10	P	CANL
11	B	GND
12	P	CANL

Connector No.	M147
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	M428FY-EX



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	Y	DR1 (+)
4	Y	DR1 (-) DR2 (-)
5	Y	DR2 (+)
6	Y	AS1 (+)
7	Y	AS1 (-)
8	Y	AS2 (+)
9	Y	AS2 (-)
10	SB	ECZS (+)

19	V	ECZS (-)
22	SHIELD	GND
23	R	AIR BAG W/L
24	G	SEAT BELT
25	R	CUTOFF TELLTALE
51	G	SATELLITE RH2 (+)
52	R	SATELLITE RH2 (-)
53	P	SATELLITE RH2 (+)
54	L	SATELLITE RH2 (-)
57	L	IVCS
59	L	CANH
60	P	CANL

Connector No.	M150
Connector Name	WIRE TO WIRE
Connector Type	RH12FB



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

JRMWG1539GB

CAN SYSTEM (WITH ICC)

< WIRING DIAGRAM >

[CAN]

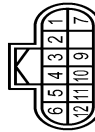
CAN SYSTEM (WITH ICC)

Connector No.	M151
Connector Name	WIRE TO WIRE
Connector Type	RH12MB



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

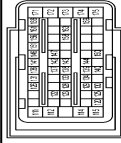
Connector No.	M154
Connector Name	ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR
Connector Type	RH12FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	BATTERY
2	R	IGNITION
3	L	ITS COMM-H
4	G	SENSOR POWER SUPPLY
5	W	SENSOR GROUND
6	R	ACCELERATOR PEDAL POSITION SENSOR 1
7	B	GROUND
9	Y	ITS COMM-L

10	L	SENSOR POWER SUPPLY
11	B	SENSOR GROUND
12	Y	ACCELERATOR PEDAL POSITION SENSOR 2

Connector No.	M160
Connector Name	ECM
Connector Type	MA855FB/MEB10-LH-Z



Terminal No.	Color Of Wire	Signal Name [Specification]
111	W	FUEL INJECTOR DRIVER POWER SUPPLY
112	W	FUEL INJECTOR DRIVER POWER SUPPLY
114	B	ECM GROUND
115	B	ECM GROUND
120	G	EVAP CANISTER VENT CONTROL VALVE
122	V	WAS ACTUATOR MOTOR RELAY MOTOR SIGNAL LINE (CONTROL MODULE)
123	BG	THROTTLE CONTROL MOTOR RELAY
125	P	FUEL PUMP CONTROL MODULE (FPCM)
126	Y	ACCELERATOR PEDAL POSITION SENSOR 2
128	SB	ASCD STEERING SWITCH
129	B	SENSOR GROUND (Without ICC)
129	BR	SENSOR GROUND (With ICC)
130	Y	SENSOR GROUND
131	L	SENSOR POWER SUPPLY
133	BG	SENSOR POWER SUPPLY
134	P	FUEL TANK TEMPERATURE SENSOR
136	R	ACCELERATOR PEDAL POSITION SENSOR 1
137	G	SENSOR POWER SUPPLY
138	P	BATTERY CURRENT SENSOR
139	BG	BATTERY TEMPERATURE SENSOR
140	W	SENSOR GROUND
141	G	IGNITION SWITCH
142	GR	FUEL PUMP CONTROL MODULE (FPCM) CHECK
143	P	FUEL TANK PRESSURE SENSOR
144	LG	REFRIGERANT PRESSURE SENSOR
146	L	CAN COMMUNICATION LINE
147	BR	ASCD BRAKE SWITCH
150	V	SENSOR GROUND
151	P	CAN COMMUNICATION LINE
156	W	POWER SUPPLY FOR ECM (BACK-UP)
158	P	STOP LAMP SWITCH

161	Y	ENG COMMUNICATION LINE
163	W	ECM RELAY (SELF SHUT-OFF)
166	BG	ENG COMMUNICATION LINE
169	V	ENGINE SPEED SIGNAL OUTPUT
171	SB	POWER SUPPLY FOR ECM
172	SB	POWER SUPPLY FOR ECM
173	R	THROTTLE CONTROL MOTOR POWER SUPPLY
174	B	ECM GROUND
175	B	ECM GROUND

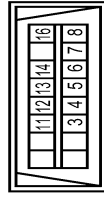
Connector No.	M181
Connector Name	WIRE TO WIRE
Connector Type	TH40MVA-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	-
3	B	-
5	R	-
6	BR	-
7	L	-
8	P	-
9	B	-
10	W	-
11	LG	-
12	SB	-
13	G	-
14	SB	-
15	BR	-
16	V	-
17	P	-
18	G	-
22	BG	-
23	B	-
25	W	-
30	R	-
31	BR	-
32	L	-
33	P	-
34	LG	-
35	W	-

36	LG	-
37	L	-
38	BG	-
39	SHIELD	-
40	W	-

Connector No.	M182
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
8	LG	IGN SW
11	SB	M-CAN H
12	P	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH



JRMWG1540GB

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

LAN

CAN SYSTEM (WITH ICC)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITH ICC)

Terminal No.	Color Of Wire	Signal Name [Specification]
65	V	PARKING BRAKE SIGNAL
67	R	COMPOSITE IMAGE SIGNAL GND
68	W	COMPOSITE IMAGE SIGNAL
69	G	I-KEY IDENTIFICATION SIGNAL
70	P	-
71	SHIELD	MICROPHONE SHIELD
72	G	MICROPHONE VCC
73	BR	COMM (CONT->DISP)
74	P	CANL
75	LG	AV COMM (L)
76	LG	AV COMM (L)
79	SB	DIMMER SIGNAL
80	W	IGNITION SIGNAL
81	EG	REVERSE SIGNAL
82	R	VEHICLE SPEED SIGNAL (6-PULSE)
83	SHIELD	SHIELD
84	B	COMPOSITE IMAGE SYNC SIGNAL
87	R	MICROPHONE SIGNAL
88	SHIELD	SHIELD
89	Y	COMM (DISP->CONT)
90	L	CANH
91	SB	AV COMM (H)
92	SB	AV COMM (H)



2	4	6	10	18	20	22																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
---	---	---	----	----	----	----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Connector No.	M216
Connector Name	TCU
Connector Type	TH40FW-NH



2	4	6	10	18	20	22																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
---	---	---	----	----	----	----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

CAN SYSTEM (WITHOUT ICC)

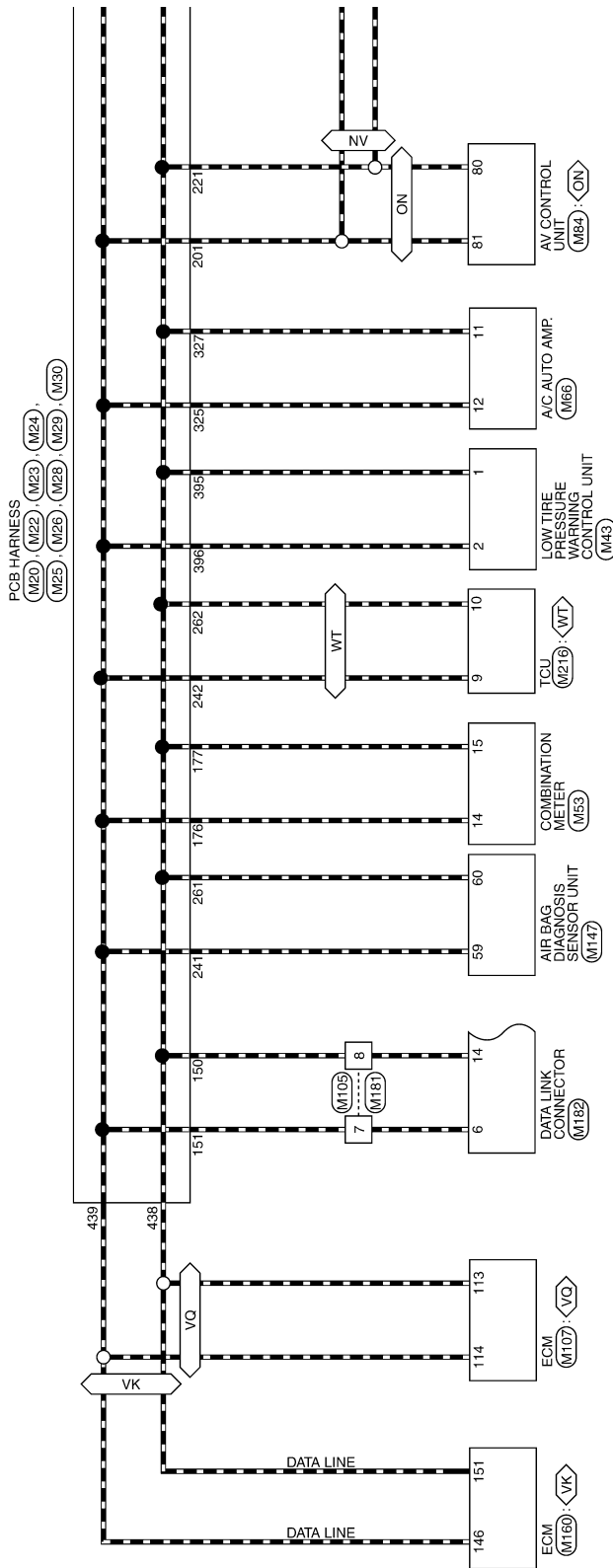
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITHOUT ICC)

Wiring Diagram

- VQ : With VQ engine
- VK : With VK engine
- NV : With NAVI
- ON : Without NAVI
- WT : With telematics
- PM : With around view monitor
- OM : Without around view monitor



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

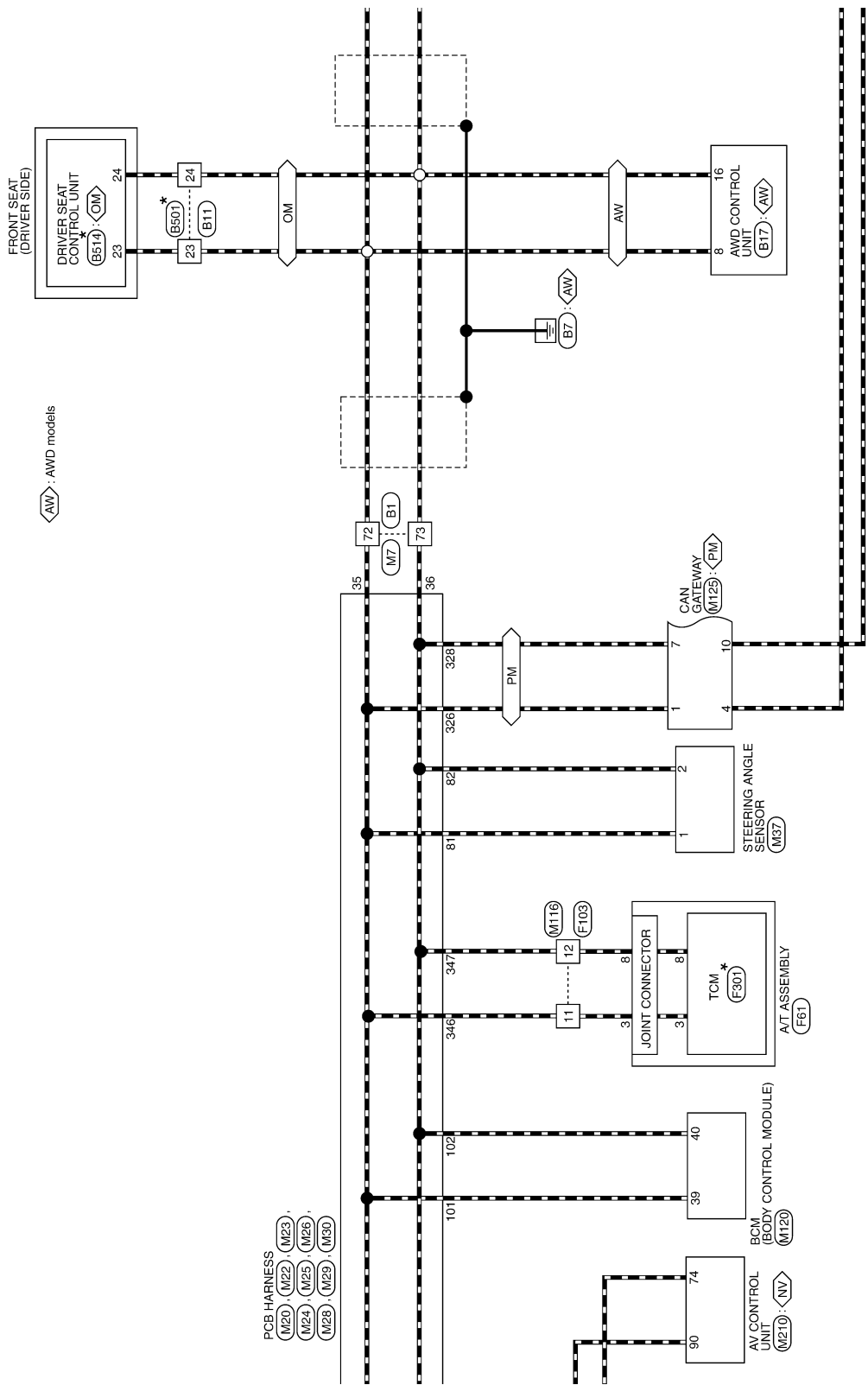
2014/07/11

JRMWG1235GB

CAN SYSTEM (WITHOUT ICC)

< WIRING DIAGRAM >

[CAN]



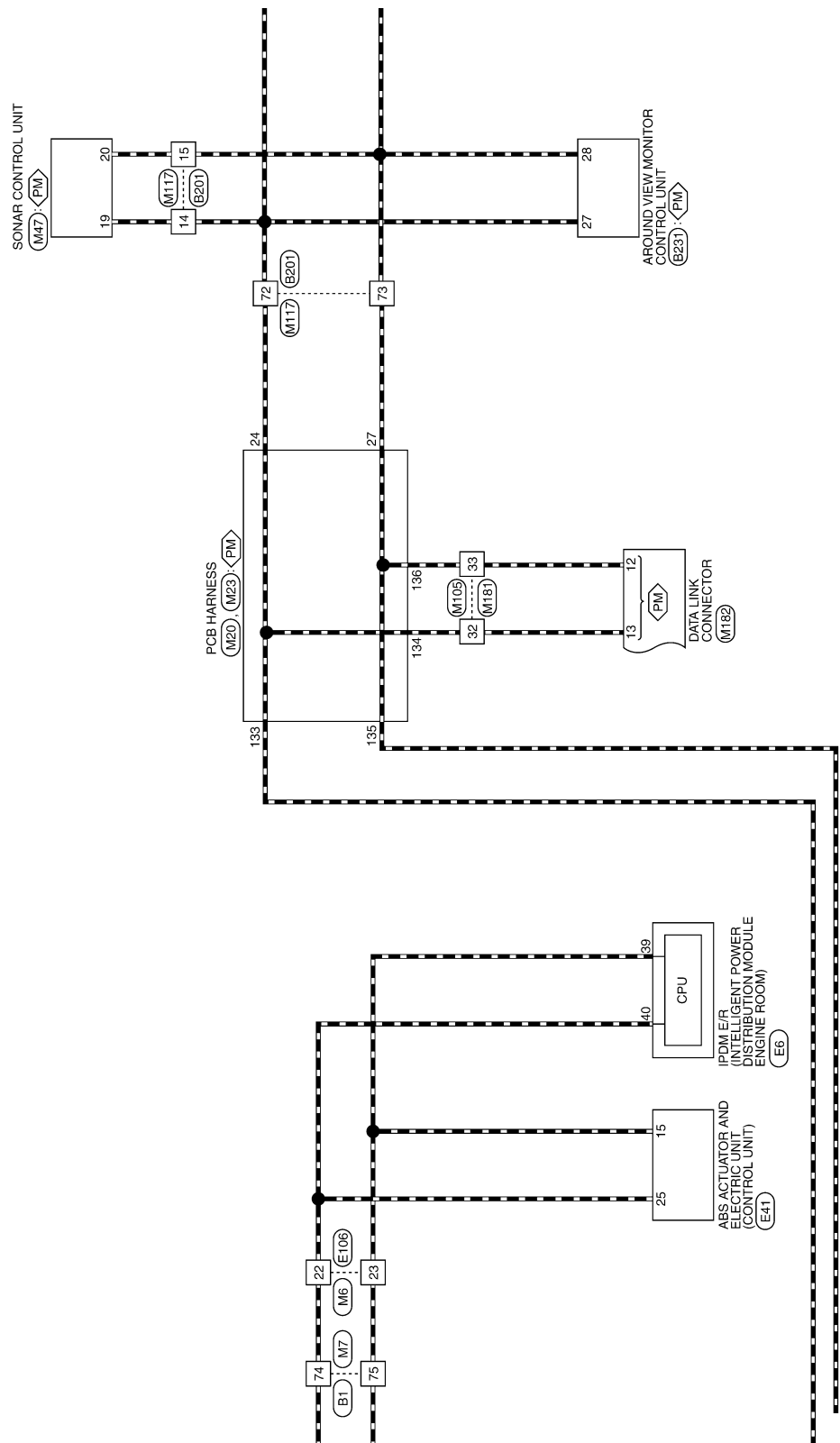
*: This connector is not shown in "Harness Layout".

JRMWG1236GB

CAN SYSTEM (WITHOUT ICC)

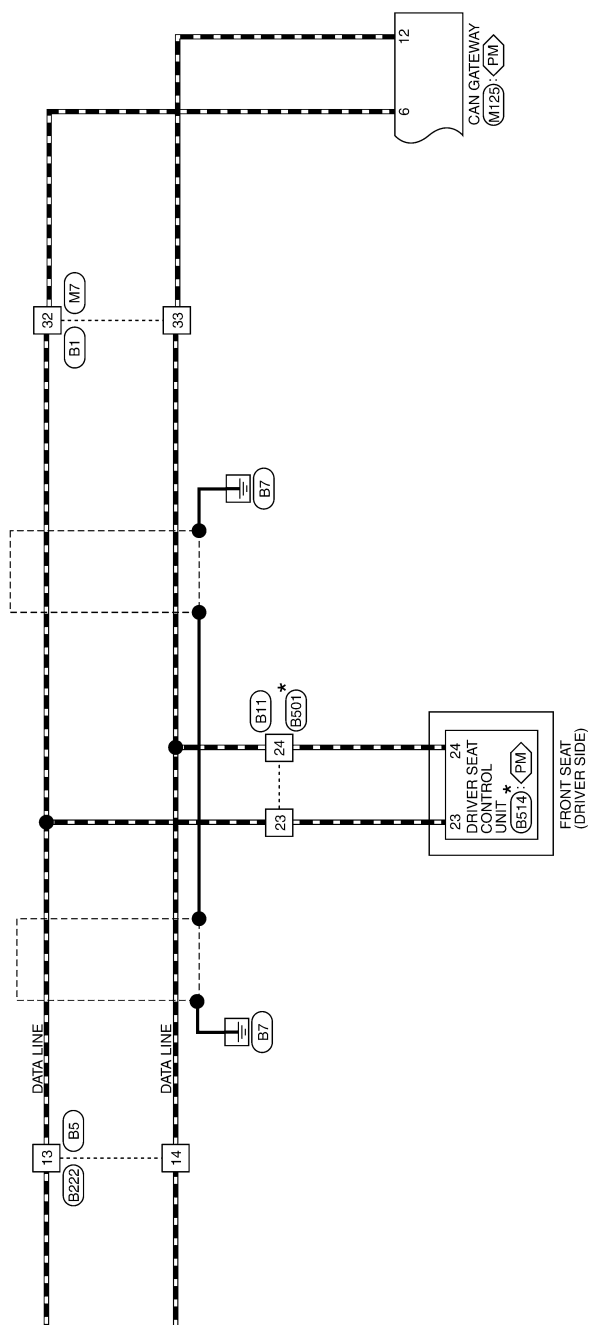
< WIRING DIAGRAM >

[CAN]



JRMWG1237GB

LAN



JRMWG1238GB

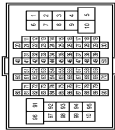
CAN SYSTEM (WITHOUT ICC)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITHOUT ICC)

Connector No.	B1
Connector Name	WIPE TO WIRE
Connector Type	TH8FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	LG	-
4	P	-
5	GR	-
6	Y	-
7	LG	-
8	V	-
9	GR	-
10	GR	- [With climate controlled seat]
11	L	- [With heated seat]
12	GR	- [With heated seat]
13	P	- [With climate controlled seat]
14	BR	-
15	R	-
16	O	-
17	V	-
18	B	-
19	W	-
20	L	-
21	B	-
22	LG	-
23	V	-
24	Y	-
25	G	-
26	GR	-
27	SB	-
28	L/O	-
29	W/L	-
30	SHIELD	-
32	L	-
33	R	-
34	G	-
35	SHIELD	-
36	G	-

37	SB	-
40	SHIELD	-
41	GR/V	-
42	W/L	-
43	L	-
44	B	-
45	V	-
46	P	-
47	O	-
48	Y	-
49	BR	-
50	SB	-
51	V	-
52	LG	-
53	G	-
55	G	-
56	P	-
57	BR	-
58	LG	-
59	Y	-
60	W	-
61	B	-
62	LG	-
63	V	-
65	O	-
66	BR	-
67	V	-
68	LG	-
69	GR	-
70	R	-
72	L	-
73	P	-
74	L	-
75	P	-
76	Y	-
77	R	-
78	W	-
79	G	-
81	LG	-
82	BR	-
83	SB	-
84	Y	-
85	W	-
86	R	-
87	G	-
88	GR	-
91	SB	-
92	G	-
96	Y	-

97	O	-
98	SB	-
99	LG	-

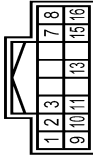
Connector No.	B5
Connector Name	WIPE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	W	-
6	B	-
7	R	-
8	SHIELD	-
9	G	-
12	V	-
13	L	-
14	R	-
15	B	-
16	SHIELD	-
17	R	-
18	G	-
19	W	-
20	P	-
21	V	-
22	G	-
24	SB	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	B	-
23	L	-
24	P	- [Without CAN gateway]
24	R	- [With CAN gateway]
25	BR	-
26	W	-
27	L	-
28	P	-
29	O	-
30	V	-
31	BR	-
32	LG	-
35	LG	-
40	O	-
41	B	-

Connector No.	B17
Connector Name	AWD CONTROL UNIT
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	AWD SOL (+)
2	R	AWD SOL (-)
3	W	FLUID TEMP (-)

JRMWG1542GB

CAN SYSTEM (WITHOUT ICC)

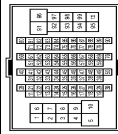
[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITHOUT ICC)

7	Y	IGN
8	L	CAN-H
9	SB	AWD SOL BAT
10	BY	GND
11	BY	GND
13	LG	FLUID TEMP (+)
15	G	BATTERY POWER SUPPLY
16	P	CAN-L

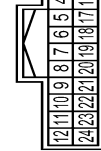
Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH60MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
3	R	-
6	R	-
7	W	-
8	V	-
11	R	-
12	G	-
13	Y	-
14	L	-
15	R	- [Without ADAS]
17	GR	- [With ADAS]
18	P	-
19	BR	-
20	GR	-
21	Y	-
22	GR	-
23	R	-
24	V	-
25	B	-
26	W	-
28	V	-
29	P	-
30	O	-
31	BR	-
32	Y	-

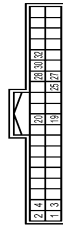
94	GR	-
96	W	-
97	P	-
98	LG	-
99	LG	-
100	Y	-

Connector No.	B222
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	B	-
6	R	-
7	G	-
8	SHIELD	-
9	W	-
12	P	-
13	L	-
14	R	-
15	B	-
16	SHIELD	-
17	R	-
18	G	-
19	W	-
20	P	-
21	V	-
22	G	-
24	SB	-

Connector No.	B231
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
2	Y	BATTERY POWER SUPPLY
3	W	IGNITION SIGNAL
4	V	ACC POWER SUPPLY
19	SB	AV COMMUNICATION SIGNAL (H)
20	LG	AV COMMUNICATION SIGNAL (L)
25	B	REVERSE SIGNAL
27	L	CAN-H
28	R	CAN-L [Without ICC]
30	SB	CAN-L [With ICC]
32	P	RETRACT MOTOR OPERATION SIGNAL (OPEN)
		RETRACT MOTOR OPERATION SIGNAL (CLOSE)

Connector No.	B501
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
23	P	-
24	P/L	-
25	G/O	-
26	G/O	-
27	V	-
28	V/W	-

JRMWG1543GB

CAN SYSTEM (WITHOUT ICC)

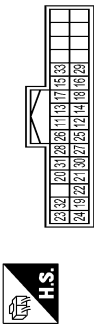
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITHOUT ICC)

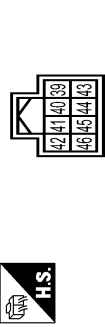
Terminal No.	Wire	Signal Name [Specification]
29	L	-
30	BR	-
31	BR/W	-
32	W/L	-
35	W/Y	-
40	W/G	-
41	GR	-

Connector No.	B514
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	TH32FW-NH



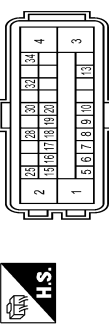
Terminal No.	Wire	Signal Name [Specification]
11	G/B	SLIDE SW (BACKWARD)
12	G/W	SLIDE SW (FORWARD)
13	R/G	RECLINER SW (BACKWARD)
14	R/W	RECLINER SW (FORWARD)
15	Y/B	REAR LIFTER SW (DOWNWARD)
16	Y/R	REAR LIFTER SW (UPWARD)
17	L/G/B	FRONT LIFTER SW (DOWNWARD)
18	L/G/R	FRONT LIFTER SW (UPWARD)
19	G/Y	PULSE (SLIDE)
20	R/Y	PULSE (RECLINER)
21	Y	PULSE (REAR LIFTER)
22	R	PULSE (FRONT LIFTER)
23	P	CAN/L
24	P/L	CAN/H
25	G/O	IND.1
26	L/O	IND.2
27	V	ADDRESS.1
28	V/W	ADDRESS.2
29	L	SET SW
30	BR	PULSE (TELESCOPIC)
31	BR/W	PULSE (TELESCOPIC)
32	W/L	UART (TX/RX)
33	W	POWER SUPPLY (ENCODER)

Connector No.	E6
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	TH32FW-NH



Terminal No.	Wire	Signal Name [Specification]
39	P	CAN/L
40	L	CAN/H
41	B	S/GND
42	V	MOTOR FAN RLY CONT. (With VK engine)
43	Y	MOTOR FAN RLY CONT. (With VQ engine)
44	GR	DETENT SW
45	GR	HORN RLY (With VK engine)
46	L/G	HORN RLY (With VQ engine)
47	G	HORN SW
48	BR	START CONT

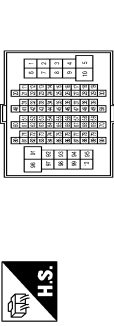
Connector No.	E41
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	SAZ30FB-SJZ4-U



Terminal No.	Wire	Signal Name [Specification]
1	B/W	ECU/GND
2	B	MOTOR(GND)
3	Y	SOLENOID(POWER)
4	G	MOTOR(POWER)
5	SB	STOP LAMP SW
6	Y	CAN/L
7	W	CAN/H
8	G	R-LH SENS(POWER)
9	BR	R-LH SENS(SIGNAL)
10	B	F-RH SENS(POWER)

Terminal No.	Wire	Signal Name [Specification]
13	L/G	VAC SENS(SIGNAL)
15	P	CAN/L
16	B	CAN/H
17	Y	R-RH SENS(SIGNAL)
18	BR	R-RH SENS(POWER)
19	SB	F-LH SENS(SIGNAL)
20	O	F-LH SENS(POWER)
25	L	CAN/H
28	V	VAC SENS(POWER)
30	R	VDC OFF SW
32	SHIELD	VAC SENS(GND)
34	G	IGN(POWER)

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH60FM-CS16-TM4



Terminal No.	Wire	Signal Name [Specification]
1	P	-
2	W	-
3	SB	-
4	L/G	-
5	O	-
6	W	-
7	GR	-
8	G	-
9	Y	-
10	BR	-
11	SB	-
12	L	-
13	GR	-
14	W	-
15	V	-
16	Y	-
17	GR	-
18	V	-
20	BR	-
21	P	-
22	L	-
23	P	-

Terminal No.	Wire	Signal Name [Specification]
27	SHIELD	-
28	L/O	-
29	W/L	-
31	BR	-
32	G	-
33	O	-
34	Y	-
36	G	-
37	V	-
41	BR	-
44	W	-
45	L	-
46	GR	-
47	V	-
48	G	-
49	O	-
50	L/G	-
54	R	-
55	B	-
60	W	-
61	G	-
62	Y	-
63	BR	-
64	B	-
65	Y	-
66	R	-
67	SB	-
68	G	-
69	SHIELD	-
70	W	-
71	W	-
72	R	-
73	G	-
74	Y	-
75	B	-
76	SHIELD	-
77	O	-
78	SB	-
80	V	-
82	SB	-
83	GR	-
84	Y	-
85	Y	-
86	L	-
87	V	-
88	BR	-
89	L/G	-
90	W	-
91	W	-
92	P	-

CAN SYSTEM (WITHOUT ICC)

[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITHOUT ICC)

Terminal No.	Color Of Wire	Signal Name [Specification]
93	LG	-
94	BR	-
95	W	-
97	R	-
98	Y	- [With VK engine]
99	V	- [With VK engine]
100	V	- [With VK engine]

Connector No.	F61
Connector Name	AT ASSEMBLY
Connector Type	RK10FG-DGY



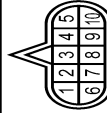
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	POWER SUPPLY (BACK UP)
2	R	POWER SUPPLY (BACK UP)
3	L	CANH
4	V	K-LINE
5	B	GND
6	G	POWER SUPPLY (IGN)
7	SB	BACK-UP LAMP RELAY
8	P	CAN-L
9	BR	PN SIGNAL
10	B	GROUND

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK38FW-NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	G	-
4	B	- [With VK engine]
4	R	- [With VK engine]
5	B	- [With VK engine]
5	GR	- [With VK engine]
7	LG	-
8	Y	-
9	SB	- [With VK engine]
9	W	- [With VK engine]
10	BR	- [With VK engine]
10	V	- [With VK engine]
11	L	-
12	P	-
13	V	-
14	SB	-
15	R	-
16	W	-
17	GR	-
18	LG	-
21	LG	-
22	B	-
23	G	-
24	BR	-
25	O	-

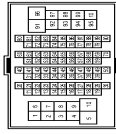
Connector No.	F301
Connector Name	TCM
Connector Type	SP10FG



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	VIGN
2	-	BATT
3	-	CANH
4	-	K-LINE
5	-	GND
6	-	VIGN
7	-	REV LAMP RLY

8	-	CAN-L
9	-	START RLY
10	-	GND

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	SB	-
4	LG	-
5	W	-
6	W	-
7	BG	-
8	G	-
9	Y	-
10	W	-
11	R	-
12	V	-
13	LG	-
14	L	-
15	V	-
16	B	-
17	GR	-
18	V	-
20	SB	-
21	BR	-
22	L	-
23	P	-
27	SHIELD	-
28	V	-
29	SB	-
31	BG	-
32	P	-
33	R	-
34	BG	-
36	V	-
37	G	-

41	BR	-
44	BR	-
45	Y	-
46	BG	-
47	V	-
48	G	-
49	BG	-
50	W	-
54	W	-
55	G	-
60	GR	-
61	B	-
62	LG	-
63	BR	-
64	L	- [With ICC]
64	SB	- [Without ICC]
65	R	- [With ICC]
65	R	- [Without ICC]
66	P	- [With ICC]
67	L	-
68	R	-
69	SHIELD	-
70	B	-
71	W	-
72	R	-
73	G	-
74	Y	-
75	B	-
76	SHIELD	-
77	B	-
78	V	-
80	G	-
82	B	-
83	BG	-
84	SB	-
85	Y	-
86	L	-
87	V	-
88	V	-
89	LG	-
90	BG	-
91	W	-
92	BG	-
93	G	-
94	Y	-
95	W	-
97	SB	-
98	R	-
99	W	-
100	L	-

JRMWG1545GB

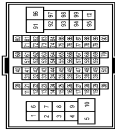
CAN SYSTEM (WITHOUT ICC)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITHOUT ICC)

Connector No.	M7
Connector Name	WIRED TO WIRE
Connector Type	TH80MM-CS16-TM4

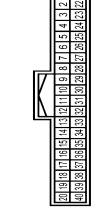


Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	Y	-
4	BR	-
5	P	-
7	G	-
8	Y	-
9	G	-
10	V	-
11	L	- [With heated seat]
11	V	- [With climate controlled seat]
12	GR	- [With heated seat]
12	P	- [With climate controlled seat]
13	BR	-
14	GR	-
15	BG	-
16	V	-
17	BG	-
18	L	- [Without CAN gateway]
18	Y	- [With CAN gateway]
19	W	-
20	L	-
21	B	-
22	LG	-
23	W	-
24	V	-
25	G	-
26	BR	-
27	SB	-
28	P	-
29	L	-
30	SHIELD	-
32	L	-
33	P	-
34	W	-
35	SHIELD	-
36	BG	-

37	SB	-
41	SB	-
42	V	-
43	L	-
44	B	-
45	BG	-
46	P	-
47	L	-
48	LG	-
49	BR	-
50	V	-
51	V	-
52	P	-
53	BG	-
55	G	-
56	SB	-
57	P	-
58	LG	-
59	Y	-
60	GR	-
61	B	-
62	LG	-
63	BR	-
65	W	-
66	R	-
67	V	-
68	LG	-
69	SB	-
70	V	-
72	L	-
73	P	-
74	L	-
75	P	-
76	G	-
77	Y	-
78	SB	-
79	W	-
81	LG	-
82	BR	-
83	BG	-
84	B	-
85	W	-
86	G	-
87	R	-
88	G	-
91	W	-
92	G	-
96	W	-
97	BG	-
98	Y	-

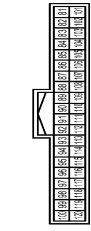
99	LG	-
----	----	---

Connector No.	M20
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	G	-
5	R	-
6	W	-
11	BR	-
12	R	-
15	B	-
16	SHIELD	-
17	R	-
18	P	-
19	W	-
21	B	- [With ICC]
22	R	- [Without ICC]
22	Y	- [With ICC]
23	L	- [Without ICC]
23	SB	- [With ICC]
24	L	-
27	P	-
31	V	-
33	V	-
35	L	-
36	P	-
38	L	-
40	Y	-

Connector No.	M22
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



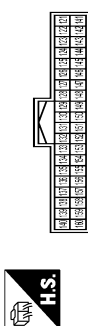
Terminal No.	Color Of Wire	Signal Name [Specification]
81	L	-
82	P	-
83	B	-
84	B	-
85	B	-
87	B	-
88	B	-
89	Y	-
91	V	-
92	V	-
93	B	-
94	B	-
95	LG	-
96	BR	-
97	G	-
98	G	-
99	G	-
100	G	-
101	L	-
102	P	-
103	B	-
104	BR	-
105	R	-
107	Y	-
108	Y	-
109	BR	-
110	Y	-
112	B	-
113	P	-
114	L	-
116	B	-
117	B	- [With VK engine]
117	BG	- [With VQ engine]
118	B	-
119	LG	-

[CAN]

CAN SYSTEM (WITHOUT ICC)

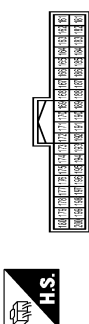
120	V	.
-----	---	---

Connector No.	M23
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



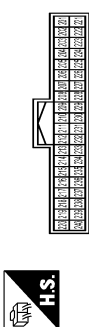
Terminal No.	Color Of Wire	Signal Name (Specification)
121	R	-
122	V	-
123	B	-
124	BG	-
126	B	-
131	SB	-
132	LG	-
133	L	-
134	L	-
135	P	-
136	P	-
137	Y	-
138	L	-
141	W	-
142	W	-
145	B	-
146	LG	-
147	B	-
149	B	-
150	P	-
151	L	-
152	B	-
153	W	-
154	W	-
155	W	-
158	R	-

Connector No.	M24
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
161	BG	-
162	BG	-
164	V	-
165	V	-
166	R	-
167	LG	-
169	R	-
171	BG	-
172	B	-
174	W	-
176	L	-
177	P	-
178	Y	-
179	L	-
180	LG	-
182	BR	- [Wm VQ engine or with VK engine without CC]
183	G	- [With VK engine with CC]
184	V	-
185	P	-
186	R	-
187	L	- [Without CAN gateway]
187	Y	- [With CAN gateway]
188	L	-
189	B	-
189	V	-
190	V	-
191	LG	-
192	B	-
193	SB	-
194	BR	-
195	SB	-
196	R	-
199	B	-

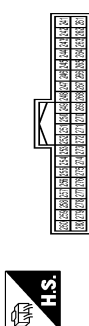
Connector No.	M25
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name (Specification)
201	L	-
206	P	-
207	Y	-
208	G	-
209	G	- [Without BOSE system]
209	L	- [With BOSE system]
210	L	- [Without BOSE system]
210	L	- [With BOSE system]
210	P	-
211	SHIELD	-
212	BR	- [Without BOSE system]
212	G	- [With BOSE system]
213	R	-
214	SHIELD	-
215	GR	- [Without BOSE system]
215	V	- [With BOSE system]
216	G	-
216	LG	- [Without BOSE system]
217	SHIELD	-
218	BR	- [With BOSE system]
218	P	- [Without BOSE system]
219	GR	- [With BOSE system]
219	V	- [Without BOSE system]
220	SHIELD	-
221	P	-
222	LG	-
223	S8	-
224	S8	-
225	LG	-
226	R	-
229	S8	-
230	BR	-
231	S8	-
232	V	-
233	L	-
234	P	-

239	V	-
240	W	-

Connector No.	M26
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH

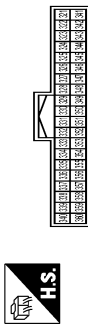


Terminal No.	Color Of Wire	Signal Name (Specification)
241	L	-
242	L	- [With ICC]
243	R	- [Without ICC]
243	Y	- [With ICC]
244	L	- [Without ICC]
244	Y	- [With ICC]
244	SB	- [Without ICC]
245	B	-
246	B	-
247	B	-
248	SHIELD	-
251	SHIELD	-
252	B	-
253	B	-
254	B	- [With sealed seal]
254	W	- [With climate controlled seal]
255	B	-
258	R	-
259	L	-
260	BG	-
261	P	-
262	P	-
267	P	-
268	Y	-
269	G	-
270	Y	-
271	BR	-
272	G	-
273	R	-
274	R	-
275	Y	-
276	B	-
276	P	-

CAN SYSTEM (WITHOUT ICC)

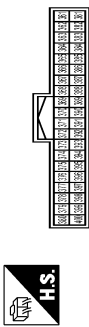
278	R	-
279	R	-
280	Y	-

Connector No.	M28
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



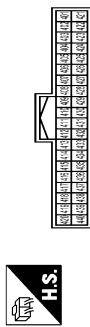
Terminal No.	Color Of Wire	Signal Name [Specification]
321	V	-
322	V	-
324	B	-
325	L	-
326	L	-
327	P	-
328	P	-
330	B	-
331	V	-
332	V	-
335	B	-
337	W	-
338	W	-
343	L	-
344	B	-
345	Y	-
346	L	-
347	P	-
348	GR	-
349	V	-
350	LG	-
351	P	-
352	R	-
353	P	-
358	W	-
359	W	-
360	G	-

Connector No.	M29
Connector Name	PCB HARNESS
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
361	W	-
362	W	-
363	Y	-
365	B	-
367	B	-
368	G	-
374	BG	-
375	BG	-
376	V	-
377	V	-
378	B	-
380	R	-
381	G	-
382	V	-
384	GR	-
395	P	-
396	L	-
400	V	-

Connector No.	M30
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



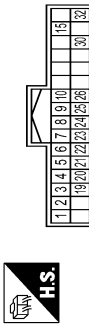
Terminal No.	Color Of Wire	Signal Name [Specification]
402	R	-
403	R	-
406	B	-
407	V	-
408	B	-
409	B	-
410	B	-
411	B	-
413	Y	-
414	RR	-
416	LG	-
417	B	-
419	SB	-
420	SHIELD	-
422	V	-
427	P	-
428	V	-
429	P	-
430	LG	-
431	B	-
432	Y	-
435	V	-
436	BG	-
437	B	-
438	P	-
439	L	-
440	B	-

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH8FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN+H
2	P	CAN+L
7	B	GND
8	G	IGN

Connector No.	M43
Connector Name	LOW TIRE PRESSURE WARNING CONTROL UNIT
Connector Type	TH32FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	CAN+H
2	L	CAN+L
3	B	RR TUNER (SIG)
4	B	RL TUNER (SIG)
5	B	FR TUNER (SIG)
6	G	FL TUNER (SIG)
7	R	RR TUNER (VCC)
8	W	RL TUNER (VCC)
9	W	FR TUNER (VCC)
10	W	FL TUNER (VCC)
15	Y	IGN
19	G	RR TUNER (RSSI)
20	G	RL TUNER (RSSI)
21	G	FR TUNER (RSSI)
22	R	FL TUNER (RSSI)
23	W	RR TUNER (GND)
24	R	RL TUNER (GND)
25	R	FR TUNER (GND)
26	B	FL TUNER (GND)
30	G	BCM FLASHER
32	B	GND

JRMWG1548GB

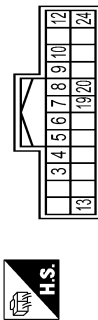
CAN SYSTEM (WITHOUT ICC)

[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITHOUT ICC)

Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	CORNER SENSOR SIGNAL FRONT LH
4	W	CORNER SENSOR SIGNAL FRONT RH
5	W	CORNER SENSOR SIGNAL REAR LH
6	B	CORNER SENSOR SIGNAL REAR RH
7	G	CENTER SENSOR SIGNAL REAR LH
8	R	CENTER SENSOR SIGNAL REAR RH
9	Y	CENTER SENSOR SIGNAL FRONT LH
10	G	CENTER SENSOR SIGNAL FRONT RH
12	B	GROUND
13	LG	IGNITION POWER SUPPLY
19	L	CANH
20	R	CANL [With ICC]
20	Y	CANL [With ICC]
24	B	GROUND

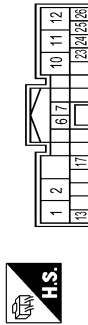
Connector No.	M53
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	BATTERY POWER SUPPLY
2	BG	IGNITION SIGNAL
3	GR	VEHICLE SPEED SIGNAL (2 PULSE)
4	R	VEHICLE SPEED SIGNAL (6 PULSE)
5	B	ILLUMINATION CONTROL SIGNAL
6	B	METER CONTROL SWITCH GROUND

Terminal No.	Color Of Wire	Signal Name [Specification]
7	SB	ENTER SWITCH SIGNAL
8	LG	SELECT SWITCH SIGNAL
9	G	ILLUMINATION CONTROL SWITCH SIGNAL (+)
10	GR	ILLUMINATION CONTROL SWITCH SIGNAL (-)
11	L	TRIP RESET SWITCH SIGNAL
12	B	GROUND
14	L	CANH
15	P	CANL
16	R	AIR BAG SIGNAL
17	G	LED HEADLAMP (RH) WARNING SIGNAL
18	V	LED HEADLAMP (LH) WARNING SIGNAL
23	B	GROUND
24	B	FUEL LEVEL SENSOR GROUND
25	W	ALTERNATOR SIGNAL
26	V	PARKING BRAKE SWITCH SIGNAL
27	V	BRAKE FLUID LEVEL SWITCH SIGNAL
28	G	SECURITY SIGNAL
29	L	WASHER LEVEL SWITCH SIGNAL
32	G	PADDLE SHIFTER SHIFT DOWN SIGNAL
33	BG	PADDLE SHIFTER SHIFT UP SIGNAL
34	G	FUEL LEVEL SENSOR SIGNAL
35	W	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
36	G	PASSENGER SEAT BELT WARNING SIGNAL
37	G	NON-MANUAL MODE SIGNAL
38	V	MANUAL MODE SHIFT DOWN SIGNAL
39	L	MANUAL MODE SHIFT UP SIGNAL
40	W	MANUAL MODE SIGNAL

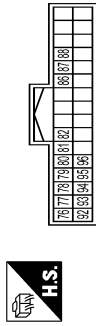
Connector No.	M66
Connector Name	A/C AUTO AMP.
Connector Type	TH20FW-TB6



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	BATTERY POWER SUPPLY
2	W	IGNITION POWER SUPPLY
6	R	BLOWER MOTOR F/R SIGNAL
7	L	POWER TRANSISTOR CONTROL SIGNAL
10	B	GROUND
11	P	CANL
12	L	CANH

Terminal No.	Color Of Wire	Signal Name [Specification]
13	V	ACC POWER SUPPLY
17	BG	ECV CONTROL SIGNAL
23	W	DRIVE MODE SELECT SW (SNOW)
24	L	DRIVE MODE SELECT SW (ECO)
25	G	DRIVE MODE SELECT SW (STANDARD)
26	Y	DRIVE MODE SELECT SW (SPORT)

Connector No.	M84
Connector Name	AV CONTROL UNIT
Connector Type	TH20FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
76	LG	AV COMM (L)
77	SB	AV COMM (H)
78	LG	AV COMM (L)
79	SB	AV COMM (H)
80	P	CANL
81	L	CANH
82	BR	SW GND
86	SHIELD	SHIELD
87	P	TEL VOICE SIGNAL (+)
88	L	TEL VOICE SIGNAL (-)
92	R	VEHICLE SPEED (8 PULSE)
93	V	PARKING BRAKE
94	BG	REVERSE
95	W	IGNITION
96	SB	DISK EJECT SIGNAL

Connector No.	M105
Connector Name	WIPE TO WIRE
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	-
3	B	-
5	LG	-
6	P	-
7	L	-
8	P	-
9	B	-
10	W	-
11	W	-
12	SB	-
13	G	-
14	SB	-
15	BR	-
16	V	-
17	P	-
18	G	-
22	BG	-
23	B	-
25	W	-
30	R	-
31	BR	-
32	L	-
33	P	-
34	LG	-
35	W	-
36	LG	-
37	L	-
38	BG	-
39	SHIELD	-
40	W	-

JRMWG1549GB

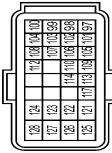
CAN SYSTEM (WITHOUT ICC)

[CAN]

< WIRING DIAGRAM >

CAN SYSTEM (WITHOUT ICC)

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FY-RZ8-RH-Z



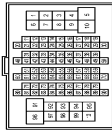
Terminal No.	Color Of Wire	Signal Name [Specification]
97	R	ACCELERATOR PEDAL POSITION SENSOR 1
98	Y	ACCELERATOR PEDAL POSITION SENSOR 2
99	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
100	W	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
101	SB	ASCD STEERING SWITCH
102	P	FUEL TANK PRESSURE SENSOR
103	L	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
104	B	SENSOR GROUND (WITHOUT ICC)
104	BR	REFRIGERANT PRESSURE SENSOR
105	LG	FUEL TANK TEMPERATURE SENSOR
106	P	FUEL TANK PRESSURE SENSOR
107	BG	AVOC2 PDPRES/TPRES
108	Y	GND ASCD SW
109	BR	TRANSMISSION RANGE SWITCH
110	V	ENGINE SPEED SIGNAL OUTPUT
112	V	GND4 PDPRES/TPRES
113	P	CAN COMMUNICATION LINE
114	L	CAN COMMUNICATION LINE
117	V	DATA LINK CONNECTOR
121	G	EVAP CANISTER VENT CONTROL VALVE
122	P	STOP LAMP SWITCH
123	B	ECM GROUND
124	B	ECM GROUND
125	SB	POWER SUPPLY FOR ECM
126	BR	ASCD BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

Connector No.	M116
Connector Name	WIPE TO WIPE
Connector Type	TK38MW-NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	SB	-
3	Y	-
4	B	- [With VK engine]
4	SB	- [With VQ engine]
5	B	-
7	W	-
8	Y	-
9	SB	- [With VQ engine]
9	W	- [With VK engine]
10	SB	-
11	L	-
12	P	-
13	V	-
14	R	-
15	Y	-
16	SB	-
17	BR	-
18	LG	-
21	LG	-
24	BG	-
25	B	-
26	W	-
28	W	-
29	P	-
25	BG	-

Connector No.	M117
Connector Name	WIPE TO WIPE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
3	Y	-
6	R	-
7	W	-
8	V	-
11	R	-
12	G	-
13	W	-
14	L	-
15	R	-
15	Y	- [Without ADAS]
17	GR	- [With ADAS]
18	P	-
19	BR	-
20	GR	-
21	Y	-
22	LG	-
23	R	-
24	BG	-
25	BG	-
26	W	-
28	V	-
29	P	-
30	B	-
31	G	-
32	Y	-
40	SHIELD	-
41	R	-
42	V	-
45	SB	- [With heated seat]
46	BG	-
46	L	- [With climate controlled seat]
47	G	- [With climate controlled seat]
47	GR	- [With heated seat]
48	V	-
49	BG	-

50	LG	-
51	SB	-
52	Y	-
53	W	-
56	B	-
57	G	-
58	R	-
59	W	-
61	LG	-
62	V	-
63	R	-
64	SB	-
65	LG	-
66	L	-
67	Y	-
68	SB	-
69	B	-
71	L	-
72	L	-
73	P	-
74	B	-
75	L	-
76	SHIELD	-
77	G	-
78	R	-
79	L	-
80	G	-
81	BG	-
82	BR	-
83	GR	-
84	V	-
85	LG	-
86	V	-
87	R	-
88	Y	-
89	BR	-
90	L	-
91	Y	-
93	G	- [With heated seat]
93	W	- [With climate controlled seat]
94	V	-
96	W	-
97	Y	-
98	BR	-
99	G	-
100	Y	-

JRMWG1550GB

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

LAN

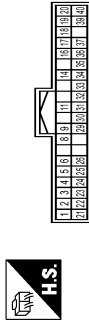
CAN SYSTEM (WITHOUT ICC)

< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITHOUT ICC)

Connector No.	M120
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



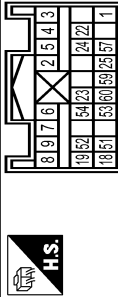
Terminal No.	Wire	Signal Name [Specification]
1	G	RR WINDOW DEFGRPLY CONT
2	B	COMBI SW INPUT 5
3	SB	COMBI SW INPUT 5
4	L	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	P	COMBI SW INPUT 1
8	V	POWER WINDOW SW COMM
9	P	STOP LAMP SW 1
11	R	RAIN SENSOR SERIAL LINK
14	W	OPTICAL SENSOR
16	SB	DIMMER SIGNAL
17	Y	SENSOR PMW SPY
18	B	RECEIVER / SENSOR GND
19	V	TURN SIG RH OUTPUT (FRONT)
20	G	TURN SIG LH OUTPUT (FRONT)
21	P	NATS ANT AMP
22	GR	KYLS ENT RECEIVER RSSI
23	G	SECURITY IND CONT
24	L	DONGLE LINK
25	G	NATS ANT AMP
26	G	I-KEY IDENTIFICATION
29	G	HAZARD SW
30	O	TR LID OPNR SW
31	W	DR DOOR UNLK SENSOR
32	BR	COMBI SW OUTPUT 5
33	R	COMBI SW OUTPUT 4
34	V	COMBI SW OUTPUT 3
35	Y	COMBI SW OUTPUT 2
36	LG	COMBI SW OUTPUT 1
37	R	P POSITION
39	L	CANH
40	P	CANH

Connector No.	M125
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Wire	Signal Name [Specification]
1	L	CANH
3	GR	BATTERY
4	1	CANH
5	B	GND
6	L	CANH
7	P	CANH
9	W	IGNITION
10	P	CANH
11	B	GND
12	P	CANH

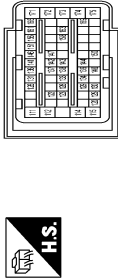
Connector No.	M147
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	N428FY-EX



Terminal No.	Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	Y	DR1 (+)
4	Y	DR1 (-) DR2 (-)
5	Y	DR2 (+)
6	Y	AS1 (+)
7	Y	AS1 (-)
8	Y	AS2 (+)
9	Y	AS2 (-)
18	SB	ECZS (+)

19	V	ECZS (-)
22	SHIELD	GND
23	R	AIR BAG W/L
24	G	SEAT BELT
25	R	CUTOFF TELTALE
51	G	SATELLITE RH2 (+)
52	R	SATELLITE RH2 (-)
53	P	SATELLITE RH2 (+)
54	L	SATELLITE RH2 (-)
57	L	IVCS
59	L	CANH
60	P	CANH

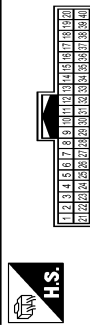
Connector No.	M160
Connector Name	ECM
Connector Type	MAB55FB-MEB10-LH-Z



Terminal No.	Wire	Signal Name [Specification]
111	W	FUEL INJECTOR DRIVER POWER SUPPLY
112	W	FUEL INJECTOR DRIVER POWER SUPPLY
114	B	ECM GROUND
115	B	ECM GROUND
120	G	EVAP CANISTER VENT CONTROL VALVE
122	V	FUEL INJECTOR DRIVER POWER SUPPLY
123	B	THROTTLE CONTROL MOTOR RELAY
125	P	FUEL PUMP CONTROL MODULE (FPCM)
126	Y	ACCELERATOR PEDAL POSITION SENSOR 2
128	SB	ASCOD STEERING SWITCH
129	B	SENSOR GROUND (Without ICC)
130	BR	SENSOR GROUND (With ICC)
131	L	SENSOR GROUND
133	Y	SENSOR POWER SUPPLY
134	P	SENSOR POWER SUPPLY
136	R	FUEL TANK TEMPERATURE SENSOR
137	G	ACCELERATOR PEDAL POSITION SENSOR 1
138	P	SENSOR POWER SUPPLY
139	RG	BATTERY CURRENT SENSOR
140	W	BATTERY TEMPERATURE SENSOR
141	G	IGNITION SWITCH

142	GR	FUEL PUMP CONTROL MODULE (FPCM) CHECK
143	P	FUEL TANK PRESSURE SENSOR
144	LG	REFRIGERANT PRESSURE SENSOR
146	L	CAN COMMUNICATION LINE
147	BR	ASCOD BRAKE SWITCH
150	V	SENSOR GROUND
151	P	CAN COMMUNICATION LINE
156	W	POWER SUPPLY FOR ECM (BACK-UP)
158	P	STOP LAMP SWITCH
161	Y	ENG COMMUNICATION LINE
163	W	ECM RELAY (SELF SHUT-OFF)
166	B	ENG COMMUNICATION LINE
169	V	ENGINE SPEED SIGNAL OUTPUT
171	SB	POWER SUPPLY FOR ECM
172	SB	POWER SUPPLY FOR ECM
173	R	THROTTLE CONTROL MOTOR POWER SUPPLY
174	B	ECM GROUND
175	B	ECM GROUND

Connector No.	M181
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



Terminal No.	Wire	Signal Name [Specification]
2	R	-
3	B	-
5	R	-
6	BR	-
7	L	-
8	P	-
9	B	-
10	W	-
11	LG	-
12	SB	-
13	G	-
14	SB	-
15	BR	-
16	V	-
17	P	-
18	G	-

CAN SYSTEM (WITHOUT ICC)

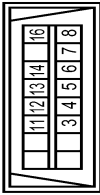
< WIRING DIAGRAM >

[CAN]

CAN SYSTEM (WITHOUT ICC)

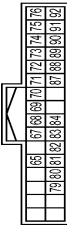
22	BIG	-
23	B	-
25	W	-
30	R	-
31	BR	-
32	L	-
33	P	-
34	LG	-
35	W	-
36	LG	-
37	L	-
38	RG	-
39	SHIELD	-
40	W	-

Connector No.	M182
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



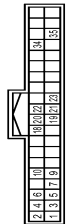
Terminal No.	Wire	Signal Name [Specification]
3	LG	M-CAN L
4	B	EARTH
5	B	EARTH
6	L	CANH
7	V	KLINE
8	LG	IGN SW
11	SB	M-CAN H
12	P	CANH
13	L	CANH
14	P	CANH
16	W	POWER

Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH



Terminal No.	Wire	Signal Name [Specification]
65	V	PARKING BRAKE SIGNAL
67	R	COMPOSITE IMAGE SIGNAL GND
68	W	COMPOSITE IMAGE SIGNAL
69	G	I-KEY IDENTIFICATION SIGNAL
70	P	-
71	SHIELD	MICROPHONE SHIELD
72	G	MICROPHONE VCC
73	BR	COMM (CONT->DISP)
74	P	CANH
75	LG	AV COMM (L)
76	LG	AV COMM (L)
79	SB	DIMMER SIGNAL
80	W	IGNITION SIGNAL
81	BG	REVERSE SIGNAL
82	R	VEHICLE SPEED SIGNAL (8-PULSE)
83	SHIELD	SHIELD
84	B	COMPOSITE IMAGE SYNC SIGNAL
87	R	MICROPHONE SIGNAL
88	SHIELD	SHIELD
89	Y	COMM (DISP->CONT)
90	L	CANH
91	SB	AV COMM (H)
92	SB	AV COMM (H)

Connector No.	M216
Connector Name	TCU
Connector Type	TH40FW-NH



Terminal No.	Wire	Signal Name [Specification]
1	Y	BATTERY POWER SUPPLY
2	B	GROUND
3	SB	ACC POWER SUPPLY
4	W	IGNITION SIGNAL
5	V	ACC OUTPUT
6	P	-
7	B	GROUND
9	L	CANH
10	P	CANH
18	G	MICROPHONE VCC
19	R	MICROPHONE SIGNAL
20	SHIELD	MICROPHONE SHIELD
21	G	MICROPHONE VCC
22	R	MICROPHONE SIGNAL
23	SHIELD	MICROPHONE SHIELD
34	G	SOS call switch
35	BR	SOS call switch LED signal

JRMWG1552GB

LAN

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Interview Sheet

INFOID:0000000011255159

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

SKIB8898E

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

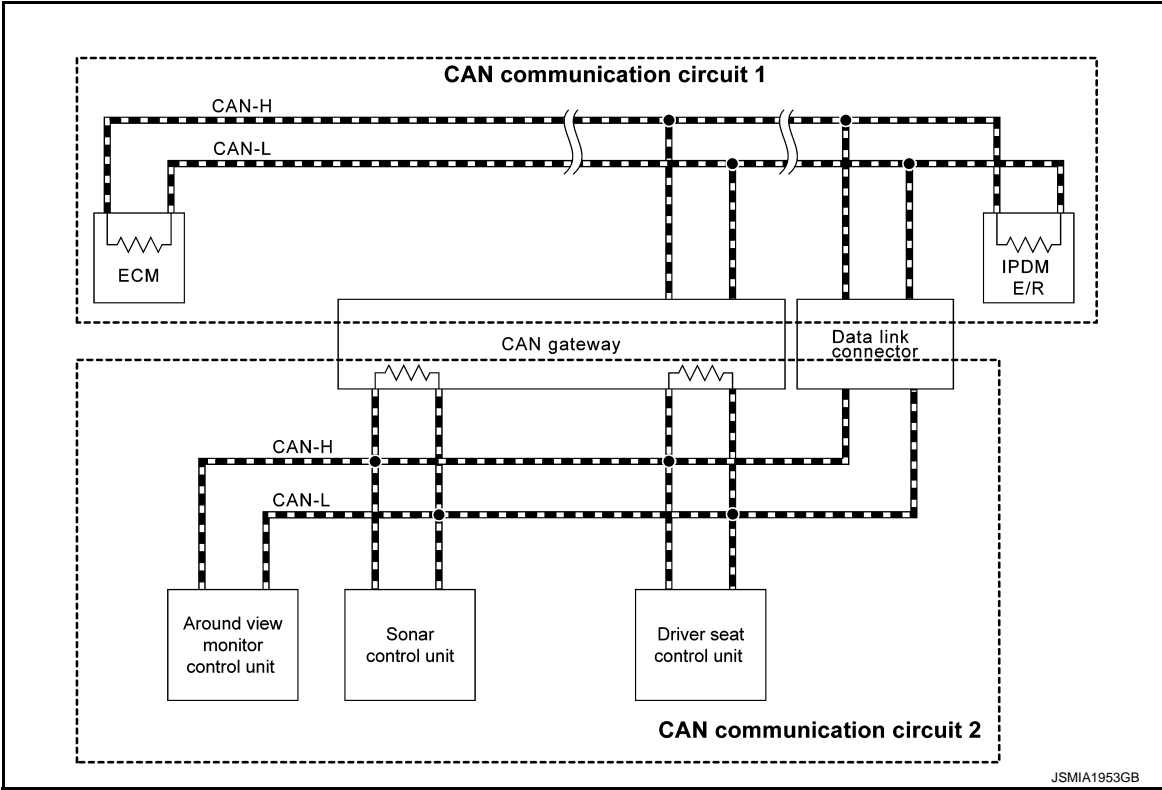
DTC/CIRCUIT DIAGNOSIS

MALFUNCTION AREA CHART

System Diagram

INFOID:0000000011255160

WITHOUT ICC SYSTEM



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

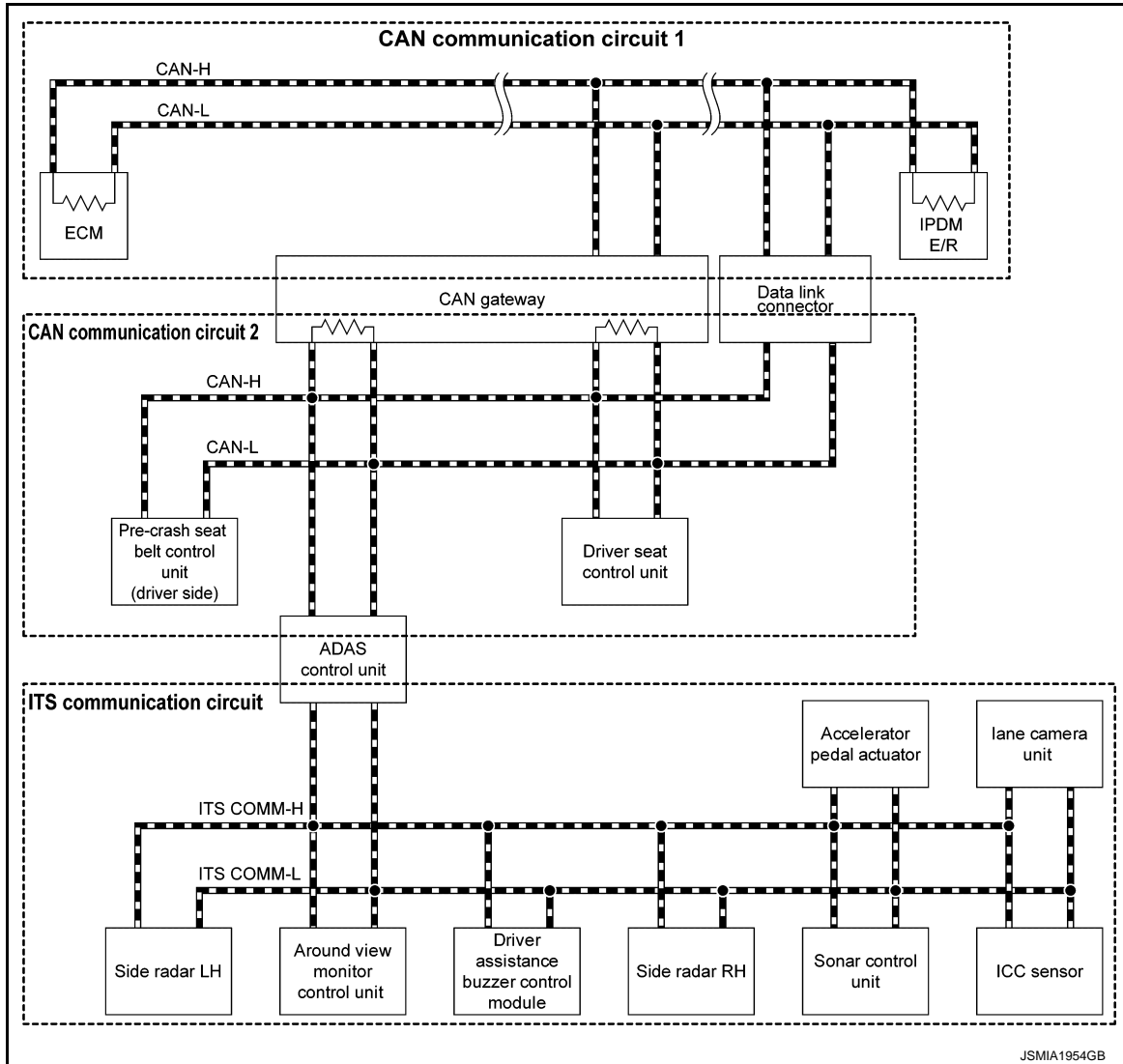
LAN

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

WITH ICC SYSTEM



CAN Communication Circuit

INFOID:0000000011255161

MAIN LINE

Malfunction area	Reference
Main line between data link connector and air bag diagnosis sensor unit	LAN-79, "Diagnosis Procedure"
Main line between air bag diagnosis sensor unit and combination meter	LAN-80, "Diagnosis Procedure"
Main line between combination meter and TCU	LAN-81, "Diagnosis Procedure"
Main line between combination meter and low tire pressure warning control unit	LAN-82, "Diagnosis Procedure"
Main line between TCU and low tire pressure warning control unit	LAN-83, "Diagnosis Procedure"
Main line between low tire pressure warning control unit and A/C auto amp.	LAN-84, "Diagnosis Procedure"
Main line between A/C auto amp. and AV control unit	LAN-85, "Diagnosis Procedure"
Main line between AV control unit and BCM	LAN-86, "Diagnosis Procedure"
Main line between BCM and TCM	LAN-87, "Diagnosis Procedure"
Main line between TCM and steering angle sensor	LAN-88, "Diagnosis Procedure"
Main line between steering angle sensor and CAN gateway	LAN-91, "Diagnosis Procedure"
Main line between steering angle sensor and driver seat control unit	LAN-89, "Diagnosis Procedure"
Main line between CAN gateway and AWD control unit	LAN-92, "Diagnosis Procedure"

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

Malfunction area	Reference
Main line between CAN gateway and ABS actuator and electric unit (control unit)	LAN-94, "Diagnosis Procedure"
Main line between AWD control unit and ABS actuator and electric unit (control unit)	LAN-98, "Diagnosis Procedure"
Main line between driver seat control unit and ABS actuator and electric unit (control unit)	LAN-96, "Diagnosis Procedure"
Main line between data link connector and around view monitor control unit	LAN-100, "Diagnosis Procedure"
Main line between data link connector and ADAS control unit	LAN-102, "Diagnosis Procedure"
Main line between around view monitor control unit and driver seat control unit	LAN-101, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
ECM branch line circuit	LAN-108, "Diagnosis Procedure"
Air bag diagnosis sensor unit branch line circuit	LAN-113, "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 1)	LAN-111, "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 2)	LAN-112, "Diagnosis Procedure"
Combination meter branch line circuit	LAN-114, "Diagnosis Procedure"
TCU branch line circuit	LAN-115, "Diagnosis Procedure"
AV control unit branch line circuit	LAN-118, "Diagnosis Procedure"
BCM branch line circuit	LAN-120, "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 2)	LAN-125, "Diagnosis Procedure"
A/C auto amp. branch line circuit	LAN-117, "Diagnosis Procedure"
Low tire pressure warning control unit branch line circuit	LAN-116, "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 1)	LAN-124, "Diagnosis Procedure"
Steering angle sensor branch line circuit	LAN-123, "Diagnosis Procedure"
TCM branch line circuit	LAN-121, "Diagnosis Procedure"
AWD control unit branch line circuit	LAN-126, "Diagnosis Procedure"
ABS actuator and electric unit (control unit) branch line circuit	LAN-127, "Diagnosis Procedure"
AFS control unit branch line circuit	LAN-128, "Diagnosis Procedure"
IPDM E/R branch line circuit	LAN-129, "Diagnosis Procedure"
Around view monitor control unit branch line circuit	LAN-130, "Diagnosis Procedure"
Sonar control unit branch line circuit	LAN-131, "Diagnosis Procedure"
Driver seat control unit branch line circuit	LAN-132, "Diagnosis Procedure"
ADAS control unit branch line circuit	LAN-133, "Diagnosis Procedure"
Pre-crash seat belt control unit (driver side) branch line circuit	LAN-134, "Diagnosis Procedure"

SHORT CIRCUIT

Malfunction area	Reference
CAN communication circuit (Without telematics system)	LAN-141, "Diagnosis Procedure"
CAN communication circuit 1 (With telematics system)	LAN-143, "Diagnosis Procedure"
CAN communication circuit 2 (With telematics system)	LAN-145, "Diagnosis Procedure"

ITS Communication Circuit

INFOID:0000000011255162

MAIN LINE

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

Malfunction area	Reference
Main line between side radar LH and side radar RH	LAN-104, "Diagnosis Procedure"
Main line between side radar RH and accelerator pedal actuator	LAN-105, "Diagnosis Procedure"
Main line between accelerator pedal actuator and lane camera unit	LAN-107, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
Side radar LH branch line circuit	LAN-135, "Diagnosis Procedure"
Around view monitor control unit branch line circuit	LAN-130, "Diagnosis Procedure"
Driver assistance buzzer control module branch line circuit	LAN-136, "Diagnosis Procedure"
Side radar RH branch line circuit	LAN-137, "Diagnosis Procedure"
Sonar control unit branch line circuit	LAN-131, "Diagnosis Procedure"
Accelerator pedal actuator branch line circuit	LAN-138, "Diagnosis Procedure"
Lane camera unit branch line circuit	LAN-139, "Diagnosis Procedure"
ICC sensor branch line circuit	LAN-140, "Diagnosis Procedure"

SHORT CIRCUIT OR OPEN CIRCUIT

Malfunction area	Reference
ITS communication circuit	LAN-147, "Diagnosis Procedure"

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011255168

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011255165

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011508251

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN M&A AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN M&A AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011508253

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Low tire pressure warning control unit
4. Check the continuity between the combination meter harness connector and the low tire pressure warning control unit harness connector.

Combination meter harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M43	2	Existed
	15		1	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 low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011508254

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011255163

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011508255

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011255166

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011255169

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011255171

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011508591

1.CHECK CONNECTOR

1. Turn the ignition 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 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector B11
 - Harness connector B501

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

Steering angle sensor harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M37	1	81	Existed
	2	82	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
81	35	Existed
82	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B11	23	Existed
	73		24	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 driver seat control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011255170

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011255173

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

1. Disconnect the harness connector of AWD control unit.
2. Check the continuity between the harness connector and the AWD control unit harness connector.

Harness connector		AWD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B17	8	Existed
	73		16	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 CAN gateway and the AWD control unit.

NO >> Replace the body harness.

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

LAN

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011508260

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the body harness.

6.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the body harness.

7.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of 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.	
E106	22	E41	25	Existed
	23		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 CAN gateway and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and ABS actuator and electric unit (control unit).

LAN

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011508592

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.		Terminal No.		Continuity
B1		72	74	Existed
		73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 driver seat control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011255172

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.		Terminal No.		Continuity
B1		72	74	Existed
		73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 AWD control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

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

LAN

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000011255174

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M182	13	24	Existed
	12	27	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B201.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of around view monitor control unit.
2. Check the continuity between the harness connector terminals.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B231	27	Existed
	73		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 data link connector and the around view monitor control unit.

NO >> Repair the main line between the harness connector B201 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011508263

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B222
 - Harness connector B5
4. Check the continuity between the AV control unit harness connector and the combination meter harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M231	27	B222	13	Existed
	28		14	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the main line between the around view monitor control unit and the harness connector B222.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B11 and B501.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B11	23	Existed
	14		24	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 harness connectors B5 and B11.

NO >> Replace the body harness.

LAN

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

Diagnosis Procedure

INFOID:0000000011508262

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201
 - Harness connector B222
 - Harness connector B5

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector		Continuity
Connector No.	Terminal No.	Terminal No.		
M182	13	24		Existed
	12	27		Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B222 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B222	13	Existed
	73		14	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors B201 and B222.

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of ADAS control unit.
2. Check the continuity between the harness connectors.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B10	1	Existed
	14		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 ADAS control unit.

NO >> Replace the body harness.

LAN

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011255175

1.CHECK CONNECTOR

1. Turn the ignition 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 B33
 - Harness connector B245

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.
 - Side radar LH
 - Harness connectors B33 and B245
2. Check the continuity between the side radar LH harness connector and the harness connector.

Side radar LH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	4	B33	13	Existed
	3		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar LH and the harness connector B33.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of side radar RH.
2. Check the continuity between the harness connector and the side radar RH harness connector.

Harness connector		Side radar RH harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B245	13	B252	4	Existed
	14		3	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 side radar RH.

NO >> Repair the main line between the harness connector B245 and the side radar RH.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

Diagnosis Procedure

INFOID:0000000011255176

1.CHECK CONNECTOR

1. Turn the ignition 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 B201
 - Harness connector M117
 - Harness connector M20 and PCB harness 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.
 - Side radar RH
 - Harness connectors B201 and M117
2. Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B252	4	B201	66	Existed
	3		67	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B201.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M117	66	M20	38	Existed
	67		40	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M117 and M20.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M150 and M151.
2. Check the continuity between the PCB harness connector and the harness connector.

PCB harness connector		Harness connector		Continuity
Terminal No.	Connector No.	Terminal No.	Connector No.	
38	M150	11		Existed
40		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 side radar RH and the accelerator pedal actuator.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

NO >> Replace the PCB harness.

MAIN LINE BETWEEN APA AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN APA AND LANE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255177

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors M151 and M150
 - Harness connectors M110 and R7
4. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M150	11	M110	13	Existed
	10		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 accelerator pedal actuator and the lane camera unit.

NO >> Replace the PCB harness.

LAN

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255178

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255188

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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 M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011255189

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011255190

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255184

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

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

LAN

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255187

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255185

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255179

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255182

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106. "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255186

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

- YES (Present error)>>Replace the AV control unit. Refer to the following.
- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
 - BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

- NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

LAN

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255191

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255183

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255192

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011255180

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011255181

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 M23 and PCB harness 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.		
M125	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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255193

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 AWD 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 AWD control unit.
2. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B17	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-49, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-61, "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.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255194

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148, "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.

LAN

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255195

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.		
E70	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-95, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to [EXL-148, "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.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255196

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

LAN

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011508438

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.		
M231	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-373, "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-427, "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.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011508439

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374. "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431. "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.

LAN

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255197

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

ICC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255198

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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

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.		
M125	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). Refer to [LAN-75. "System Diagram"](#).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
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.		
B10	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-164. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-165. "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.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255199

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Pre-crash seat belt control unit (driver side)
 - CAN gateway

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

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.		
B9	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-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SB-7, "SEAT BELT RETRACTOR : 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.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255200

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 side radar LH 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 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.		
B52	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the side radar LH branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-346, "SIDE RADAR LH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-392, "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.

LAN

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011508441

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 driver 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 driver assistance buzzer control module.
2. Check the resistance between the driver assistance buzzer control module harness connector terminals.

Driver assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B210	3	11	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver assistance buzzer control module. Refer to [DAS-347, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver assistance buzzer control module. Refer to [DAS-395, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver assistance buzzer control module branch line.

NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255201

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 side radar RH 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 RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-349, "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.		
B252	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the side radar RH branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-347, "SIDE RADAR RH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-392, "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.

LAN

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255202

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 position sensor
 - Harness connector M151
 - Harness connector M150
 - Harness connector M23 and PCB harness 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 accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal position sensor harness connector terminals.

Accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M154	3	9	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 accelerator pedal position sensor. Refer to [DAS-345, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).
 YES (Past error)>>Error was detected in the accelerator pedal position sensor branch line.
 NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the accelerator pedal position sensor harness connector and the harness connector.

Accelerator pedal position sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M154	3	M23	138	Existed
	9		137	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
 NO >> Repair the harness between the accelerator pedal position sensor harness connector M152 and the harness connector M23.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255203

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 R7
 - Harness connector M110
 - Harness connector M24 and PCB harness 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 lane camera unit.
2. Check the resistance between the lane camera unit harness connector terminals.

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R8	4	8	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 lane camera unit. Refer to [DAS-345, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the lane camera unit harness connector and the harness connector.

Lane camera unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
R8	4	M24	179	Existed
	8		178	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the lane camera unit harness connector R8 and the harness connector M24.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011255204

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 E106
 - Harness connector M6
 - Harness connector M28 and PCB harness 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 ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E33	3	6	Approx. 108 – 132

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 ICC sensor. Refer to [CCS-115, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-132, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the ICC sensor harness connector and the harness connector.

ICC sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E33	3	M28	343	Existed
	6		345	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the ICC sensor harness connector E67 and the harness connector M28.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011255205

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.		
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

CAN COMMUNICATION CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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:

ECM and IPDM E/R 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:0000000011255206

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011255207

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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 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

Diagnosis Procedure

INFOID:0000000011255208

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.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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 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.	
B10	6	E33	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Accelerator pedal actuator
 - Lane camera unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 system.

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.

PRECAUTION

PRECAUTIONS

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

INFOID:000000011255209

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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, 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, and wait at least 3 minutes before performing any service.

Precautions for Removing Battery Terminal

INFOID:000000011255210

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

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.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

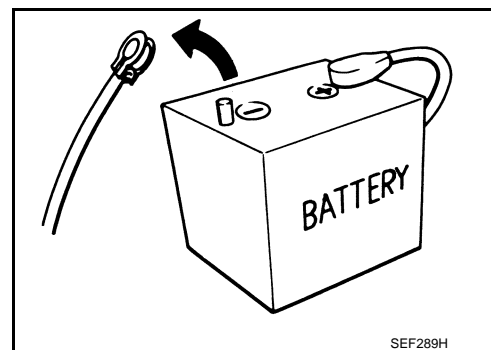
NOTE:

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.



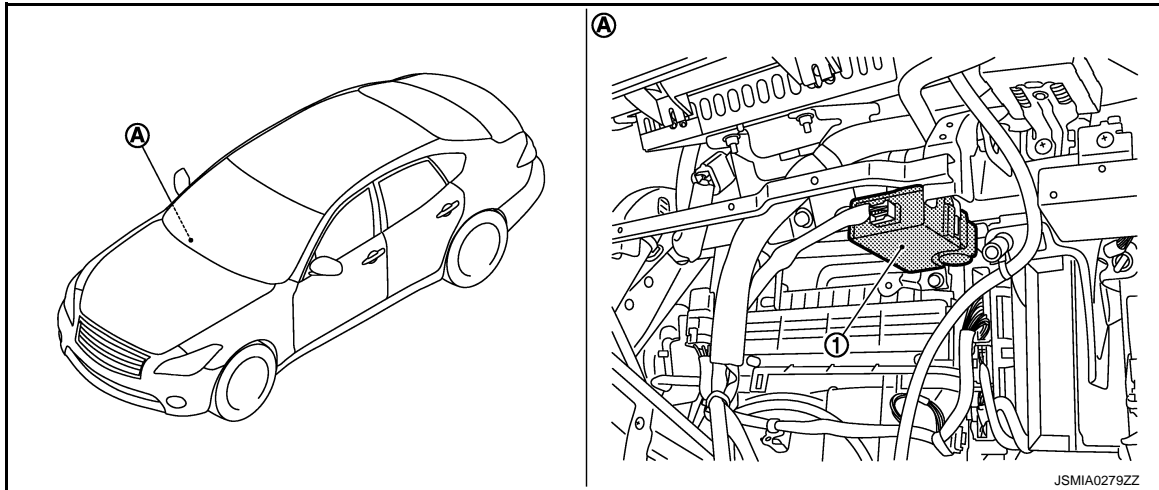
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011255211

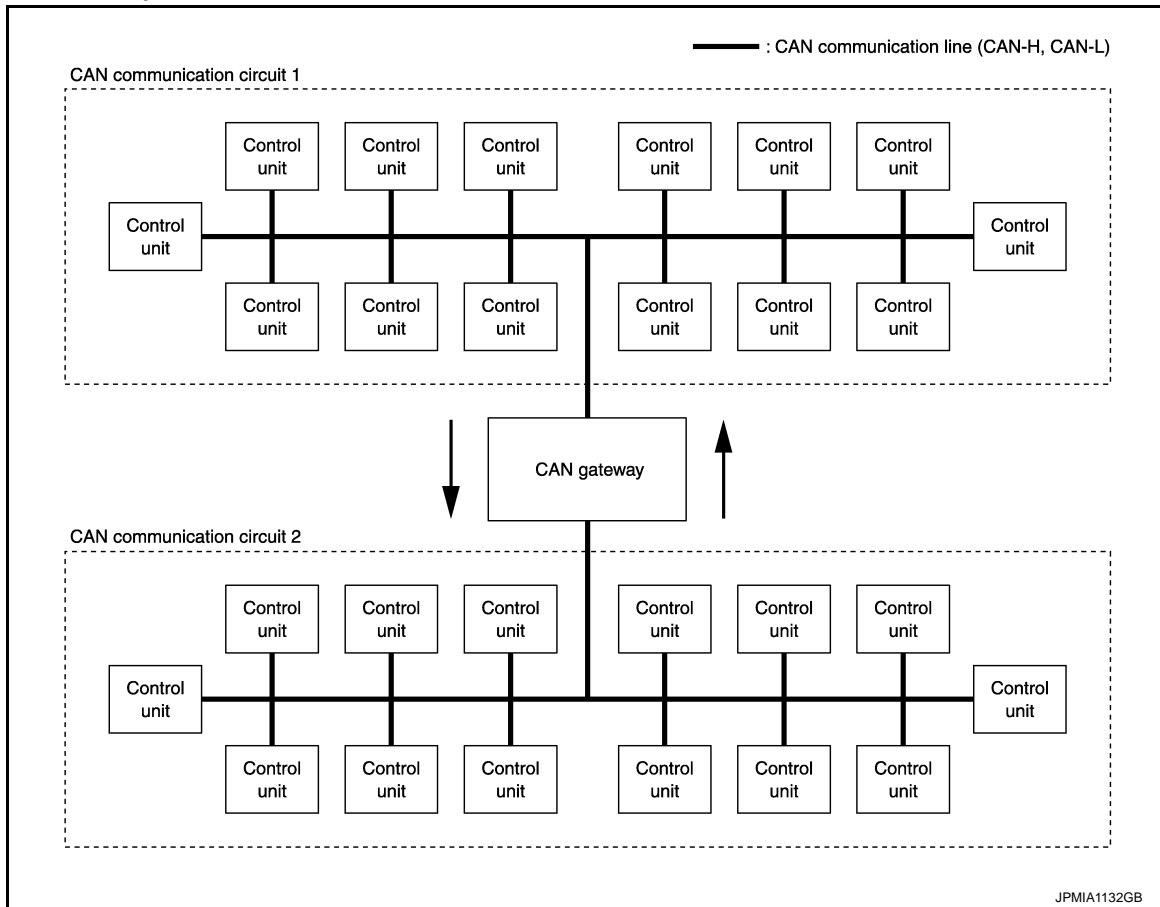


- 1. CAN gateway
- A. Over the glove box

SYSTEM

System Description

INFOID:0000000011255212



- The CAN gateway system communicates between two CAN communication circuits.
- This system selects and transmits only necessary information.

DIAGNOSIS SYSTEM (CAN GATEWAY)**CONSULT Function**

INFOID:0000000011255213

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with CAN gateway.

Diagnosis mode	Function Description
Ecu Identification	The CAN gateway part number is displayed.
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.
Configuration	<ul style="list-style-type: none">• Read and save the vehicle specification.• Write the vehicle specification when replacing CAN gateway.

SELF DIAGNOSTIC RESULT

Refer to [LAN-153, "DTC Index"](#).

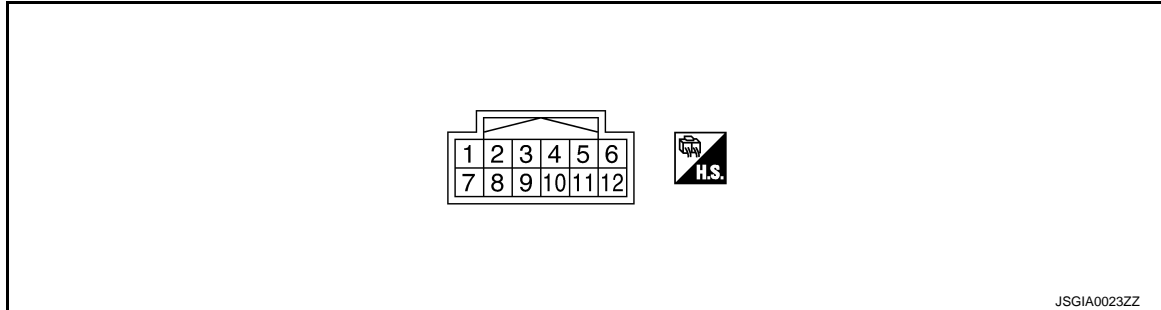
ECU DIAGNOSIS INFORMATION

CAN GATEWAY

Reference Value

INFOID:0000000011255214

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
1 (L)	—	CAN-H (CAN communication circuit 1)	Input/ Output	—	—
3 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
4 (L)	—	CAN-H (CAN communication circuit 2)	Input/ Output	—	—
5 (B)	Ground	Ground	—	Ignition switch ON	0 V
6 (L)	—	CAN-H (CAN communication circuit 2)	Input/ Output	—	—
7 (P)	—	CAN-L (CAN communication circuit 1)	Input/ Output	—	—
9 (W)	Ground	Ignition power supply	Input	Ignition switch ON	Battery voltage
10 (P)	—	CAN-L (CAN communication circuit 2)	Input/ Output	—	—
11 (B)	Ground	Ground	—	Ignition switch ON	0 V
12 (P)	—	CAN-L (CAN communication circuit 2)	Input/ Output	—	—

DTC Inspection Priority Chart

INFOID:0000000011255215

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

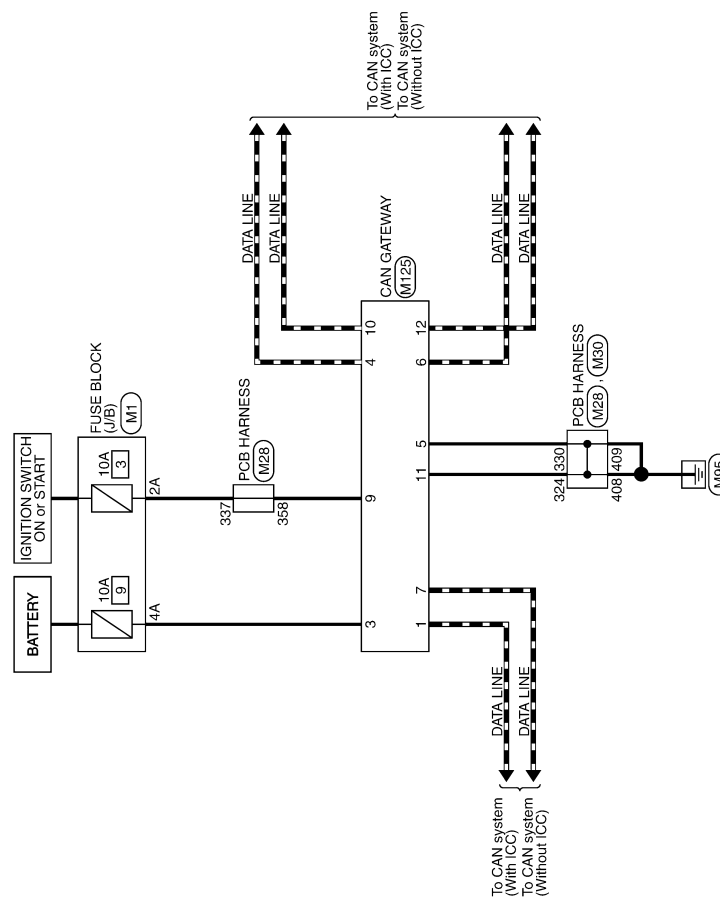
INFOID:0000000011255216

NOTE:

< ECU DIAGNOSIS INFORMATION >

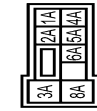
- The details of time display are as follows.
 - CRNT: A malfunction is detected now
 - PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame Data).
 - The number is 0 when is detected now
 - The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
 - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

DTC		Reference
No DTC is detected. Further testing may be required.		—
U1000: CAN COMM CIRCUIT		LAN-159
U1010: CONTROL UNIT(CAN)		LAN-160
B2600: CONFIG ERROR	WRONG DATA	LAN-161
	NOT CONFIGURED	



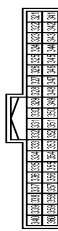
CAN GATEWAY SYSTEM

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-M2



Terminal No.	Color Of Wire	Signal Name [Specification]
1A	R	-
2A	W	-
3A	Y	-
4A	W	-
5A	Y	-
6A	Y	-
8A	Y	-

Connector No.	M28
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
321	V	-
322	V	-
324	B	-
325	L	-
326	L	-
327	P	-
328	P	-
330	B	-
331	V	-
332	V	-
335	B	-
337	W	-

338	W	-
343	L	-
344	B	-
345	Y	-
346	L	-
347	P	-
348	GR	-
349	V	-
350	LG	-
351	P	-
352	R	-
353	P	-
358	W	-
359	W	-
360	G	-

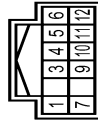
Connector No.	M30
Connector Name	PCB HARNESS
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
402	R	-
403	R	-
406	B	-
407	V	-
408	B	-
409	B	-
410	B	-
411	B	-
413	Y	-
414	BR	-
416	LG	-
417	B	-
419	SB	-
420	SHIELD	-
422	V	-
427	P	-
428	V	-
429	P	-

430	LG	-
431	B	-
432	Y	-
435	V	-
436	BG	-
437	B	-
438	P	-
439	L	-
440	B	-

Connector No.	M125
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CANH
3	GR	BATTERY
4	L	CANH
5	B	GND
6	L	CANH
7	P	CAN-L
9	W	IGNITION
10	P	CAN-L
11	B	GND
12	P	CAN-L

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

Description

INFOID:0000000011255218

BEFORE REPLACEMENT

When replacing CAN gateway, save or print current vehicle specification 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 you set 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.

Work Procedure

INFOID:0000000011255219

1.SAVING VEHICLE SPECIFICATION

ⓂCONSULT Configuration

Perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to [LAN-158, "Description"](#).

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-163, "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. Refer to [LAN-158, "Work Procedure"](#).

>> WORK END

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

LAN

CONFIGURATION (CAN GATEWAY)

Description

INFOID:0000000011255220

Vehicle specification needs to be written with CONSULT because it is not written after replacing CAN gateway. Configuration has three functions as follows

Function		Description
Read / Write Configuration	Before Replace ECU	<ul style="list-style-type: none"> Reads the vehicle configuration of current CAN gateway. Saves the read vehicle configuration.
	After Replace ECU	Writes the vehicle configuration with saved data.
Manual Configuration		Writes the vehicle configuration 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 you set 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.

Work Procedure

INFOID:0000000011255221

1.WRITING MODE SELECTION

CONSULT Configuration

Select “Re/programming, Configuration” of CAN gateway.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2.PERFORM “AFTER REPLACE ECU” OF “READ / WRITE CONFIGURATION”

CONSULT Configuration

Perform “After Replace ECU” of “Read / Write Configuration”.

>> GO TO 4.

3.PERFORM “MANUAL CONFIGURATION”

CONSULT Configuration

1. Select “Manual Configuration”.
2. Touch “Next”.
3. Touch “OK”.
4. Check that the configuration has been successfully written and touch “End”.

>> 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

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000011255222

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with two communication lines (CAN-H and 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-35, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC Logic

INFOID:0000000011255223

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When CAN gateway cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

Diagnosis Procedure

INFOID:0000000011255224

1.PERFORM SELF DIAGNOSTIC

1. Turn the ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result".

Is "U1000: CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-25, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-44, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000011255225

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with two communication lines (CAN-H and 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-35, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC Logic

INFOID:0000000011255226

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT(CAN)	When an error is detected during the initial diagnosis for CAN controller of CAN gateway.	CAN gateway

Diagnosis Procedure

INFOID:0000000011255227

1.REPLACE CAN GATEWAY

When DTC "U1010: CONTROL UNIT(CAN)" is detected, replace CAN gateway.

>> Replace CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).

B2600 CONFIG ERROR

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

B2600 CONFIG ERROR

Description

INFOID:0000000011255228

The CAN gateway requires initial settings to judge necessary information, according to a vehicle specification.

DTC Logic

INFOID:0000000011255229

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Probable cause
B2600	CONFIG ERROR WRONG DATA	When errors are detected in the configuration data stored in the CAN gateway.	CAN gateway
	CONFIG ERROR NOT CONFIGURED	When no data are stored in the CAN gateway.	

Diagnosis Procedure

INFOID:0000000011255230

1.REPLACE CAN GATEWAY

When DTC "B2600: CONFIG ERROR" is detected, replace CAN gateway.

>> Replace CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).

LAN

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000011255231

1.CHECK FUSE

Check that the following fuse are not blown.

Signal name	Fuse No.
Battery power supply	9
Ignition power supply	3

Is the fuse fusing?

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 (Approx.)
(+)	(-)		
CAN gateway		Ignition switch	
Connector	Terminal		
M125	3	OFF	Battery voltage
	9	ON	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		
M125	5		Existed
	11		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

REMOVAL AND INSTALLATION

CAN GATEWAY

Removal and Installation

INFOID:0000000011255232

CAUTION:

Before replacing CAN gateway, perform “Before Replace ECU” of “Read / Write Configuration” to save or print current vehicle specification. Refer to [LAN-157, "Description"](#).

REMOVAL

1. Remove instrument lower panel RH. 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-157, "Description"](#).

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011518260

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011518261

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

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

LAN

MAIN LINE BETWEEN M&A AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN M&A AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011518263

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Low tire pressure warning control unit
4. Check the continuity between the combination meter harness connector and the low tire pressure warning control unit harness connector.

Combination meter harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M43	2	Existed
	15		1	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 low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011518265

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011518266

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518267

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518268

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011518269

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011518270

1.CHECK CONNECTOR

1. Turn the ignition 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 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector B11
 - Harness connector B501

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

Steering angle sensor harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M37	1	81	Existed
	2	82	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
81	35	Existed
82	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B11	23	Existed
	73		24	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 driver seat control unit.

NO >> Replace the body harness.

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

LAN

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011518274

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 driver seat control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518282

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518283

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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 M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518286

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNITCheck the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518287

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518289

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518290

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125, "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518291

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518292

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the BCM branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518293

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 1)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518294

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518298

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148, "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.

LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518300

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518303

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011518312

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.		
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
 2. Check the resistance between the ECM terminals.
- VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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:

ECM and IPDM E/R 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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011518316

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011518317

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011518318

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011518320

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011518321

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011518322

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518323

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518324

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011518325

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011518327

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011518329

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the body harness.

6.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the body harness.

7.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of 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.	
E106	22	E41	25	Existed
	23		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 CAN gateway and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and ABS actuator and electric unit (control unit).

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

LAN

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518332

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M182	13	24	Existed
	12	27	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B201.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of around view monitor control unit.
2. Check the continuity between the harness connector terminals.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B231	27	Existed
	73		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 data link connector and the around view monitor control unit.

NO >> Repair the main line between the harness connector B201 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011518333

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B222
 - Harness connector B5
4. Check the continuity between the AV control unit harness connector and the combination meter harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M231	27	B222	13	Existed
	28		14	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the main line between the around view monitor control unit and the harness connector B222.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B11 and B501.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B11	23	Existed
	14		24	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 harness connectors B5 and B11.

NO >> Replace the body harness.

LAN

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518338

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011518340

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011518341

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.	
M182	13	Approx. 54 – 66
	12	

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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518342

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness and/or the PCB harness.
NO >> Replace parts whose air bag system has a malfunction.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518343

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518344

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507. "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518345

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518346

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125, "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000011518347

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518348

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518349

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 CIRCUITCheck the power supply and the ground circuit of the TCM. Refer to [TM-159, "Diagnosis Procedure"](#).Is the inspection result normal?YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 2)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518350

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011518351

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011518352

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 M23 and PCB harness 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.		
M125	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-162. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
Refer to [LAN-75. "System Diagram"](#).

NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518354

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148, "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.

LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518356

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518357

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.		
M231	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-373, "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-427, "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.

LAN

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518358

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431, "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.

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518359

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011518369

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
 2. Check the resistance between the ECM terminals.
- VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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.

LAN

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011518370

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

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 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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011518376

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011518377

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011518378

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011518380

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011518381

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011518382

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518383

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011518384

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011518385

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011518387

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011518389

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the body harness.

6.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the body harness.

7.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of 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.	
E106	22	E41	25	Existed
	23		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 CAN gateway and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and ABS actuator and electric unit (control unit).

LAN

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

Diagnosis Procedure

INFOID:0000000011518394

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201
 - Harness connector B222
 - Harness connector B5

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector		Continuity
Connector No.	Terminal No.	Terminal No.		
M182	13	24		Existed
	12	27		Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B222 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B222	13	Existed
	73		14	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors B201 and B222.

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of ADAS control unit.
2. Check the continuity between the harness connectors.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B10	1	Existed
	14		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 ADAS control unit.

NO >> Replace the body harness.

LAN

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011518395

1.CHECK CONNECTOR

1. Turn the ignition 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 B33
 - Harness connector B245

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.
 - Side radar LH
 - Harness connectors B33 and B245
2. Check the continuity between the side radar LH harness connector and the harness connector.

Side radar LH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	4	B33	13	Existed
	3		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar LH and the harness connector B33.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of side radar RH.
2. Check the continuity between the harness connector and the side radar RH harness connector.

Harness connector		Side radar RH harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B245	13	B252	4	Existed
	14		3	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 side radar RH.

NO >> Repair the main line between the harness connector B245 and the side radar RH.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

Diagnosis Procedure

INFOID:0000000011518396

1.CHECK CONNECTOR

1. Turn the ignition 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 B201
 - Harness connector M117
 - Harness connector M20 and PCB harness 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.
 - Side radar RH
 - Harness connectors B201 and M117
2. Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B252	4	B201	66	Existed
	3		67	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B201.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M117	66	M20	38	Existed
	67		40	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M117 and M20.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M150 and M151.
2. Check the continuity between the PCB harness connector and the harness connector.

PCB harness connector		Harness connector		Continuity
Terminal No.		Connector No.	Terminal No.	
38		M150	11	Existed
40			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 side radar RH and the accelerator pedal actuator.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

NO >> Replace the PCB harness.

MAIN LINE BETWEEN APA AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN APA AND LANE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518397

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors M151 and M150
 - Harness connectors M110 and R7
4. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M150	11	M110	13	Existed
	10		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 accelerator pedal actuator and the lane camera unit.

NO >> Replace the PCB harness.

LAN

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518398

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

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:0000000011518400

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

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:0000000011518401

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518402

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness and/or the PCB harness.
NO >> Replace parts whose air bag system has a malfunction.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518403

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518404

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507. "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518405

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518406

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125, "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000011518407

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518408

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518409

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 CIRCUITCheck the power supply and the ground circuit of the TCM. Refer to [TM-159, "Diagnosis Procedure"](#).Is the inspection result normal?YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 3)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518410

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

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:0000000011518411

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

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:0000000011518412

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 M23 and PCB harness 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.		
M125	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-162. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
Refer to [LAN-75. "System Diagram"](#).

NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518414

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148, "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.

LAN

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518415

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.		
E70	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-95, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to [EXL-148, "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.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518416

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

LAN

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518417

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.		
M231	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-373, "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-427, "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.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518418

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374. "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431. "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.

LAN

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518419

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).**3.CHECK HARNESS FOR OPEN CIRCUIT**

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518420

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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

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.		
M125	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). Refer to [LAN-75. "System Diagram"](#).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
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.		
B10	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-164. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-165. "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.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518421

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Pre-crash seat belt control unit (driver side)
 - CAN gateway

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

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.		
B9	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-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SB-7, "SEAT BELT RETRACTOR : 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.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518422

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 side radar LH 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 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.		
B52	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the side radar LH branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-346, "SIDE RADAR LH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-392, "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.

LAN

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518423

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 driver 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 driver assistance buzzer control module.
2. Check the resistance between the driver assistance buzzer control module harness connector terminals.

Driver assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B210	3	11	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver assistance buzzer control module. Refer to [DAS-347, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver assistance buzzer control module. Refer to [DAS-395, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver assistance buzzer control module branch line.

NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518424

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 side radar RH 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 RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-349, "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.		
B252	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> Repair the side radar RH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-347, "SIDE RADAR RH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-392, "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.

LAN

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518425

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 position sensor
 - Harness connector M151
 - Harness connector M150
 - Harness connector M23 and PCB harness 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 accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal position sensor harness connector terminals.

Accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M154	3	9	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 accelerator pedal position sensor. Refer to [DAS-345, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal position sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the accelerator pedal position sensor harness connector and the harness connector.

Accelerator pedal position sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M154	3	M23	138	Existed
	9		137	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the accelerator pedal position sensor harness connector M152 and the harness connector M23.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518426

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 R7
 - Harness connector M110
 - Harness connector M24 and PCB harness 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 lane camera unit.
2. Check the resistance between the lane camera unit harness connector terminals.

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R8	4	8	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 lane camera unit. Refer to [DAS-345, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the lane camera unit harness connector and the harness connector.

Lane camera unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
R8	4	M24	179	Existed
	8		178	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the lane camera unit harness connector R8 and the harness connector M24.

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011518427

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 E106
 - Harness connector M6
 - Harness connector M28 and PCB harness 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 ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E33	3	6	Approx. 108 – 132

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 ICC sensor. Refer to [CCS-115, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-132, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the ICC sensor harness connector and the harness connector.

ICC sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E33	3	M28	343	Existed
	6		345	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the ICC sensor harness connector E67 and the harness connector M28.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011518429

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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:0000000011518430

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

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 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

Diagnosis Procedure

INFOID:0000000011518431

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.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75, "System Diagram"](#).

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 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.	
B10	6	E33	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Accelerator pedal actuator
 - Lane camera unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 3)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 system.

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.

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519276

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011519277

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011519278

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519279

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519280

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011519281

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519282

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519283

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519284

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011519285

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519286

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the body harness.

6.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the body harness.

7.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of 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.	
E106	22	E41	25	Existed
	23		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 CAN gateway and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519287

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector		Continuity
Connector No.	Terminal No.	Terminal No.		
M182	13	24		Existed
	12	27		Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B201.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of around view monitor control unit.
2. Check the continuity between the harness connector terminals.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B231	27	Existed
	73		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 data link connector and the around view monitor control unit.

NO >> Repair the main line between the harness connector B201 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011519288

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B222
 - Harness connector B5
4. Check the continuity between the AV control unit harness connector and the combination meter harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M231	27	B222	13	Existed
	28		14	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the main line between the around view monitor control unit and the harness connector B222.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B11 and B501.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B11	23	Existed
	14		24	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 harness connectors B5 and B11.

NO >> Replace the body harness.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519289

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

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:0000000011519290

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

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:0000000011519291

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519292

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNITCheck the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519293

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519294

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519295

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519296

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106. "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519297

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

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

LAN

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519298

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519299

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 4)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519300

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

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:0000000011519301

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
Refer to [LAN-75, "System Diagram"](#).
NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

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:0000000011519302

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 M23 and PCB harness 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.		
M125	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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
Refer to [LAN-75, "System Diagram"](#).

NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519303

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148. "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.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519304

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

LAN

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519305

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.		
M231	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-373, "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-427, "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.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519306

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374. "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431. "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.

LAN

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519307

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).**3.CHECK HARNESS FOR OPEN CIRCUIT**

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011519308

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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 4)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011519309

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

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 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.

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519313

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011519314

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011519315

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519316

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519317

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011519318

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519319

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519320

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519321

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011519322

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519323

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN CGW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace the body harness.

6.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the body harness.

7.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of 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.	
E106	22	E41	25	Existed
	23		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 CAN gateway and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519324

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201
 - Harness connector B222
 - Harness connector B5

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M182	13	24	Existed
	12	27	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B222 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B222	13	Existed
	73		14	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors B201 and B222.

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of ADAS control unit.
2. Check the continuity between the harness connectors.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B10	1	Existed
	14		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 ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011519325

1.CHECK CONNECTOR

1. Turn the ignition 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 B33
 - Harness connector B245

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.
 - Side radar LH
 - Harness connectors B33 and B245
2. Check the continuity between the side radar LH harness connector and the harness connector.

Side radar LH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	4	B33	13	Existed
	3		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar LH and the harness connector B33.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of side radar RH.
2. Check the continuity between the harness connector and the side radar RH harness connector.

Harness connector		Side radar RH harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B245	13	B252	4	Existed
	14		3	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 side radar RH.

NO >> Repair the main line between the harness connector B245 and the side radar RH.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

Diagnosis Procedure

INFOID:0000000011519326

1.CHECK CONNECTOR

1. Turn the ignition 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 B201
 - Harness connector M117
 - Harness connector M20 and PCB harness 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.
 - Side radar RH
 - Harness connectors B201 and M117
2. Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B252	4	B201	66	Existed
	3		67	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B201.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M117	66	M20	38	Existed
	67		40	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M117 and M20.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M150 and M151.
2. Check the continuity between the PCB harness connector and the harness connector.

PCB harness connector		Harness connector		Continuity
Terminal No.		Connector No.	Terminal No.	
38		M150	11	Existed
40			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 side radar RH and the accelerator pedal actuator.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

NO >> Replace the PCB harness.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN APA AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN APA AND LANE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519327

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors M151 and M150
 - Harness connectors M110 and R7
4. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M150	11	M110	13	Existed
	10		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 accelerator pedal actuator and the lane camera unit.

NO >> Replace the PCB harness.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519328

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

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:0000000011519329

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

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:0000000011519330

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519331

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

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

LAN

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519332

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519333

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519334

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519335

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106. "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519336

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

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

LAN

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519337

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519338

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.	
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 5)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519339

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

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:0000000011519340

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).
Refer to [LAN-75, "System Diagram"](#).
NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

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:0000000011519341

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 M23 and PCB harness 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.		
M125	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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519342

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148. "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.

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519343

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.		
E70	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-95, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-148, "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
B
C
D
E
F
G
H
I
J
K
L
N
O
P

LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519344

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519345

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.		
M231	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-373, "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-427, "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.

LAN

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519346

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431, "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.

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519347

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519348

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).**3.CHECK HARNESS FOR OPEN CIRCUIT**

1. Connect the connector of CAN gateway.
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.		
B10	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-164, "Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-165, "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.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519349

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Pre-crash seat belt control unit (driver side)
 - CAN gateway

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

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.		
B9	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-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SB-7, "SEAT BELT RETRACTOR : 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.

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519350

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 side radar LH 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 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.		
B52	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the side radar LH branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-346, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-392, "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.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519351

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 driver 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 driver assistance buzzer control module.
2. Check the resistance between the driver assistance buzzer control module harness connector terminals.

Driver assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B210	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the driver assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver assistance buzzer control module. Refer to [DAS-347, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the driver assistance buzzer control module. Refer to [DAS-395, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the driver assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

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

LAN

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519352

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 side radar RH 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 RIGHT/LEFT SWITCHING SIGNAL CIRCUITCheck the right/left switching signal circuit of the side radar RH. Refer to [DAS-349. "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.		
B252	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUITCheck the power supply and the ground circuit of the side radar RH. Refer to [DAS-347. "SIDE RADAR RH: Diagnosis Procedure"](#).Is the inspection result normal?YES (Present error)>>Replace the side radar RH. Refer to [DAS-392. "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.

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519353

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 position sensor
 - Harness connector M151
 - Harness connector M150
 - Harness connector M23 and PCB harness 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 accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal position sensor harness connector terminals.

Accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M154	3	9	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 accelerator pedal position sensor. Refer to [DAS-345, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).
YES (Past error)>>Error was detected in the accelerator pedal position sensor branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the accelerator pedal position sensor harness connector and the harness connector.

Accelerator pedal position sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M154	3	M23	138	Existed
	9		137	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the accelerator pedal position sensor harness connector M152 and the harness connector M23.

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519354

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 R7
 - Harness connector M110
 - Harness connector M24 and PCB harness 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 lane camera unit.
2. Check the resistance between the lane camera unit harness connector terminals.

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R8	4	8	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 lane camera unit. Refer to [DAS-345, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the lane camera unit harness connector and the harness connector.

Lane camera unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
R8	4	M24	179	Existed
	8		178	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the lane camera unit harness connector R8 and the harness connector M24.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519355

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 E106
 - Harness connector M6
 - Harness connector M28 and PCB harness 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 ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E33	3	6	Approx. 108 – 132

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 ICC sensor. Refer to [CCS-115, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-132, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the ICC sensor harness connector and the harness connector.

ICC sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E33	3	M28	343	Existed
	6		345	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the ICC sensor harness connector E67 and the harness connector M28.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011519356

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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.

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

LAN

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011519357

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

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 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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011519358

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.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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 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.	
B10	6	E33	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Accelerator pedal actuator
 - Lane camera unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 5)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 system.

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.

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

LAN

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519363

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011519364

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN M&A AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN M&A AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519365

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - Low tire pressure warning control unit
4. Check the continuity between the combination meter harness connector and the low tire pressure warning control unit harness connector.

Combination meter harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M43	2	Existed
	15		1	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 low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519366

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011519367

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519368

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519369

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519370

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011519371

1.CHECK CONNECTOR

1. Turn the ignition 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 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1
 - Harness connector B11
 - Harness connector B501

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

Steering angle sensor harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M37	1	81	Existed
	2	82	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
81	35	Existed
82	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

MAIN LINE BETWEEN STRG AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B11	23	Existed
	73		24	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 driver seat control unit.

NO >> Replace the body harness.

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

LAN

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519372

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	72	74	Existed
	73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 driver seat control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519373

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519374

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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 M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519375

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

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

LAN

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519376

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519377

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519378

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125, "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519379

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519380

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519381

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 6)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519382

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519403

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 AWD 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 AWD control unit.
2. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B17	8	16	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-49, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AWD control unit. Refer to [DLN-61, "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.

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

LAN

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519383

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148. "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.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519384

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

LAN

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519385

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).**3.CHECK HARNESS FOR OPEN CIRCUIT**

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011519386

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.		
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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:

ECM and IPDM E/R 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 A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519406

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011519407

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011519408

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519409

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519410

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011519411

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519412

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519413

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519414

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011519415

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011519598

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

1. Disconnect the harness connector of AWD control unit.
2. Check the continuity between the harness connector and the AWD control unit harness connector.

Harness connector		AWD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B17	8	Existed
	73		16	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 CAN gateway and the AWD control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519690

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.		Terminal No.		Continuity
B1		72	74	Existed
		73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 AWD control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519417

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector		Continuity
Connector No.	Terminal No.	Terminal No.		
M182	13	24		Existed
	12	27		Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B201.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of around view monitor control unit.
2. Check the continuity between the harness connector terminals.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B231	27	Existed
	73		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 data link connector and the around view monitor control unit.

NO >> Repair the main line between the harness connector B201 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011519418

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B222
 - Harness connector B5
4. Check the continuity between the AV control unit harness connector and the combination meter harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M231	27	B222	13	Existed
	28		14	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the main line between the around view monitor control unit and the harness connector B222.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B11 and B501.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B11	23	Existed
	14		24	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 harness connectors B5 and B11.

NO >> Replace the body harness.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519419

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

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:0000000011519420

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

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:0000000011519421

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519422

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNITCheck the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519423

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519424

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the TCU. Refer to [AV-516, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519425

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519426

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106. "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519427

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

LAN

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519428

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the BCM branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519429

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 7)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519430

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

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:0000000011519431

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

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:0000000011519432

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 M23 and PCB harness 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.		
M125	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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519692

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 AWD 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 AWD control unit.
2. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B17	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-49, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-61, "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.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519433

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148, "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.

LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519434

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519435

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.		
M231	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-373, "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-427, "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.

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

LAN

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519436

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431, "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.

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519437

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011519438

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
 2. Check the resistance between the ECM terminals.
- VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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.

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

LAN

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011519439

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

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 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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519716

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011519717

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011519718

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519720

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519721

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011519722

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519723

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011519724

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011519725

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011519727

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011519772

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

1. Disconnect the harness connector of AWD control unit.
2. Check the continuity between the harness connector and the AWD control unit harness connector.

Harness connector		AWD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B17	8	Existed
	73		16	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 CAN gateway and the AWD control unit.

NO >> Replace the body harness.

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

LAN

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011519773

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.		Terminal No.		Continuity
B1		72	74	Existed
		73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 AWD control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

Diagnosis Procedure

INFOID:0000000011519734

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201
 - Harness connector B222
 - Harness connector B5

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M182	13	24	Existed
	12	27	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B222 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B222	13	Existed
	73		14	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors B201 and B222.

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of ADAS control unit.
2. Check the continuity between the harness connectors.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B10	1	Existed
	14		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 ADAS control unit.

NO >> Replace the body harness.

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

LAN

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011519735

1.CHECK CONNECTOR

1. Turn the ignition 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 B33
 - Harness connector B245

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.
 - Side radar LH
 - Harness connectors B33 and B245
2. Check the continuity between the side radar LH harness connector and the harness connector.

Side radar LH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	4	B33	13	Existed
	3		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar LH and the harness connector B33.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of side radar RH.
2. Check the continuity between the harness connector and the side radar RH harness connector.

Harness connector		Side radar RH harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B245	13	B252	4	Existed
	14		3	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 side radar RH.

NO >> Repair the main line between the harness connector B245 and the side radar RH.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

Diagnosis Procedure

INFOID:0000000011519736

1.CHECK CONNECTOR

1. Turn the ignition 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 B201
 - Harness connector M117
 - Harness connector M20 and PCB harness 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.
 - Side radar RH
 - Harness connectors B201 and M117
2. Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B252	4	B201	66	Existed
	3		67	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B201.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M117	66	M20	38	Existed
	67		40	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M117 and M20.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M150 and M151.
2. Check the continuity between the PCB harness connector and the harness connector.

PCB harness connector		Harness connector		Continuity
Terminal No.		Connector No.	Terminal No.	
38		M150	11	Existed
40			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 side radar RH and the accelerator pedal actuator.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

NO >> Replace the PCB harness.

MAIN LINE BETWEEN APA AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN APA AND LANE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519737

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors M151 and M150
 - Harness connectors M110 and R7
4. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M150	11	M110	13	Existed
	10		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 accelerator pedal actuator and the lane camera unit.

NO >> Replace the PCB harness.

LAN

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519738

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011519740

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011519741

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519742

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness and/or the PCB harness.
NO >> Replace parts whose air bag system has a malfunction.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519743

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519744

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507. "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519745

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519746

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125, "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000011519747

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519748

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519749

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 CIRCUITCheck the power supply and the ground circuit of the TCM. Refer to [TM-159, "Diagnosis Procedure"](#).Is the inspection result normal?YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 8)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519750

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011519751

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011519752

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 M23 and PCB harness 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.		
M125	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-162. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
Refer to [LAN-75. "System Diagram"](#).

NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519774

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 AWD 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 AWD control unit.
2. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B17	8	16	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-49, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AWD control unit. Refer to [DLN-61, "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.

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

LAN

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519754

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148. "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.

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519755

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.		
E70	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-95, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AFS control unit. Refer to [EXL-148, "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
B
C
D
E
F
G
H
I
J
K
L
N
O
P

LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519756

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519757

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.		
M231	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-373, "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-427, "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.

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

LAN

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519758

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374, "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431, "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.

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519759

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519760

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
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.		
B10	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-164, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-165, "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.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000011519761

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Pre-crash seat belt control unit (driver side)
 - CAN gateway

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

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.		
B9	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-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SB-7, "SEAT BELT RETRACTOR : 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.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519762

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 side radar LH 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 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.		
B52	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the side radar LH branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-346, "SIDE RADAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to [DAS-392, "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.

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519763

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 driver 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 driver assistance buzzer control module.
2. Check the resistance between the driver assistance buzzer control module harness connector terminals.

Driver assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B210	3	11	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the driver assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver assistance buzzer control module. Refer to [DAS-347, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the driver assistance buzzer control module. Refer to [DAS-395, "Removal and Installation"](#).
YES (Past error)>>Error was detected in the driver assistance buzzer control module branch line.
NO >> Repair the power supply and the ground circuit.

LAN

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519764

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 side radar RH 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 RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-349. "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.		
B252	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-347. "SIDE RADAR RH: Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to [DAS-392. "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.

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519765

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 position sensor
 - Harness connector M151
 - Harness connector M150
 - Harness connector M23 and PCB harness 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 accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal position sensor harness connector terminals.

Accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M154	3	9	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 accelerator pedal position sensor. Refer to [DAS-345, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).
YES (Past error)>>Error was detected in the accelerator pedal position sensor branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the accelerator pedal position sensor harness connector and the harness connector.

Accelerator pedal position sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M154	3	M23	138	Existed
	9		137	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the accelerator pedal position sensor harness connector M152 and the harness connector M23.

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519766

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 R7
 - Harness connector M110
 - Harness connector M24 and PCB harness 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 lane camera unit.
2. Check the resistance between the lane camera unit harness connector terminals.

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R8	4	8	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 lane camera unit. Refer to [DAS-345, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the lane camera unit harness connector and the harness connector.

Lane camera unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
R8	4	M24	179	Existed
	8		178	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the lane camera unit harness connector R8 and the harness connector M24.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011519767

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 E106
 - Harness connector M6
 - Harness connector M28 and PCB harness 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 ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E33	3	6	Approx. 108 – 132

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 ICC sensor. Refer to [CCS-115, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-132, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the ICC sensor harness connector and the harness connector.

ICC sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E33	3	M28	343	Existed
	6		345	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the ICC sensor harness connector E67 and the harness connector M28.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011519769

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
 2. Check the resistance between the ECM terminals.
- VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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.

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

LAN

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011519770

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

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 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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011519771

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.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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 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.	
B10	6	E33	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Accelerator pedal actuator
 - Lane camera unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 8)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 system.

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.

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

LAN

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011520248

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011520249

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011520250

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011520251

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011520252

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011520253

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011520254

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011520255

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011520256

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011520257

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011520258

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

1. Disconnect the harness connector of AWD control unit.
2. Check the continuity between the harness connector and the AWD control unit harness connector.

Harness connector		AWD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B17	8	Existed
	73		16	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 CAN gateway and the AWD control unit.

NO >> Replace the body harness.

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

LAN

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011520260

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.		Terminal No.		Continuity
B1		72	74	Existed
		73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 AWD control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN DLC AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000011520261

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector		Continuity
Connector No.	Terminal No.	Terminal No.		
M182	13	24		Existed
	12	27		Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B201.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of around view monitor control unit.
2. Check the continuity between the harness connector terminals.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B231	27	Existed
	73		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 data link connector and the around view monitor control unit.

NO >> Repair the main line between the harness connector B201 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN AVM AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011520262

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - Around view monitor control unit
 - Harness connector B222
 - Harness connector B5
4. Check the continuity between the AV control unit harness connector and the combination meter harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M231	27	B222	13	Existed
	28		14	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the main line between the around view monitor control unit and the harness connector B222.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B11 and B501.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B11	23	Existed
	14		24	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 harness connectors B5 and B11.

NO >> Replace the body harness.

LAN

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520263

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011520264

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011520265

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.	
M182	13	Approx. 54 – 66
	12	

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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520266

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the main harness and/or the PCB harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

- YES >> Replace the main harness and/or the PCB harness.
NO >> Replace parts whose air bag system has a malfunction.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520267

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520268

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507. "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520269

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520270

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106, "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125, "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520271

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520272

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).
YES (Past error)>>Error was detected in the BCM branch line.
NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520273

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.		
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 9)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520274

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011520275

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011520276

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 M23 and PCB harness 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.		
M125	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-162. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).
Refer to [LAN-75. "System Diagram"](#).

NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520277

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 AWD 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 AWD control unit.
2. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B17	8	16	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-49, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the AWD control unit. Refer to [DLN-61, "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.

LAN

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520278

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148. "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.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520279

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

LAN

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520280

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.		
M231	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-373, "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-427, "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.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520281

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374. "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431. "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.

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

LAN

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520282

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).**3.CHECK HARNESS FOR OPEN CIRCUIT**

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011520283

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	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 PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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 9)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011520284

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

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 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.

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN DLC AND A-BAG CIRCUIT

Diagnosis Procedure

INFOID:0000000011520308

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 data link connector and the air bag diagnosis sensor unit.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN A-BAG AND M&A CIRCUIT

Diagnosis Procedure

INFOID:0000000011520309

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connectors M181 and M105
 - Combination meter
4. 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.	
M105	7	M53	14	Existed
	8		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 air bag diagnosis sensor unit and the combination meter.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN M&A AND TCU CIRCUIT

Diagnosis Procedure

INFOID:0000000011520310

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Combination meter
 - TCU
4. Check the continuity between the combination meter harness connector and the TCU harness connector.

Combination meter harness connector		TCU harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M216	9	Existed
	15		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 TCU.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN TCU AND TPMS CIRCUIT

Diagnosis Procedure

INFOID:0000000011520312

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - TCU
 - Low tire pressure warning control unit
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

TCU harness connector		Low tire pressure warning control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M43	2	Existed
	10		1	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 TCU and the low tire pressure warning control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN TPMS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011520313

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Low tire pressure warning control unit
 - A/C auto amp.
4. Check the continuity between the low tire pressure warning control unit harness connector and the A/C auto amp. harness connector.

Low tire pressure warning control unit harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M66	12	Existed
	1		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 low tire pressure warning control unit and the A/C auto amp.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN HVAC AND AV CIRCUIT

Diagnosis Procedure

INFOID:0000000011520314

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - A/C auto amp.
 - AV control unit
4. Check the continuity between the A/C auto amp. harness connector and the AV control unit harness connector.
 - Models with navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M210	90	Existed
	11		74	Existed

- Models without navigation system

A/C auto amp. harness connector		AV control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M84	81	Existed
	11		80	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 A/C amp. and the AV control unit.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN AV AND BCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN AV AND BCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011520315

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - AV control unit
 - BCM
4. Check the continuity between the AV control unit harness connector and the BCM harness connector.
 - Models with navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M120	39	Existed
	74		40	Existed

- Models without navigation system

AV control unit harness connector		BCM harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M120	39	Existed
	80		40	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 AV control unit and the BCM.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN BCM AND TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000011520316

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - BCM
 - Harness connector F103 and M116
4. Check the continuity between the BCM harness connector and the A/T assembly harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M116	11	Existed
	40		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 BCM and the A/T assembly.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN TCM AND STRG CIRCUIT

Diagnosis Procedure

INFOID:0000000011520317

1.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Harness connector F103 and M116
 - Steering angle sensor
4. 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.	
M116	11	M37	1	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 A/T assembly and the steering angle sensor.

NO >> Replace the PCB harness.

LAN

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN STRG AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000011520319

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ECM
 - Steering angle sensor
 - CAN gateway
4. Check the continuity between the steering angle sensor harness connector and the CAN gateway harness connector.

Steering angle sensor harness connector		CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M37	1	M125	1	Existed
	2		7	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 CAN gateway.

NO >> Replace the PCB harness.

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011520321

1.CHECK CONNECTOR

1. Turn the ignition 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 M28 and PCB harness side connector
 - Harness connector M20 and PCB harness side connector
 - Harness connector M7
 - Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the steering angle sensor and the PCB harness connector.

CAN gateway harness connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M125	1	326	Existed
	7	328	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the PCB harness connectors.

PCB harness connector		Continuity
Terminal No.		
326	35	Existed
328	36	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the PCB harness.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M7 and B1.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	35	M7	72	Existed
	36		73	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors M20 and M7.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN CGW AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

1. Disconnect the harness connector of AWD control unit.
2. Check the continuity between the harness connector and the AWD control unit harness connector.

Harness connector		AWD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B1	72	B17	8	Existed
	73		16	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 CAN gateway and the AWD control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011520322

1.CHECK CONNECTOR

1. Turn the ignition 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 B1
 - Harness connector M7
 - Harness connector M6
 - Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.
2. Check the continuity between the harness connector terminals.

Connector No.		Terminal No.		Continuity
B1		72	74	Existed
		73	75	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 M6 and E106.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M7	74	M6	22	Existed
	75		23	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of 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.	
E106	22	E41	25	Existed
	23		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 AWD control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN 4WD AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

Diagnosis Procedure

INFOID:0000000011520328

1.CHECK CONNECTOR

1. Turn the ignition 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 M20 and PCB harness side connector
 - Harness connector M117
 - Harness connector B201
 - Harness connector B222
 - Harness connector B5

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the data link connector and the PCB harness connector.

Data link connector		PCB harness connector	Continuity
Connector No.	Terminal No.	Terminal No.	
M182	13	24	Existed
	12	27	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the PCB harness.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M117 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M20	24	M117	72	Existed
	27		73	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M20 and M117.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B222 and B5.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B201	72	B222	13	Existed
	73		14	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the main line between the harness connectors B201 and B222.

MAIN LINE BETWEEN DLC AND ICC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

5. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector of ADAS control unit.
2. Check the continuity between the harness connectors.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B5	13	B10	1	Existed
	14		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 ADAS control unit.

NO >> Replace the body harness.

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN RDR-L AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:000000011520329

1.CHECK CONNECTOR

1. Turn the ignition 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 B33
 - Harness connector B245

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.
 - Side radar LH
 - Harness connectors B33 and B245
2. Check the continuity between the side radar LH harness connector and the harness connector.

Side radar LH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B52	4	B33	13	Existed
	3		14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar LH and the harness connector B33.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of side radar RH.
2. Check the continuity between the harness connector and the side radar RH harness connector.

Harness connector		Side radar RH harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B245	13	B252	4	Existed
	14		3	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 side radar RH.

NO >> Repair the main line between the harness connector B245 and the side radar RH.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

Diagnosis Procedure

INFOID:0000000011520330

1.CHECK CONNECTOR

1. Turn the ignition 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 B201
 - Harness connector M117
 - Harness connector M20 and PCB harness 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.
 - Side radar RH
 - Harness connectors B201 and M117
2. Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B252	4	B201	66	Existed
	3		67	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B201.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M20.
2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M117	66	M20	38	Existed
	67		40	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M117 and M20.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M150 and M151.
2. Check the continuity between the PCB harness connector and the harness connector.

PCB harness connector		Harness connector		Continuity
Terminal No.		Connector No.	Terminal No.	
38		M150	11	Existed
40			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 side radar RH and the accelerator pedal actuator.

MAIN LINE BETWEEN RDR-R AND APA CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

NO >> Replace the PCB harness.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

MAIN LINE BETWEEN APA AND LANE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN APA AND LANE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520331

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the following harness connectors.
 - ADAS control unit
 - Harness connectors M151 and M150
 - Harness connectors M110 and R7
4. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M150	11	M110	13	Existed
	10		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 accelerator pedal actuator and the lane camera unit.

NO >> Replace the PCB harness.

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520332

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M30 and PCB harness 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 ECM.
2. Check the resistance between the ECM harness connector terminals.
 - VQ37VHR

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114	113	Approx. 108 – 132

- VK56VD

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M160	146	151	Approx. 108 – 132

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 ECM. Refer to the following.

- VQ37VHR: [EC-187, "Diagnosis Procedure"](#)
- VK56VD: [EC-734, "Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to the following.

- VQ37VHR: [EC-543, "Removal and Installation"](#)
- VK56VD: [EC-1130, "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 harness connector M30.
2. Check the continuity between the ECM harness connector and the harness connector.
 - VQ37VHR

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M107	114	M30	439	Existed
	113		438	Existed

- VK56VD

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ECM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M160	146	M30	439	Existed
	151		438	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (VQ37VHR)>>Repair the harness between the ECM harness connector M107 and the harness connector M30.

NO (VK56VD)>>Repair the harness between the ECM harness connector M160 and the harness connector M30.

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:0000000011520334

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75. "System Diagram"](#).

NO >> GO TO 3.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	6	M23	151	Existed
	14		150	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

LAN

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:0000000011520335

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Data link connector
 - Harness connector M181
 - Harness connector M105
 - Harness connector M23 and PCB harness 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.		
M182	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). Refer to [LAN-75, "System Diagram"](#).

NO >> GO TO 3.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M182	13	M23	134	Existed
	12		136	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the data link connector M182 and the harness connector M23.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520336

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 following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Air bag diagnosis sensor unit
 - Harness connector M26 and PCB harness side connector

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness and/or the PCB harness.

2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to [SRC-33. "Work Flow"](#).

Is the inspection result normal?

YES >> Replace the main harness and/or the PCB harness.

NO >> Replace parts whose air bag system has a malfunction.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520337

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Combination meter
 - Harness connector M24 and PCB harness 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 combination meter.
2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M53	14	15	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 combination meter Refer to [MWI-74. "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to [MWI-94. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the combination meter branch line.

NO >> Repair the power supply and the ground circuit.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the combination meter harness connector and the harness connector.

Combination meter harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M53	14	M24	176	Existed
	15		177	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the combination meter harness connector M53 and the harness connector M24.

TCU BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520338

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - TCU
 - Harness connector M26 and PCB harness 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 TCU.
2. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M216	9	10	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 TCU. Refer to [AV-507, "TCU : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to [AV-516, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the TCU branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M26.
2. Check the continuity between the TCU harness connector and the harness connector.

TCU harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M216	9	M26	242	Existed
	10		262	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the TCU harness connector M216 and the harness connector M26.

TPMS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520339

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Low tire pressure warning control unit
 - Harness connector M29 and PCB harness 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 low tire pressure warning control unit.
2. Check the resistance between the low tire pressure warning control unit harness connector terminals.

Low tire pressure warning control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M43	2	1	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 low tire pressure warning control unit. Refer to [WT-52. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the low tire pressure warning control unit. Refer to [WT-66. "Removal and Installation"](#).

YES (Past error)>>Error was detected in the low tire pressure warning control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M29.
2. Check the continuity between the low tire pressure warning control unit harness connector and the harness connector.

Low tire pressure warning control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M43	2	M29	396	Existed
	1		395	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the low tire pressure warning control unit harness connector M43 and the harness connector M29.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520340

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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/C auto amp.
 - Harness connector M28 and PCB harness 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/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.		
M66	12	11	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 A/C auto amp. Refer to [HAC-106. "A/C AUTO AMP. : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to [HAC-125. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M66	12	M28	325	Existed
	11		327	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/C auto amp. harness connector M66 and the harness connector M28.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520341

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - AV control unit
 - Harness connector M25 and PCB harness 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 AV control unit.
2. Check the resistance between the AV control unit harness connector terminals.
 - Models with navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M210	90	74	Approx. 54 – 66

- Models without navigation system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M84	81	80	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 AV control unit. Refer to the following.

- Base audio without navigation system: [AV-94, "AV CONTROL UNIT : Diagnosis Procedure"](#)
- BOSE audio with navigation system: [AV-371, "AV CONTROL UNIT : Diagnosis Procedure"](#)

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation system: [AV-126, "Removal and Installation"](#)
- BOSE audio with navigation system: [AV-405, "Removal and Installation"](#)

YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M25.
2. Check the continuity between the AV control unit harness connector and the harness connector.
 - Models with navigation system

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M210	90	M25	201	Existed
	74		221	Existed

- Models without navigation system

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

AV control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M84	81	M25	201	Existed
	80		221	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO (With navigation system)>>Repair the harness between the AV control unit harness connector M210 and the harness connector M25.

NO (Without navigation system)>>Repair the harness between the AV control unit harness connector M84 and the harness connector M25.

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

LAN

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520342

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 and PCB harness 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 BCM.
2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M120	39	40	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 BCM. Refer to [BCS-84. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the BCM. Refer to [BCS-91. "Removal and Installation"](#).
 YES (Past error)>>Error was detected in the BCM branch line.
 NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
2. Check the continuity between the BCM harness connector and the harness connector.

BCM harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M120	39	M22	101	Existed
	40		102	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
 NO >> Repair the harness between the BCM harness connector M120 and the harness connector M22.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520343

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 F103
 - Harness connector M116
 - Harness connector M28 and PCB harness 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.	
F61	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-192, "Exploded View"](#).
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 side	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 [TM-159, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to [TM-192, "Exploded View"](#).

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 M28.
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 10)]

A/T assembly harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F61	3	M28	346	Existed
	8		347	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the A/T assembly harness connector F61 and the harness connector M28.

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520344

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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
 - Harness connector M22 and PCB harness 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 steering angle sensor.
2. Check the resistance between the steering angle sensor harness connector terminals.

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	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 steering angle sensor. Refer to [BRC-52. "Wiring Diagram"](#).

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to [BRC-151. "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.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M22.
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.	
M37	1	M22	81	Existed
	2		82	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the steering angle sensor harness connector M37 and the harness connector M22.

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:0000000011520345

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 M28 and PCB harness side connector

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.		
M125	1	7	Approx. 54 – 66

Is the measurement value within the specification?

- 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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
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.	
M125	1	M28	326	Existed
	7		328	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M28.

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:0000000011520346

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 M23 and PCB harness 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.		
M125	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-162, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the CAN gateway. Refer to [LAN-163, "Removal and Installation"](#).
- YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side). Refer to [LAN-75, "System Diagram"](#).
- NO >> Repair the power supply and the ground circuit.

5.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
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.	
M125	4	M23	133	Existed
	10		135	Existed

Is the inspection result normal?

- YES >> Replace the PCB harness.
- NO >> Repair the harness between the CAN gateway harness connector M125 and the harness connector M23.

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520348

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 AWD 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 AWD control unit.
2. Check the resistance between the AWD control unit harness connector terminals.

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B17	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to [DLN-49, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to [DLN-61, "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.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520349

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 ABS actuator and electric unit (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 ABS actuator and electric unit (control unit).
2. 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.		
E41	25	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the ABS actuator and electric unit (control unit) branch line.

3.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-126, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to [BRC-148, "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.

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

LAN

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520350

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.		
E70	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-95, "AFS CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to [EXL-148, "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.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520351

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 IPDM E/R 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 IPDM E/R.
2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to [PCS-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the IPDM E/R. Refer to [PCS-34, "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.

LAN

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520352

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.		
M231	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-373, "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-427, "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.

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520353

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 M117 and B201

Is the 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.		
M47	19	20	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power supply and the ground circuit.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to [AV-374. "SONAR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to the [AV-431. "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.

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

LAN

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520354

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 B501
 - Harness connector B11
 - CAN gateway (With ICC system)

Is the inspection result normal?

YES (With ICC system)>>GO TO 2.

YES (Without ICC system)>>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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).**3.CHECK HARNESS FOR OPEN CIRCUIT**

1. Connect the connector of CAN gateway. (With ICC system)
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.		
B514	23	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the driver seat control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to [ADP-73, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?YES (Present error)>>Replace the driver seat control unit. Refer to [ADP-146, "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.

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520355

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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

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.		
M125	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). Refer to [LAN-75. "System Diagram"](#).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
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.		
B10	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-164. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to [DAS-165. "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.

PSB BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520356

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
 - Pre-crash seat belt control unit (driver side)
 - CAN gateway

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.		
M125	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). Refer to [LAN-75, "System Diagram"](#).

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.		
B9	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-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the seat belt pre-tensioner retractor (driver side). Refer to [SB-7, "SEAT BELT RETRACTOR : 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.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520357

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 side radar LH 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 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.		
B52	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
NO >> Repair the side radar LH branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to [DAS-346, "SIDE RADAR LH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar LH. Refer to [DAS-392, "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.

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

LAN

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520358

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 driver 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 driver assistance buzzer control module.
2. Check the resistance between the driver assistance buzzer control module harness connector terminals.

Driver assistance buzzer control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B210	3	11	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver assistance buzzer control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver assistance buzzer control module. Refer to [DAS-347, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the driver assistance buzzer control module. Refer to [DAS-395, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the driver assistance buzzer control module branch line.

NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520359

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 side radar RH 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 RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check the right/left switching signal circuit of the side radar RH. Refer to [DAS-349, "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.		
B252	4	3	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 4.
NO >> Repair the side radar RH branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to [DAS-347, "SIDE RADAR RH: Diagnosis Procedure"](#).

Is the inspection result normal?

- YES (Present error)>>Replace the side radar RH. Refer to [DAS-392, "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.

LAN

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520360

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 position sensor
 - Harness connector M151
 - Harness connector M150
 - Harness connector M23 and PCB harness 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 accelerator pedal position sensor.
2. Check the resistance between the accelerator pedal position sensor harness connector terminals.

Accelerator pedal position sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M154	3	9	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 accelerator pedal position sensor. Refer to [DAS-345, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal assembly. Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Removal and Installation"](#).

YES (Past error)>>Error was detected in the accelerator pedal position sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M23.
2. Check the continuity between the accelerator pedal position sensor harness connector and the harness connector.

Accelerator pedal position sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M154	3	M23	138	Existed
	9		137	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the accelerator pedal position sensor harness connector M152 and the harness connector M23.

LANE BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520361

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 R7
 - Harness connector M110
 - Harness connector M24 and PCB harness 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 lane camera unit.
2. Check the resistance between the lane camera unit harness connector terminals.

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
R8	4	8	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 lane camera unit. Refer to [DAS-345, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to [DAS-391, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M24.
2. Check the continuity between the lane camera unit harness connector and the harness connector.

Lane camera unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
R8	4	M24	179	Existed
	8		178	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the lane camera unit harness connector R8 and the harness connector M24.

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011520362

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the 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 E106
 - Harness connector M6
 - Harness connector M28 and PCB harness 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 ICC sensor.
2. Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E33	3	6	Approx. 108 – 132

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 ICC sensor. Refer to [CCS-115, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to [CCS-132, "Removal and Installation"](#).

YES (Past error)>>Error was detected in the ICC sensor branch line.

NO >> Repair the power supply and the ground circuit.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connector M28.
2. Check the continuity between the ICC sensor harness connector and the harness connector.

ICC sensor harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E33	3	M28	343	Existed
	6		345	Existed

Is the inspection result normal?

YES >> Replace the PCB harness.

NO >> Repair the harness between the ICC sensor harness connector E67 and the harness connector M28.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011520364

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 circuit 1.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	6	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	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 PCB harness is short) the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.
2. Check the resistance between the ECM terminals.
 - VQ37VHR

ECM		Resistance (Ω)
Terminal No.		
114	113	Approx. 108 – 132

- VK56VD

ECM		Resistance (Ω)
Terminal No.		
146	151	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

IPDM E/R		Resistance (Ω)
Terminal No.		
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

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 circuit 1.

NOTE:

ECM and IPDM E/R 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:0000000011520365

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 circuit 2.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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.	
M182	13	Not existed
	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair or replace (if shield line or PCB harness 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.		
M182	13		Not existed
	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair or replace (if shield line or PCB harness is short) the root cause.

4.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 5.

NO >> Replace the CAN gateway.

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.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

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 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

Diagnosis Procedure

INFOID:0000000011520366

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.

NOTE:

For identification of CAN communication circuit 1, CAN communication circuit 2, and ITS communication circuit, refer to [LAN-75. "System Diagram"](#).

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 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.	
B10	6	E33	3	Existed
	7		6	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect the following harness connectors.
 - Side radar LH
 - Side radar RH
 - Accelerator pedal actuator
 - Lane camera unit
2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
B10	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 PCB harness is short) the root cause.

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

A

B

C

D

E

F

G

H

I

J

K

L

LAN

N

O

P

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ADAS control unit harness connector		Ground	Continuity
Connector No.	Terminal No.		
B10	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 PCB harness 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 system.

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.