SECTION LAN SYSTEM

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PRECAUTIONS

PRECAUTIONS PFP:00001 А Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT **BELT PRE-TENSIONER**" EKS00LET The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along В 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 and SB section of this Service Manual. D WARNING: To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer. Е 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 the SRS section. F Do not 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 CONSULT-II EKS00LEL When connecting CONSULT-II to data link connector, connect them through CONSULT-II CONVERTER. Н CAUTION: If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication. CHECK POINTS FOR USING CONSULT-II 1 Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle? If YES, GO TO 2. J If NO, GO TO 5. 2 Is there any indication other than indications relating to CAN communication system in the self-diagnosis results? LAN If YES, GO TO 3. _ If NO, GO TO 4. 3. Based on self-diagnosis results unrelated to CAN communication, carry out the inspection. 4. Malfunctions may be detected in self-diagnosis depending on control units carrying out CAN communication. Therefore, erase the self-diagnosis results. Diagnose CAN communication system. Refer to LAN-5, "CAN Communication Unit" . Μ 5. **Precautions For Trouble Diagnosis** EKS00LEV CAN SYSTEM Do not apply voltage of 7.0 V or higher to the measurement terminals. Use the tester with its open terminal voltage being 7.0 V or less. Be sure to turn ignition switch off and disconnect negative battery terminal before checking the circuit.

Precautions For Harness Repair CAN SYSTEM

• Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



• Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



EKS00LEW

CAN COMMUNICATION

System Description

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

CAN Communication Unit

Go to CAN system, when selecting your CAN system type from the following table.

Body type			Wa	igon									
Axle	2WD 4WD												
Engine			VK	6DE			L						
Transmission	A/T												
Brake control	VDC												
Automatic drive positioner		×	×		×	×							
Navigation system			×			×							
Automatic air conditioner			×			×	(
CAN system type	1	2	3	4	5	6							
CAN system trouble diagnosis	LAN-16	LAN-45	<u>LAN-77</u>	<u>LAN-111</u>	LAN-143	LAN-177	ŀ						

×: Applicable

NOTE:

Confirming the presence of the following items helps to identify CAN system type.

Models with automatic drive positioner







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Models with navigation system



TYPE 1/ TYPE 2

System diagram

• Type 1



Input/output signal chart

							T: 1	Transmit I	R: Receive	А
Signals	ECM	ТСМ	Driver seat control unit	Combi- nation meter	BCM	Steer- ing angle sensor	Frontair control	ABS actua- tor and electric unit (control unit)	IPDM E/ R	B
Engine speed signal	Т	R		R			R	R		
Engine status signal	Т				R		R			_
Engine coolant temperature signal	Т			R			R			D
A/T self-diagnosis signal	R	Т								
Accelerator pedal position signal	Т	R						R		Е
Closed throttle position signal	Т	R								
Wide open throttle position signal	Т	R								
Battery voltage signal	Т	R								F
Key switch signal			R		Т					
Ignition switch signal			R		Т					G
P range signal		Т	R	R						0
Stop lamp switch signal		R		Т	R					
Turbine revolution signal	R	Т								Н
Output shaft revolution signal	R	Т								
A/C switch signal	R				Т		R			
A/C compressor request signal	Т								R	I
Blower fan motor switch signal	R				Т		R			
Cooling fan speed request signal	Т						R		R	J
Position light request signal				R	Т				R	
Low beam request signal					Т				R	
Low beam status signal	R								Т	LA
High beam request signal				R	Т				R	
High beam status signal	R								Т	L
Front fog light request signal					Т				R	
Day time running light request signal				R	Т					
				R			R	Т		M
venicie speed signal	R	R	R	Т	R		R			
Sleep wake up signal			R	R	Т				R	
Door switch signal			R	R	Т				R	
Turn indicator signal				R	Т					
Key fob ID signal			R		Т					
Key fob door unlock signal			R		Т					
Buzzer output signal				R	Т					
Fuel level sensor signal	R			Т						
ASCD SET lamp signal	Т			R						
ASCD CRUISE lamp signal	Т			R						
Malfunction indicator lamp signal	Т			R						
ASCD operation signal	Т	R								
ASCD OD cancel request	Т	R								

Revision: July 2007

Signals	ECM	ТСМ	Driver seat control unit	Combi- nation meter	BCM	Steer- ing angle sensor	Front air control	ABS actua- tor and electric unit (control unit)	IPDM E/ R
Front wiper request signal					Т				R
Front wiper stop position signal					R				Т
Rear window defogger switch signal					Т		R		R
Rear window defogger control signal	R								Т
Theft warning horn request signal					Т				R
Horn chirp signal					Т				R
Steering angle sensor signal						Т		R	
ABS warning lamp signal				R				Т	
VDC OFF indicator lamp signal				R				Т	
SLIP indicator lamp signal				R				Т	
Brake warning lamp signal				R				Т	
A/T CHECK indicator lamp signal		Т		R					
System setting signal			Т		R				
System setting signal			R		Т				
A/T position indicator lamp signal		Т		R					
1st position switch signal		R		Т					
4th position switch signal		R		Т					
Tow mode switch signal		R		Т					
A/T fluid temperature sensor signal		Т		R					

TYPE 3 System diagram

• Type 3



Input/output signal chart

								T: Tr	ansmit R	: Receive	P
Signals	ECM	ТСМ	Driver seat control unit	Combi- nation meter	Dis- play control unit	BCM	Steer- ing angle sensor	Front air control	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	E
Engine speed signal	Т	R		R	R			R	R		
Engine status signal	Т					R		R			Γ
Engine coolant temperature signal	Т			R				R			
A/T self-diagnosis signal	R	т									-
Accelerator pedal position signal	Т	R							R		E
Closed throttle position signal	Т	R									
Wide open throttle position signal	Т	R									F
Battery voltage signal	Т	R									
Key switch signal			R			Т					
Ignition switch signal			R			Т					C
P range signal		т	R	R							
Stop lamp switch signal		R		Т		R					ŀ
	Т			R							
Fuel consumption monitor signal				Т	R						
Turbine revolution signal	R	т									
Output shaft revolution signal	R	т									
A/C switch signal	R					Т					
A/C compressor request signal	Т									R	
Blower fan motor switch signal	R					Т		R			
A/C switch/indicator signal					T R			R T			LA
Cooling fan speed request signal	Т							R		R	
Position light request signal				R		Т				R	
Low beam request signal						Т				R	
Low beam status signal	R									Т	Ν
High beam request signal				R		Т				R	
High beam status signal	R									Т	
Front fog light request signal						Т				R	
Day time running light request signal				R		Т					
Vehicle speed signal	R	R	R	R T	R	R		R	Т		
Sleep wake up signal			R	R		т				R	
Door switch signal			R	R	R	, Т					
Turn indicator signal				R		' Т					
Key fob ID signal			R			, т					
Key fob door unlock signal			R			' Т					
Buzzer output signal				R		т Т					
Fuel level sensor signal	R			Т							
		1	1	1 7	1	1	1	1	1		

Revision: July 2007

Signals	ECM	ТСМ	Driver seat control unit	Combi- nation meter	Dis- play control unit	BCM	Steer- ing angle sensor	Front air control	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Fuel level low warning signal				Т	R					
ASCD SET lamp signal	Т			R						
ASCD CRUISE lamp signal	Т			R						
Malfunction indicator lamp signal	Т			R						
Front wiper request signal						Т				R
Front wiper stop position signal						R				Т
Rear window defogger switch signal						Т		R		R
Rear window defogger control signal	R				R					Т
Theft warning horn request signal						Т				R
Horn chirp signal						Т				R
Steering angle sensor signal							Т		R	
ABS warning lamp signal				R					Т	
VDC OFF indicator lamp signal				R					Т	
SLIP indicator lamp signal				R					Т	
Brake warning lamp signal				R					Т	
System setting signal			R		Т	R				
System setting signal			Т		R	Т				
Distance to empty signal				Т	R					
ASCD operation signal	Т	R								
ASCD OD cancel request	Т	R								
A/T CHECK indicator lamp signal		Т		R						
A/T position indicator lamp signal		Т		R						
Tire pressure signal					R	Т				
Tire pressure data signal					R	Т				
1st position switch signal		R		Т						
4th position switch signal		R		Т						
Tow mode switch signal		R		Т						
A/T fluid temperature sensor signal		Т		R						

TYPE 4/ TYPE 5 System diagram



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Input/output signal chart

T: Transmit R: Receive Μ

Signals	ECM	ТСМ	Driver seat con- trol unit	Combi- nation meter	BCM	Steer- ing angle sensor	Front air control	Trans- fer con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
A/T self-diagnosis signal	R	Т								
Stop lamp switch signal		R		Т	R					
Battery voltage signal	Т	R								
Key switch signal			R		Т					
Ignition switch signal			R		Т					
P range signal		Т	R	R						
Closed throttle position signal	Т	R								

Revision: July 2007

Signals	ECM	ТСМ	Driver seat con- trol unit	Combi- nation meter	BCM	Steer- ing angle sensor	Front air control	Trans- fer con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Wide open throttle position signal	Т	R								
Engine speed signal	Т	R		R			R	R	R	
Engine status signal	Т				R		R			
Engine coolant temperature signal	Т			R			R			
Accelerator pedal position signal	Т	R						R	R	
Turbine revolution signal	R	Т								
Output shaft revolution signal	R	Т						R		
A/C switch signal	R				Т		R			
A/C compressor request signal	Т									R
Blower fan motor switch signal	R				Т		R			
Cooling fan speed request signal	Т						R			R
Position light request signal				R	Т					R
Low beam request signal					Т					R
Low beam status signal	R									Т
High beam request signal				R	Т					R
High beam status signal	R									Т
Front fog light request signal					Т					R
Day time running light request signal				R	Т					
				R			R	R	Т	
Vehicle speed signal	R	R	R	Т	R		R			
Sleep wake up signal			R	R	Т					R
Door switch signal			R	R	Т					R
Turn indicator signal				R	Т					
Key fob ID signal			R		Т					
Key fob door unlock signal			R		Т					
Buzzer output signal				R	Т					
Fuel level sensor signal	R			Т						
ASCD SET lamp signal	т			R						
ASCD CRUISE lamp signal	Т			R						
Malfunction indicator lamp signal	Т			R						
Front wiper request signal					Т					R
Front wiper stop position signal					R					Т
Rear window defogger switch signal					Т		R			R
Rear window defogger control signal	R									Т
Theft warning horn request signal					Т					R
Horn chirp signal					т					R
Steering angle sensor signal						Т			R	
ABS warning lamp signal				R					Т	
VDC OFF indicator lamp signal				R					Т	
SLIP indicator lamp signal				R					т	

Revision: July 2007

Signals	ECM	ТСМ	Driver seat con- trol unit	Combi- nation meter	BCM	Steer- ing angle sensor	Front air control	Trans- fer con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	A
Brake warning lamp signal				R					Т		С
			R		R						
System setting signal			Т		Т						D
ASCD operation signal	Т	R									D
ASCD OD cancel request	Т	R									
A/T CHECK indicator lamp signal		Т		R							Ε
A/T position indicator lamp signal		Т		R				R			
1st position switch signal		R		Т							_
4th position switch signal		R		Т							F
Tow mode switch signal		R		Т							
A/T fluid temperature sensor signal		Т		R						<u> </u>	G

TYPE 6

System diagram

• Type 6



Input/output signal chart

Signals	ECM	тсм	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	BCM	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
A/T self-diagnosis signal	R	Т									
Stop lamp switch signal		R		Т		R					
Battery voltage signal	Т	R									

Н

[CAN]



LAN

T: Transmit R: Receive

Signals	ECM	тсм	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	BCM	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Key switch signal			R			Т					
Ignition switch signal			R			Т					
P range signal		Т	R	R							
Closed throttle position signal	Т	R									
Wide open throttle position signal	Т	R									
Engine speed signal	Т	R		R	R			R	R	R	
Engine status signal	Т					R					
Engine coolant temperature signal	Т			R				R			
Accelerator pedal position signal	Т	R							R	R	
	Т			R							
				Т	R						
Turbine revolution signal	R	Т									
Output shaft revolution signal	R	Т							R		
A/C switch signal	R					Т					
A/C compressor request signal	Т							R			R
Blower fan motor switch signal	R					Т		R			
A/C switch/indicator signal					Т			R			
A/C Switch/Indicator Signal					R			Т			
Cooling fan speed request signal	Т							R			R
Position light request signal				R		Т					R
Low beam request signal						Т					R
Low beam status signal	R										Т
High beam request signal				R		Т					R
High beam status signal	R										Т
Front fog light request signal						Т					R
Day time running light request signal				R		Т					
Vahiele anend signal				R				R	R	Т	
venicie speed signal	R	R	R	Т	R	R		R			
Sleep wake up signal			R	R		Т					R
Door switch signal			R	R	R	Т					R
Key fob ID signal			R			Т					
Key fob door unlock signal			R			Т					
Buzzer output signal				R		Т					
Fuel level sensor signal	R			Т							
ASCD SET lamp signal	Т			R							
ASCD CRUISE lamp signal	Т			R							
Malfunction indicator lamp signal	Т			R							
Fuel level low warning signal				Т	R						

Revision: July 2007

Signals	ECM	тсм	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	BCM	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Front wiper request signal						Т					R	
Front wiper stop position signal						R					Т	D
Rear window defogger switch signal						Т		R			R	
Rear window defogger control signal	R				R						Т	_
Theft warning horn request signal						Т					R	E
Horn chirp signal						Т					R	
Steering angle sensor signal							Т			R		F
ABS warning lamp signal				R						Т		
VDC OFF indicator lamp signal				R						Т		
SLIP indicator lamp signal				R						Т		G
Brake warning lamp signal				R						Т		
System setting signal			R		Т	R						Н
			Т		R	T						
Distance to empty signal				Т	R							
ASCD operation signal	Т	R										
ASCD OD cancel request	Т	R										
A/T CHECK indicator lamp signal		Т		R								.
A/T position indicator lamp signal		Т		R					R			0
Tire pressure signal					R	Т						
Tire pressure data signal					R	Т						LA
1st position switch signal		R		Т								
4th position switch signal		R		Т								
Tow mode switch signal		R		Т								L
A/T fluid temperature sensor signal		Т		R								

Μ

System Description

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

Component Parts and Harness Connector Location



[CAN]

EKS00LEZ

EKS00LF0

Schematic

[CAN]



А

В

С

D

Ε

F

G

Н

I

J

LAN

L

Μ



BKWA0184E

EKS00LF2

LAN-CAN-01





[CAN]



BKWA0408E

LAN-CAN-03



[CAN]

Work Flow

EKS00LF3

А

1. When there are no indications of "BCM", "HVAC" or "IPDM E/R" on "SELECT SYSTEM" display of CON-SULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "BCM", "HVAC", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Exam	SELECT DIAG MODE	SELF-DIAG RESULTS	
(WORK SUPPORT	DTC RESULTS TIME	
	SELF-DIAG RESULTS		
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTF		
	ACTIVE TEST		
		F.F.DATA	
	Scroll Dow	ERASE PRINT	
	BACK LIGHT COF	MODE BACK LIGHT COPY	

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "BCM", "HVAC", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT D	IAG MOD	E	CAN DIAG SU	PPORT N	INTR	
(Example)				ENG	AINE		
	WORK S	UPPORT			PRS	INT	
	SELF-DIAC	3 RESULT	rs	INITIAL DIAG	0	к	
				TRANSMIT DIAG	0	к	
	DATA M	ONITOR		TCM	0	к	
			EC)	VDC/TCS/ABS	0	к	
	DAIA MON		20)	METER/M&A	0	к	
	CAN DIAG SU	PPORT N	INTR	ICC	UNK	WN	
				BCM/SEC	0	к	
	ACTIV	ETEST		IPDM E/R	0	к	
				AWD/4WD/e4WD	UN	KWN	
		Scroll	Down	PRINT		Scroll Down	
	BACK	LIGHT	COPY	MODE BACK	LIGHT	COPY	PKIA8343E

- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-22, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", puts a check mark onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>22, "CHECK SHEET"</u>.

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 6. According to the check sheet results (example), start inspection. Refer to <u>LAN-24, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

					CAN DIA	G SUPPOI	rt Mntr			
SELECT SV	STEM screen	Initial	Tranamit			Rec	ceive diagno	osis		
SELECT ST	or Elwi Sorceri	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	<u></u>	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN		UNKWN	-		UNKWN	
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-		-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN			UNKWN		UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN		-	UNKWN	-	-
IPDM E/R	No indication		UNKWN	UNKWN	_		UNKWN		_	

Symptoms :

Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM



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CHECK SHEET RESULTS (EXAMPLE)

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-36, "Circuit Check Between TCM and Data Link Connector"</u>.

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SY	STEM screen	Initial	Tranomit			Red	ceive diagno	osis		
ULLUT U	I D TEM BOICCIT	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN		UNKWN	UNKIN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN			UNKWN	
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—		-	UNKWN
HVAC	No indication		UNKWN	UNKWN			UNKWN	<u> </u>	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—	-
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		-	-



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Case 2

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-37</u>, "Circuit Check Between Data <u>Link Connector and IPDM E/R</u>".

					CAN DIA	G SUPPO	RT MNTR			
	FM screen	Initial	Transmit			Red	ceive diagno	osis		
SELECT STS	I LIW Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	UNKWN	UNKWN	<u></u>	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	_		UNKWN	
ВСМ	No indication	NG	UNKWN	UNKWN		UNKWN	-		—	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-		UNKWN		UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN		-	UNKOVN		-
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		-	-



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Case 3

Check ECM circuit. Refer to LAN-38, "ECM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
SELECT SYST	FM screen	Initial	Tranomit			Re	ceive diagno	osis		
OLLEOT OTOT	EW SOLCON	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNK	_		UNKWN	UNKWN		UNKWN	UNKON
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN			UNKWN		UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-	-



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Case 4

Check TCM circuit. Refer to LAN-39, "TCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
	STEM screen	Initial	Transmit			Red	ceive diagno	osis		
SELECT S		diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN			UNKWN	-
ВСМ	No indication	NG	UNKWN	UNKWN		UNKWN				UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN		UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN		_
IPDM E/R	No indication		UNKWN	UNKWN	-	-	UNKWN		-	-



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Case 5

Check combination meter circuit. Refer to LAN-39, "Combination Meter Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
SELECT SYST	EM screen	Initial	Tranomit			Re	ceive diagno	osis		
	EW SOLCON	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-		-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-		UNKWN		UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	UNKWN	-	-	_



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Case 6

Check BCM circuit. Refer to LAN-40, "BCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR						
	VSTEM screen	Initial	Transmit	Receive diagnosis									
522201 5	TO TEM Screen	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R			
ENGINE		NG	UNKWN	—	UNKWN	UNKWN		-	UNKWN	UNKWN			
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-	_	UNKWN				
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—		-	UNKWN			
HVAC	No indication		UNKWN	UNKWN		-	UNKWN	_	UNKWN	_			
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-				
IPDM E/R	No indication		UNKWN	UNKWN	—	-	UNKWN		-	_			



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Case 7

Check data link connector circuit. Refer to LAN-40, "Data Link Connector Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial			Receive diagnosis								
OLLEOT OTOT	EW SOLCON	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN			
A/T	-	NG	UNKWN	UNKWN	—	UNKWN	-		UNKWN				
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	—		-	UNKWN			
HVAC	No indication	-	UNKWN	UNKWN			UNKWN		UNKWN	-			
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	UNKWN		-	-			



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Case 8

Check steering angle sensor circuit. Refer to LAN-41, "Steering Angle Sensor Circuit Check" .

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SY	STEM screen	Initial	Tranomit			Red	ceive diagno	osis		
ULLUI UI	diagno		diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	—	UNKWN	-		UNKWN	
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN				UNKWN
HVAC	No indication		UNKWN	UNKWN			UNKWN	<u> </u>	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN		-	UNKOVN	-	_
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		-	-



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Case 9

Check front air control circuit. Refer to LAN-41, "Front Air Control Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit	mit Receive diagnosis							
		diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN		
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		-	UNKWN	
HVAC	No indication		UNKWN	UNKWN			UNKWN	<u> </u>	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	UNKWN		-	-	



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Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-42</u>, "ABS Actuator and Electric Unit <u>(Control Unit) Circuit Check</u>".

					CAN DIA	G SUPPOI	RT MNTR					
	EM screen	Initial	Transmit	Receive diagnosis								
SELECT STOP	diagnosi		diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKIN	UNKWN		
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-		UNK			
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—		-	UNKWN		
HVAC	No indication	_	UNKWN	UNKWN			UNKWN	<u> </u>	UNKOVN	_		
ABS	_	N/	UNKWN	UNKWN			-	UNK	-	_		
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-	-		



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Case 11

Check IPDM E/R circuit. Refer to LAN-42, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Tranomit	Receive diagnosis								
OLLEOT OTOT	Elw solech	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN		
A/T		NG	UNKWN	UNKWN	—	UNKWN	-	-	UNKWN	-		
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	-	-	UNKWN		
HVAC	No indication	-	UNKWN	UNKWN			UNKWN		UNKWN			
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN		-		
IPDM E/R	No indication	-	UNKWN	UNKWN		—	UNKWN		—	-		



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Case 12

Check CAN communication circuit. Refer to LAN-43, "CAN Communication Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR					
SELECT SY	STEM screen	Initial	Transmit	Receive diagnosis								
SELECT S	IOTEM Screen	diagnosis dia	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE		NG	UNKWN	_	UNKWN	UNKWN	UNKWN		UNKWN	UNK		
A/T	-	NG	UNKWN		-		-		UNKWN	-		
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—		-	UNKWN		
HVAC	No indication		UNKWN	UNKWN			UNKWN	<u></u>	UNKWN	_		
ABS	-	NA	UNKWN		UNKWN	-	—		-	-		
IPDM E/R	No indication		UNKWN	UNKWN	-	-	UNKWN		-	-		

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-44</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

					CAN DIA	G SUPPO	RT MNTR					
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis								
	EW Solden	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	-	NG	UNKWN	-		UNKWN	UNKWN	-	UNKWN	UNKWN		
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	_	UNKWN	-		
ВСМ	No indication	NG	UNKWN	UNKWN		UNKWN	—	-	—	UNKWN		
HVAC	No indication	-	UNKWN	UNKWN	-		UNKWN		UNKWN	-		
ABS	-	NG	UNKWN	UNKWN	UNKWN		-	UNKWN		-		
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN	-	-	—		

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-44</u>, "IPDM E/R Ignition Relay Circuit Check" .

					CAN DIA	G SUPPOI	RT MNTR					
SELECT SY	STEM screen	Initial	Transmit	Receive diagnosis								
ULLEOT OT	OTEN SOLCH	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	-	NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN		
A/T	-	NG	UNKWN		-	UNKWN			UNKWN			
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	-	-	UNKWN		
HVAC	No indication		UNKWN	UNKWN			UNKWN	<u></u>	UNKWN	_		
ABS	-	NG	UNKWN		UNKWN		-	UNKWN		-		
IPDM E/R	No indication		UNKWN	UNKWN	-	-	UNKWN		-	-		

Circuit Check Between TCM and Data Link Connector 1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40
- Harness connector B69
- Harness connector M40
- OK or NG
- OK >> GO TO 2.
- NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector and harness connector F33.
- Check continuity between A/T assembly harness connector F9 terminals 3 (L), 8 (P) and harness connector F33 terminals 12 (L), 11 (P).
 - 3 (L) 12 (L)
 - 8 (P) 11 (P)
- OK or NG
- OK >> GO TO 3. NG >> Repair harness
 - G >> Repair harness.



: Continuity should exist.

: Continuity should exist.
[CAN]



- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M31
- Harness connector E152

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

LAN-37

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M31.
- 2. Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M31 terminals 31G (L), 42G (P).
 - 6 (L) 31G (L) 14 (P) - 42G (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

OK >> GO TO 3.





3. check harness for open circuit

- 1. Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 2. 31G (L), 42G (P) and IPDM E/R harness connector E122 terminals 39 (L), 40 (P).
 - 31G (L) 39 (L) 42G (P) - 40 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-21, "Work Flow" .
- NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side 3. and harness side).
- ECM connector
- Harness connector E19
- Harness connector F33

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.



EKS00LE6





- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 11 (L) and 12 (P).

11 (L) - 12 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace combination meter.
- NG >> Repair harness between combination meter and data link connector.



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BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: **Approx. 54 - 66** Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-20, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check the terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.



EKS00LFA



3. Check terminals and connector of front air control for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

- 1. Disconnect front air control connector.
- 2. Check resistance between front air control harness connector M50 terminals 34 (L) and 35 (P).

34 (L) - 35 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace front air control.
- NG >> Repair harness between front air control and data link connector.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

EKS00LFD

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1. Turn ignition switch OFF.

1. CHECK CONNECTOR

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (L) and 15 (P).

11 (L) - 15 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.



EKS00LFE

Disconnect the following module and control unit connectors and check terminals for deformation, discon-

: Approx. 108 - 132 Ω

ECM

1.

2.

OK or NG

OK

NG

1.

2.

3.

- A/T assembly
- Combination meter
- BCM
- Steering angle sensor

1. CHECK CONNECTOR

Turn ignition switch OFF.

nection, looseness or damage.

- Front air control
- ABS actuator and electric unit (control unit)

2. CHECK HARNESS FOR OPEN CIRCUIT

Disconnect IPDM E/R connector.

>> Replace IPDM E/R.

CAN Communication Circuit Check

Disconnect the negative battery terminal.

nector E152.

terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

IPDM E/R

OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (P).

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair harness.

6 (L) - 14 (P)





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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

- 6 (L) Ground 14 (P) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to LAN-44, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION"
- NG >> Repair harness.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" . •
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 39 and 40.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	39 - 40	100 - 132

ECM and IPDM E/R LKIA0037E



EKS00LFH

System Description

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

Component Parts and Harness Connector Location



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*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

BKWA0683E





BKWA0411E

[CAN]



Work Flow

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1. When there are no indications of "AUTO DRIVE POS.", "BCM", "HVAC" or "IPDM E/R" on "SELECT SYS-TEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN		SELECT SYST	ГЕМ
			ENGINE	
	CONSULT- II		A/T	
			ABS	
			AIR BAG	
	ENGINE		ВСМ	
	START (NISSAN BASED	VHCL)	METEB A/C A	MP
	START (RENAULT BASE	VHCL)		
	SUB MODE			
	LIGHT	COPY	BACK LIGH	НТ СОРУ РКІА2093Е

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS]
	WORK SUPPORT	DTC RESULTS TIME	_
	SELF-DIAG RESULTS		
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTF		
	ACTIVE TEST		
		F.F.DATA]
	Scroll Dow	ERASE PRINT	
	BACK LIGHT COF	MODE BACK LIGHT COPY	

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ABS" and "IPDM E/R" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-51, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", puts a check mark onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>51, "CHECK SHEET"</u>.

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 6. According to the check sheet results (example), start inspection. Refer to <u>LAN-53</u>, "CHECK SHEET <u>RESULTS (EXAMPLE)</u>" .

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

					CAN DIA	G SUPPO	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Red	ceive diagno	osis		
01201 0101		diagnosis	diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	—	UNKWN	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN		-	
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	-		—	UNKWN
HVAC	No indication	—	UNKWN	UNKWN	—	-	UNKWN	—	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-	



Attach copy of SELECT SYSTEM

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CHECK SHEET RESULTS (EXAMPLE)

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-67, "Circuit Check Between TCM and</u> <u>Driver Seat Control Unit"</u>.

			CAN DIAG SUPPORT MNTR								
	EMscreen	Initial	Tranamit	Receive diagnosis							
OLLEOT OTOT	LW Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN			UNK	UNKWN	
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-		UNKOVN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN		-		
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-			UNKWN	
HVAC	No indication	_	UNKWN	UNKWN		_	UNKWN		UNKWN	<u> </u>	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	-	UNKWN	_		
IPDM E/R	No indication		UNKWN	UNKWN			UNKWN		_		



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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-68</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

					CAN DIA	G SUPPO	RT MNTR				
	EMscreen	Initial	Transmit diagnosis	Receive diagnosis							
OLLEON ONON	LINISCIECT	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNK		
A/T	-	NG	UNKWN	UNKWN		UNKWN	_		UNKOVN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-	
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		_	UNKWN	
HVAC	No indication	_	UNKWN	UNKWN			UNKWN	<u> </u>	UNKWN		
ABS	—	NG	UNKWN	UNKWN	UNK	—	-	UNKWN	—		
IPDM E/R	No indication		UNKWN	UNKWN		_	UNKWN		—		



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Case 3

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-69</u>, "Circuit Check Between Data <u>Link Connector and IPDM E/R</u>".

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	FM screen	Initial	Tranomit			Red	ceive diagno	osis		
	Elw Sorcen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	—		UNKOVN	-
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-			UNKWN
HVAC	No indication	_	UNKWN	UNKWN		_	UNKWN		UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		-	-



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Case 4

Check ECM circuit. Refer to LAN-70, "ECM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR					
	EM screen	Initial	Transmit diagnosis	Receive diagnosis								
SELECT STOT	LIVISCIECI	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	—	NG		-		UNKWN	UNKWN	_	UNKWN			
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN		-	-		
BCM	No indication	NG	UNKWN		-	UNKWN	-			UNKWN		
HVAC	No indication	_	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-		
ABS	-	NG	UNKWN	UNKWN	UNKWN		-	UNKWN	-			
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-			



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Case 5

Check TCM circuit. Refer to LAN-70, "TCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR					
	EMscreen	Initial	Tranamit		Receive diagnosis							
OLLEOT OTOT	Elw Sorcen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	-	NG	UNKWN	-		UNKWN	UNKWN	-	UNKWN	UNKWN		
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-		UNK	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN			-		
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		_	UNKWN		
HVAC	No indication		UNKWN	UNKWN			UNKWN		UNKWN			
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_			
IPDM E/R	No indication	_	UNKWN	UNKWN		-	UNKWN		-			



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Case 6

Check driver seat control unit circuit. Refer to LAN-71, "Driver Seat Control Unit Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR				
	EMscreen	Initial	Transmit diagnosis	Receive diagnosis							
SELECT STOP	LIVISCIEEN	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	
A/T	-	NG	UNKWN	UNKWN		UNKWN	-		UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-	
ВСМ	No indication	NG	UNKWN	UNKWN	—	UNKWN	-		_	UNKWN	
HVAC	No indication	_	UNKWN	UNKWN		-	UNKWN		UNKWN	-	
ABS	—	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	—	-	
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-		



Case 7

Check combination meter circuit. Refer to LAN-71, "Combination Meter Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis							
OLLEOT OTOT	Elw Sorcen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	-	NG	UNKWN	_	UNKWN		UNKWN	—	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	-		—		UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN			-	
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-			UNKWN	
HVAC	No indication	_	UNKWN	UNKWN		_	UNKWN	<u> </u>	UNKWN	_	
ABS	—	NG	UNKWN	UNKWN	UNKWN		-	UNKWN			
IPDM E/R	No indication	_	UNKWN	UNKWN		-	UNKWN		_		



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Case 8

Check BCM circuit. Refer to LAN-72, "BCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR				
	EM screen	Initial	Transmit diagnosis	Receive diagnosis							
SELECT STOP	LIVISCIECI	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	
A/T	-	NG	UNKWN	UNKWN		UNKWN	-	_	UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN				-	
ВСМ	No indication	NG	UNKWN	UNKWN	—	UNKWN	-		_	UNKWN	
HVAC	No indication	_	UNKWN	UNKWN		-	UNKWN		UNKWN	-	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—		
IPDM E/R	No indication	_	UNKWN	UNKWN		-	UNKWN	-	-		



Case 9

Check data link connector circuit. Refer to LAN-72, "Data Link Connector Circuit Check" .

					CAN DIA	G SUPPOI	RT MNTR					
SELECT SYST	EM screen	Initial Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN		
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN	—		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-		
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		-	UNKWN		
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-		
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-	-		
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	—	+		



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Case 10

Check steering angle sensor circuit. Refer to LAN-73, "Steering Angle Sensor Circuit Check" .

		CAN DIAG SUPPORT MNTR									
	EMscreen	Initial	Transmit	Receive diagnosis							
OLLEOT OTOT	Elw Sorcen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN				
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		-	UNKWN	
HVAC	No indication	_	UNKWN	UNKWN			UNKWN		UNKWN		
ABS	—	NG	UNKWN	UNKWN	UNKWN	_	-	UNKOVN	—		
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-		



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Case 11

Check front air control circuit. Refer to LAN-73, "Front Air Control Circuit Check" .

				CAN DIAG SUPPORT MNTR								
	EMscreen	Initial	Tranamit	Receive diagnosis								
SELECT STOT	LWSGREEN	diagnosis	gnosis diagnosis		тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN		
A/T	-	NG	UNKWN	UNKWN		UNKWN	—		UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-		
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	-		_	UNKWN		
HVAC	No indication	_	UNKWN	UNKWN		-	UNKWN		UNKWN			
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—			
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-			



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Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-74</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

		CAN DIAG SUPPORT MNTR									
SELECT SYST	SELECT SYSTEM screen		Transmit	Receive diagnosis							
OLLEOT OTOT	Elw Sorcen	diagnosis diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKIN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	—		UNKIN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN		-	-	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	-	-	_	UNKWN	
HVAC	No indication	_	UNKWN	UNKWN		-	UNKWN		UNKWN	_	
ABS	—	NØ	UNKWN		UNKWN	—	-	UNKWN	_		
IPDM E/R	No indication	_	UNKWN	UNKWN		_	UNKWN	-			



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Case 13

Check IPDM E/R circuit. Refer to LAN-74, "IPDM E/R Circuit Check" .

		CAN DIAG SUPPORT MNTR										
	EM screen	Initial	Initial Transmit — agnosis diagnosis		Receive diagnosis							
SELECT STOP	LIVISCIECI	diagnosis			тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	—	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	—	UNKWN			
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-		
ВСМ	No indication	NG	UNKWN	UNKWN	—	UNKWN			_	UNKWN		
HVAC	No indication	_	UNKWN	UNKWN		-	UNKWN		UNKWN			
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	-	UNKWN				
IPDM E/R	No indication	_	UNKWN	UNKWN		_	UNKWN					



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Case 14

Check CAN communication circuit. Refer to LAN-75, "CAN Communication Circuit Check" .

			CAN DIAG SUPPORT MNTR										
	EMscreen	Initial	Tranamit		Receive diagnosis								
SELECT STOP	LINISCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F			
ENGINE	-	NG		-		UNKWN	UNKWN	-		UNKWN			
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	_		UNKWN	—			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			-			
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	_			UNKWN			
HVAC	No indication	_	UNKWN	UNKWN			UNKWN		UNKWN				
ABS	—	N		UNKWN	UNKWN	_	-	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		-				

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-75</u>, "IPDM E/R Ignition Relay <u>Circuit Check</u>".

				CAN DIAG SUPPORT MNTR								
SELECT SYST	FM screen	Initial Transmit		Receive diagnosis								
0222010101				ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN			UNKWN	UNKWN		UNK	UNKWN		
A/T	—	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN					
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	UNKWN		
HVAC	No indication	_	UNKWN	UNKWN	-	-	UNKWN	<u></u>	UNKWN	-		
ABS	-	NG	UNKWN	UNKWN	UNKWN		-	UNKWN	-			
IPDM E/R	No indication	_	UNKWN	UNKWN		-	UNKWN	-	-			

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Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-75, "IPDM E/R Ignition Relay Cir-А cuit Check" .

		CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	T		Receive diagnosis							
	Elw Sorcen	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	—	NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN		
A/T	-	NG	UNKWN	UNKWN	-		-		UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN			—		
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-		-	UNKWN		
HVAC	No indication	_	UNKWN	UNKWN		_	UNKWN	<u> </u>	UNKWN			
ABS	—	NG	UNKWN		UNKWN	-	-	UNKWN				
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-			

Circuit Check Between TCM and Driver Seat Control Unit **1. CHECK CONNECTOR**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect A/T assembly connector and harness connector F33. 1.
- Check continuity between A/T assembly harness connector F9 2. terminals 3 (L), 8 (P) and harness connector F33 terminals 12 (L), 11 (P).
 - 3 (L) 12 (L)
 - 8 (P) 11 (P)
- : Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> GO TO 3. NG
 - >> Repair harness.

BA A/T assembly connector Harness connector 3 1112 8 3, 8 12, 11 Ω PKIA6831E



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector E34.
- Check continuity between harness connector E19 terminals 12 (L), 11 (P) and harness connector E34 terminals 24 (L), 23 (P).
 - 12 (L) 24 (L) 11 (P) - 23 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (L), 23 (P) and driver seat control unit harness connector P2 terminals 3 (L), 19 (P).
 - 24 (L) 3 (L) 23 (P) - 19 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-50, "Work Flow" .
- NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and Data Link Connector EKSODIFO 1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector and harness connector B69.
- 2. Check continuity between driver seat control unit harness connector P2 terminals 3 (L), 19 (P) and harness connector B69 terminals 51J (L), 52J (P).
 - 3 (L) 51J (L) 19 (P) - 52J (P)

: Continuity should exist. : Continuity should exist.

OK or NG

OK	>> GO TO 3.
NG	>> Repair harness.



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52.	eck continuity between harness J (P) and data link connector M2	connector M40 terminals 51J (L), 22 terminals 6 (L), 14 (P).	
	51J (L) - 6 (L)	: Continuity should exist.	
	52J (P) - 14 (P)	: Continuity should exist.	
OK	Cor NG		SMJ harness connector
O N	DK >> Connect all the connect <u>LAN-50, "Work Flow"</u> IG >> Repair harness.	ctors and diagnose again. Refer to	SMJ O CONNECTOR 51J, 52J Q PKIA6834E
Сі 1.	rcuit Check Between D . CHECK CONNECTOR	ata Link Connector and IF	PDM E/R EKS00LF
1.	Turn ignition switch OFF.		
2.	Disconnect the negative batte	ry terminal.	
3.	Check following terminals and	d connectors for damage, bend and	d loose connection (connector side and
	harness side).		
-	Harness connector M31		
- ~~	Harness connector E152		
N	IG >> Repair terminal or con	nector.	
2.	. CHECK HARNESS FOR OPE		
1.	Disconnect harness connector	r M31.	
2.			
	Check continuity between dat (L), 14 (P) and harness conne (P).	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G	
	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L)	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist.	Data link connector
	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P)	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist.	Data link connector
OK	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) K or NG	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist.	Data link connector 6, 14 SMJ © CONNECTOR
<u>Ok</u> 0	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) <u>K >> GO TO 3.</u>	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist.	Data link connector 6, 14 5MJ OCONNECTOR 31G, 42G
<u>OK</u> 0 N	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) K or NG OK >> GO TO 3. IG >> Repair harness.	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist.	Data link connector 6, 14 SMJ harness connector 6, 14 0 0 0 0 0 0 0 0 0 0 0 0 0
OK O N	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) Cor NG OK >> GO TO 3. IG >> Repair harness.	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist.	Data link connector Data link connector
<u>ок</u> 0 N 3 .	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) Cor NG OK >> GO TO 3. IG >> Repair harness. CHECK HARNESS FOR OPE	 ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist. 	Data link connector
OK 0 N 3.	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) Cor NG DK >> GO TO 3. IG >> Repair harness. CHECK HARNESS FOR OPE Disconnect IPDM E/R connect	ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist.	Data link connector Data link connector
OK ON 3. 1. 2.	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) Cor NG X >> GO TO 3. IG >> Repair harness. CHECK HARNESS FOR OPE Disconnect IPDM E/R connect Check continuity between ha	 ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist. 	Data link connector
OK O N 3. 1. 2.	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) Cor NG OK >> GO TO 3. IG >> Repair harness. CHECK HARNESS FOR OPE Disconnect IPDM E/R connect Check continuity between ha 31G (L), 42G (P) and IPDM E nals 39 (L), 40 (P).	 ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist. 	Data link connector Data link connector CONNECTOR 6 CONNECTOR 31G, 42G 0 0 0 0 0 0 0 0 0 0 0 0 0
OK ON 3. 1. 2.	Check continuity between dat (L), 14 (P) and harness conne (P). 6 (L) - 31G (L) 14 (P) - 42G (P) Cor NG OK >> GO TO 3. IG >> Repair harness. CHECK HARNESS FOR OPE Disconnect IPDM E/R connect Check continuity between ha 31G (L), 42G (P) and IPDM E nals 39 (L), 40 (P). 31G (L) - 39 (L)	 ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist. EN CIRCUIT tor. arness connector E152 terminals /R harness connector E122 termi- : Continuity should exist.	Data link connector Data link connector 6, 14 SMJ harness connector 6, 14 SMJ OCONNECTOR 31G, 42G PKIA6835E PKIA6835E
<u>Ok</u> 0 N 3. 1. 2.	Check continuity between dat (L), 14 (P) and harness conner (P). 6 (L) - 31G (L) 14 (P) - 42G (P) $\frac{14}{P} - 42G$ (P) $\frac{14}$	 ta link connector M22 terminals 6 ector M31 terminals 31G (L), 42G : Continuity should exist. : Continuity should exist. EN CIRCUIT tor. arness connector E152 terminals /R harness connector E152 terminals /R harness connector E122 termi- : Continuity should exist. : Continuity should exist. : Continuity should exist.	Data link connector Data link connector Data link connector CONNECTOR Disconnect SMJ harness connector CONNECTOR DISCONNECT DISCON

OK >> Connect all the connectors and diagnose again. Refer to LAN-50, "Work Flow" .

NG >> Repair harness.

PKIA8140E

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LAN-69

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- ECM connector
- Harness connector E19
- Harness connector F33

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector E16 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and A/T assembly.



EKS00LFR

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of A/T assembly for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F9 terminals 3 (L) and 8 (P).

3 (L) - 8 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace A/T assembly.
- NG >> Repair harness between A/T assembly and harness connector F33.



[CAN]

O N	 K >> GO TO 2. G >> Repair terminal or connector. 	
2.	CHECK HARNESS FOR OPEN CIRCUIT	D
1. 2.	Disconnect driver seat control unit connector. Check resistance between driver seat control unit harness con- nector P2 terminals 3 (L) and 19 (P).	
OK O N	3 (L) - 19 (P) : Approx. 54 - 66 Ω Cor NG	Driver seat control unit connector
Сс 1.	Ombination Meter Circuit Check CHECK CONNECTOR	PKIA6842E
1. 2. 3. <u>OK</u> 0	Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of combination meter for damag and harness side). <u>Cor NG</u> WK >> GO TO 2. G >> Repair terminal or connector.	J e, bend and loose connection (meter side LA
2.	CHECK HARNESS FOR OPEN CIRCUIT	L
1. 2. <u>OK</u> 0	Disconnect combination meter connector. Check resistance between combination meter harness connector tor M24 terminals 11 (L) and 12 (P). 11 (L) - 12 (P) : Approx. 54 - 66 Ω Cor NG K >> Replace combination meter. G >> Repair harness between combination meter and data link connector.	M
Rev	vision: July 2007 LAN-71	2005 Armada

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of driver seat control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK

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OK o

- OK
- NG

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- 1.
- 2. E
- 3. 0

OK o

2. c

- 1. C
- 2. (t

OK o

- OK
- NG

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BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-20, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check the terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-50, "Work Flow"
- NG >> Repair harness between data link connector and combination meter.



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EKS00LFV

[CAN]
Disconnect the negative battery terminal. 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect steering angle sensor connector. Check resistance between steering angle sensor harness connector M47 terminals 3 (L) and 4 (P). : Approx. 54 - 66 Ω Steering angle sensor connector >> Replace steering angle sensor. >> Repair harness between steering angle sensor and data

Front Air Control Circuit Check

link connector.

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

side and harness side).

>> GO TO 2.

1.

OK or NG OK

OK or NG OK

NG

NG

1.

2.

2.

1. CHECK CONNECTOR

3 (L) - 4 (P)

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of front air control for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect front air control connector.
- Check resistance between front air control harness connector 2. M50 terminals 34 (L) and 35 (P).

: Approx. 54 - 66 Ω

34 (L) - 35 (P)

OK or NG

- OK >> Replace front air control.
- NG >> Repair harness between front air control and data link connector.



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ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (L) and 15 (P).

11 (L) - 15 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E122 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and harness connector E152.



EKS00LFY

[CAN]

CAN Communication Circuit Check **1. CHECK CONNECTOR** 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. Disconnect the following module and control unit connectors and check terminals for deformation, discon-3. nection, looseness or damage. ECM A/T assembly Driver seat control unit Combination meter BCM Steering angle sensor Front air control

- ABS actuator and electric unit (control unit)
- **IPDM E/R**

OK or NG

(P).

OK or NG OK

NG

OK >> GO TO 2.

6 (L) - 14 (P)

>> GO TO 3.

>> Repair harness.

NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

Revision: July 2007

3. CHECK HARNESS FOR SHORT CIRCUIT

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

- 6 (L) Ground
- 14 (P) Ground

: Continuity should not exist. : Continuity should not exist.

: Continuity should not exist.

OK or NG

OK >> Check ECM and IPDM E/R. Refer to LAN-76, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION" . NG

>> Repair harness.



Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START

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2005 Armada







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Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 39 and 40.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 122
IPDM E/R	39 - 40	100-132



EKS00LG2

System Description

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

Component Parts and Harness Connector Location



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[CAN]



BKWA0007E



[CAN]



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

BKWA0684E

LAN-CAN-08



BKWA0414E

[CAN]



Work Flow

EKS00LG7

[CAN]

1. When there are no indications of "AUTO DRIVE POS.", "BCM", "HVAC" or "IPDM E/R" on "SELECT SYS-TEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN		SELECT SYST	ГЕМ
			ENGINE	
	CONSULT- II		A/T	
			ABS	
			AIR BAG	
	ENGINE		ВСМ	
	START (NISSAN BASED	VHCL)	METEB A/C A	MP
	START (RENAULT BASE	VHCL)		
	SUB MODE			
	LIGHT	COPY	BACK LIGH	HT COPY

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT D	IAG MO	DE	SELF-DIAG RESU	JLTS]
	WORK S	UPPOR	Г	DTC RESULTS	TIME	
	SELF-DIAC	G RESUL	.TS	CAN COMM CIRCUIT	0	
	DATA M	ONITOR		(01000)		
	DATA MONI	TOR (SF	PEC)			
	CAN DIAG SU	PPORT	MNTR			
	ACTIV	ETEST				
					F.F.DATA	
		Scroll	Down	ERASE P	RINT	
	BACK	LIGHT	COPY	MODE BACK LIGH	T COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ABS" and "IPDM E/R" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-84, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", puts a check mark onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>84, "CHECK SHEET"</u>.

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-147, "CAN Communication Line</u> <u>Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-84</u>, <u>"CHECK SHEET"</u>.

LAN-82

			、	,		[CAN]
Mark the "NG" or	"UNKWN" item o	f the check sheet	t table with "	v" from the result	of CAN DIAG S	SUPPORT
MONITOD aboal	abaat Dafartal	AND A POLICOV	CLIEFT"			

MONITOR check sheet. Refer to <u>LAN-84, "CHECK SHEET"</u>. **NOTE:** If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control

- unit, replace the control unit. Refer to <u>AV-147</u>, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-86, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYSTE	VI screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	METER	Rec DISPLAY	eive diagn BCM/SEC	osis STRG	Front air	VDC/TCS	IPDM E/F
ENGINE		NG	UNKWN	_	UNKWN	UNKWN		UNKWN	_	-	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	_	UNKWN		_	_	-	UNKWN	_
AUTO DRIVE POS.	No	NG	UNKWN	_	UNKWN	UNKWN		UNKWN	_	_		_
Display control unit	_	CAN COMM	CAN CIBC 1	CAN CIBC 3	_	CAN CIBC 5		CAN CIBC 2	_	CAN CIBC 4	-	CAN CIBC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN		_	_	-	_	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_		_	UNKWN	-		_
IPDM E/R	No indication	-	UNKWN	UNKWN	_			UNKWN		-		-
			Attach c SELECT S	copy of SYSTEM			Attac SELEC	ch copy of CT SYSTEI	м			
			c	AN DIAG	Attach display o SUPPORT	copy of control unit MONITO	R check sh	eet				
												PKIB6657



CHECK SHEET RESULTS (EXAMPLE)

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-101, "Circuit Check Between TCM</u> and <u>Driver Seat Control Unit"</u>.

						CAN DIA	G SUPPOI	RT MNTR				
	Maaroon	Initial	Tronomit				Rec	eive diagn	osis			
SELECT STOLE	W Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN		-		-	1		
A/T	-	NG	UNKWN	UNKWN	1	UNKWN		-	—	-	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	-		UNKWN	-	UNKWN	-	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CINC 3	1	CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN		-	UNKWN	—	—	—	-	-	UNKWN
HVAC	No indication	_	UNKWN		_	_	UNKWN	UNKWN		_	UNKWN	—
ABS	_	NG	UNKWN	UNKWN		1	-	_	UNKWN	_	_	-
IPDM E/R	No indication		UNKWN		_	_		UNKWN		—		
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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-102, "Circuit Check</u> <u>A</u><u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						CAN DIAG SUPPORT MNTR								
SELECT SYSTE	Miscreen	Initial	Transmit				Rec	eive diagn	osis		_			
	W Soreen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	1	UNKWN		-	UNK	-	1				
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	—	-		-		
AUTO DRIVE POS.	No individualion	NG	UNKWN	1	UNKWN	UNKWN	-	UNKWN	-	-	-	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CINC 3	-	CAN CIRC 5	-	CAN CIRC 2	_	CAN CIRC 4	-	CAN CIRC 7		
всм	No indication	NG	UNKWN		_	UNKWN	—	-		-	—	UNKWN		
HVAC	No indication	_	UNKWN		_	_	UNKWN	UNKWN		-	UNKWN			
ABS	_	NG	UNKWN			_	-	-	UNKWN	_	_			
IPDM E/R	No indication	-	UNKWN		-	-	—	UNKWN	-	-	-			



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Check harness between data link connector and IPDM E/R. Refer to <u>LAN-103</u>, "Circuit Check Between Data <u>Link Connector and IPDM E/R</u>".

												
						CAN DIA	G SUPPUI					
	Mscreen	Initial	Transmit				Rec	eive diagn	osis	-	-	
	W Soreen	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	UNKWN	_	UNKWN	-	_		
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-		—
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN		UNKWN	-	-	_	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4	_	CAN CINC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	_	-	
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN		_		-
ABS	_	NG	UNKWN	UNKWN		1	_	_	UNKIVN	_	-	-
IPDM E/R	No inditation	—	UNKWN	UNKWN	1	-	-	UNKWN	I	-	-	-
												PKIB6661E



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Case 4

Check ECM circuit. Refer to LAN-104, "ECM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
	Mecroon	Initial	Tranomit				Rec	eive diagn	osis			
SELECT 5151E	W Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		_			_		_	_		
A/T	-	NG	UNKWN		-	UNKWN	-	-	—	—	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CINC 3	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN			UNKWN	—		_	—	-	UNKWN
HVAC	No indication	-	UNKWN		_	_	UNKWN	UNKWN	-	_	UNKWN	
ABS	_	NG	UNKWN		UNKWN	_	_	-	UNKWN	_	-	_
IPDM E/R	No indication	-	UNKWN		-	-	-	UNKWN	—	-	-	-



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Check TCM circuit. Refer to LAN-104, "TCM Circuit Check" .

r		r										
						CAN DIA	G SUPPOI	RT MNTR				
	Mecroon	Initial	Transmit				Rec	eive diagn	osis			
	W SCIEELI	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_		UNKWN	_	UNKWN		_	UNKWN	UNKWN
A/T	_	NG	UNKWN		-	UNKWN	_	—		_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	1		UNKWN	—	UNKWN	-	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	-		-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN		_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN		_	_	_	UNKWN	_	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	—	-	—	UNKWN	—	—	-	—
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Case 6

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Check driver seat control unit circuit. Refer to LAN-105, "Driver Seat Control Unit Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
	Mecroon	Initial	Transmit				Rec	eive diagn	osis			
SELECT STOLE	W SCIECI	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	—	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	—	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	—	-	_	_	—	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN		_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	UNKWN	_	_	—
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	—	UNKWN	—	-	-	



Check combination meter circuit. Refer to LAN-105, "Combination Meter Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
	Mecroon	Initial	Tranemit				Rec	eive diagn	osis			
SELECTOTOTO	W SCIECT	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN			UNKWN		_	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	—	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN		-	UNKWN	_	_	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CINC 5	-	CAN CIRC 2	-	CAN CIRC 4	1	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	1	UNKWN	-	-	—	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	UNKWN	_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—
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Case 8

Check display control unit circuit. Refer to LAN-106, "Display Control Unit Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYSTE	Miscreen	Initial	Transmit				Rec	eive diagn	osis			
SELECT STOLE	W Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN		-	-	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	-	UNKWN	_	-	_	-
Display control unit	_	CAN COMM	CAN CINC 1	CAN CINC 3	_	CAN CINC 5	1	CAN CINC 2	_	CAN CINC 4	_	CAN CINC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	—	—	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_		UNKWN		_	UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	UNKWN	_	-	-
IPDM E/R	No indication	—	UNKWN	UNKWN	-	—	-	UNKWN	—	—	—	



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Check BCM circuit. Refer to LAN-106, "BCM Circuit Check" .

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			-			CAN DIA	G SUPPO	RT MNTR				
	Mecroon	Initial	Transmit				Rec	eive diagn	osis			
SELECTION	W Scieen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	1	UNKWN	UNKWN			_	_	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-		-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	-	UNK	_	-	_	-
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5		CAN CINC 2	-	CAN CIRC 4	-	CAN CIRC 7
BCM	No indivision	NG	UNKWN	UNKWN	-	UNKWN		-		-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKOVN	_	—	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	—	-	—	UNKON	—	—	-	—
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Case 10

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Check data link connector circuit. Refer to LAN-107, "Data Link Connector Circuit Check" .

						CAN DIAG SUPPORT MNTR											
	Mecroon	Initial	Transmit				Rec	eive diagn	osis								
SELECT STOLE	W Screen	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R					
ENGINE	-	NG	UNKWN		UNKWN	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN					
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	—	-	UNKWN	-					
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	-	UNKWN	_	_	_	-					
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 5	1	CAN CIRC 2	-	CAN CIRC 4	1	CAN CIRC 7					
ВСМ	No inditation	NG	UNKWN	UNKWN	-	UNKWN	-	—	—	-	-	UNKWN					
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	UNKWN	-					
ABS	-	NG	UNKWN	UNKWN	UNKWN	1	-	—	UNKWN	_	-	-					
IPDM E/R	No inditation	_	UNKWN	UNKWN	-	—	-	UNKWN	_	-	_	-					



Check steering angle sensor circuit. Refer to LAN-107, "Steering Angle Sensor Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
	Mecroon	Initial	Transmit				Rec	eive diagn	osis	-		
322201 31312	W SCIEELI	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN		UNKWN	-	-	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	1	UNKWN	-	-	I	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	UNKWN	—	UNKWN	1	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	-	CAN CIRC 2	Ι	CAN CIRC 4	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		—		—	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	—	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	—	—	—	UNKWN	_	—	-	—
												PKIB6669E



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Case 12

Check front air control circuit. Refer to LAN-108, "Front Air Control Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYSTE	Miscreen	Initial	Transmit				Rec	eive diagn	osis			
SELECT STOLE	W Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	UNKWN		UNKWN	-		UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	-	UNKWN	_	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 5	-	CAN CIRC 2	-	CAN CINC 4	1	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	—	-	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	_	-	-
IPDM E/R	No indication	—	UNKWN	UNKWN	_	—	-	UNKWN	—	_	—	



Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-108</u>, "<u>ABS Actuator and Electric Unit</u> (<u>Control Unit</u>) <u>Circuit Check</u>".

1	I					CAN DIA	G SUPPOR	RT MNTR				
	Meeroon	Initial	Tronomit				Rec	eive diagn	osis			
	M SCIEELI	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN		UNKWN	-	_		UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN		_	-	_		-
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN		UNKWN	-	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	_	CAN CIRC 2	-	CAN CIRC 4	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN		_	-	_	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN		_	UNKWN	UNKWN	_	_		_
ABS	_	N	UNKIWN		UNKIN	-	_	_		_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-		UNKWN	-	_	-	—



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Case 14

Check IPDM E/R circuit. Refer to LAN-109, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
	Mecroon	Initial	Transmit				Rec	eive diagn	osis			
SELECT STOLE	W Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	
A/T	—	NG	UNKWN	UNKWN	-	UNKWN	-	-	—	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN		UNKWN	-	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	CAN CINC 7
ВСМ	No indication	NG	UNKWN	UNKWN		UNKWN	—	—	_	_	-	
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN		_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	UNKWN	_	-	_
IPDM E/R	No indication	—	UNKWN	UNKWN	-	-		UNKWN	-	—	—	



Check CAN communication circuit. Refer to LAN-109, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
	Mecroon	Initial	Tranomit				Rec	eive diagn	osis			
SELECT STOLE	W Soleen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/
ENGINE	-	NG		1			-		1	1		
A/T	-	NG	UNKWN		-	UNKWN	-	-	I	-	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN		UNKWN		-	_	-
Display control unit	-	CAN COMM	CAN CINC 1	CAN CINC 3	_	CAN CINC 5	—	CAN CINC 2	-	CAN CINC 4	_	CAN CINC 7
ВСМ	No indiation	NG	UNKWN	UNKWN	-	UNKWN	—	—	—	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN		_	UNKWN	_
ABS	-	NØ				_	-	_		_	-	_
IPDM E/R	No inditation	_	UNKWN	UNKWN	_	-	_	UNKWN	-	-	-	-

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-110</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

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						CAN DIA	Bog					
SELECT SYSTE	M screen	Initial	Transmit				Rec	eive diagn		Constain.	VDO/TOO	
		diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	1	UNKIN	UNKWN	-	UNKWN	-	-		UNKWN
A/T	-	NG	UNKWN	UNKWN	1	UNKWN	-	-	I	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN			UNKWN		UNKWN		_	_	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 5	-	CAN CIRC 2	1	CAN CIRC 4	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	-	—	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	_	_	UNKWN	UNKWN		_		_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	UNKWN	_	-	-
IPDM E/R	DM E/R No - UNKW			UNKWN	_	_		UNKWN	—	—	-	
												PKIB6674E

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-110, "IPDM E/R Ignition Relay А Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR				
	Mecroon	Initial	Tranomit				Rec	eive diagn	osis			
SELECT STOLE	W Screen	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNKWN	UNKWN		UNKWN			UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	—	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN		UNKWN		-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 5	1	CAN CIRC 2		CAN CIRC 4	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	1	UNKWN	-	-	—	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	-	_	UNKWN	UNKWN		_	UNKWN	-
ABS	_	NG	UNKWN		UNKWN	_	_	-		_	-	_
IPDM E/R	No indication	—	UNKWN	UNKWN	-	-		UNKWN	-	-	-	-

Circuit Check Between TCM and Driver Seat Control Unit 1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect A/T assembly connector and harness connector F33. 1.
- 2. Check continuity between A/T assembly harness connector F9 terminals 3 (L), 8 (P) and harness connector F33 terminals 12 (L), 11 (P).
 - 3 (L) 12 (L)
 - 8 (P) 11 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> GO TO 3. NG
 - >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector E34.
- Check continuity between harness connector E19 terminals 12 (L), 11 (P) and harness connector E34 terminals 24 (L), 23 (P).
 - 12 (L) 24 (L) 11 (P) - 23 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (L), 23 (P) and driver seat control unit harness connector P2 terminals 3 (L), 19 (P).
 - 24 (L) 3 (L) 23 (P) - 19 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-82, "Work Flow" .
- NG >> Repair harness.

Harness connector Harness connector 2423 24, 23 24, 23 19 3, 19 PKIA6840E

Circuit Check Between Driver Seat Control Unit and Data Link Connector EKSOOLG9 1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector and harness connector B69.
- 2. Check continuity between driver seat control unit harness connector P2 terminals 3 (L), 19 (P) and harness connector B69 terminals 51J (L), 52J (P).
 - 3 (L) 51J (L) 19 (P) - 52J (P)

: Continuity should exist. : Continuity should exist.

OK or NG

OK	>> GO TO 3.
NG	>> Repair harness.





OK >> Connect all the connectors and diagnose again. Refer to LAN-82, "Work Flow" .

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- ECM connector
- Harness connector E19
- Harness connector F33

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector E16 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and A/T assembly.



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TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of A/T assembly for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F9 terminals 3 (L) and 8 (P).

3 (L) - 8 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace A/T assembly.
- NG >> Repair harness between A/T assembly and harness connector F33.



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Driver Seat Control Unit Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of driver seat control unit for damage, bend and loose connection (con unit side and harness side). OK or NG OK → S GO TO 2. (Check HARNESS FOR OPEN CIRCUIT 1. Disconnect driver seat control unit connector. 2. Check resistance between driver seat control unit harness connector P2 terminals 3 (L) and 19 (P). 3 (L) - 19 (P) : Approx. 54 - 66 Ω OK or NG OK → Repair terminal or connector. 2. Check connector B40. Combination Meter Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG OK → S GO TO 2. NG → Repair terminal or connector. 3. Check terminals and connector. 4. Turn ignition switch OFF. 5. Disconnect the negative battery terminal. 5. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG OK → S GO TO 2. NG → Repair terminal or connector. 3. Check terminals and c	[CAN]	
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of driver seat control unit for damage, bend and loose connection (con unit side and harness side). Wor NG CK or NG CHECK HARNESS FOR OPEN CIRCUIT Disconnect driver seat control unit connector. Check resistance between driver seat control unit harness connector P2 terminals 3 (L) and 19 (P). 3 (L) - 19 (P) : Approx. 54 - 66 Ω CK or NG CHECK CONNECTOR I Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). CK or NG C	heck	Driver Seat Control Unit Circuit Check 1. CHECK CONNECTOR
 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect driver seat control unit connector. 2. Check resistance between driver seat control unit harness connector P2 terminals 3 (L) and 19 (P). 3 (L) - 19 (P) : Approx. 54 - 66 Ω OK or NG OK >> Replace driver seat control unit. NG >> Replace driver seat control unit. NG >> Replace driver seat control unit. Combination Meter Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG OK or NG<!--</td--><td>seat control unit for damage, bend and loose connection (control</td><td> Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of driver seat co unit side and harness side). <u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector. </td>	seat control unit for damage, bend and loose connection (control	 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of driver seat co unit side and harness side). <u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector.
 Disconnect driver seat control unit connector. Check resistance between driver seat control unit harness connector P2 terminals 3 (L) and 19 (P). 3 (L) - 19 (P) : Approx. 54 - 66 Ω OK or NG OK >> Replace driver seat control unit. NG >> Replace driver seat control unit. NG >> Replace driver seat control unit. NG >> Repair harness between driver seat control unit and harness connector B40. Combination Meter Circuit Check CHECK CONNECTOR Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. Check resistance between combination meter harness connector (meter s and harness side). OK or NG OK or NG OK cor NG Check terminal or connector. Check resistance between combination meter harness connector (meter s and harness for OPEN CIRCUIT Disconnect combination meter connector. Check resistance between conbination meter harness connector for M24 terminals 11 (L) and 12 (P). 	Г	2. CHECK HARNESS FOR OPEN CIRCUIT
Combination Meter Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG OK =>> GO TO 2. NG =>> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect combination meter connector. 2. Check resistance between combination meter harness connector. 2. Check resistance between combination meter harness connector.	extor. Introl unit harness con- $x. 54 - 66 \Omega$ Priver seat control unit connector 3 19	 Disconnect driver seat control unit connector. Check resistance between driver seat control unector P2 terminals 3 (L) and 19 (P). 3 (L) - 19 (P) Approx. 54 - OK or NG OK >> Replace driver seat control unit. NG >> Repair harness between driver seat cornector B40.
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of combination meter for damage, bend and loose connection (meter s and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. CHECK HARNESS FOR OPEN CIRCUIT Disconnect combination meter connector. Check resistance between combination meter harness connector for M24 terminals 11 (L) and 12 (P). 	PKIA6842E EKSOOLGE	Combination Meter Circuit Check 1. CHECK CONNECTOR
 CHECK HARNESS FOR OPEN CIRCUIT Disconnect combination meter connector. Check resistance between combination meter harness connector M24 terminals 11 (L) and 12 (P). 	nation meter for damage, bend and loose connection (meter side	 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of combination and harness side). <u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector.
 Disconnect combination meter connector. Check resistance between combination meter harness connector M24 terminals 11 (L) and 12 (P). 	г	2. CHECK HARNESS FOR OPEN CIRCUIT
11 (L) - 12 (P): Approx. 54 - 66 Ω OK or NG OK >> Replace combination meter.Combination meter connector	neter harness connec- x. 54 - 66 Ω	 Disconnect combination meter connector. Check resistance between combination meter tor M24 terminals 11 (L) and 12 (P). (L) - 12 (P) Approx. 54 - OK or NG OK seplace combination meter.

Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M95 terminals 25 (L) and 26 (P).

25 (L) - 26 (P)

(P) : Approx. 54 - 66 Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit and data link connector.



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-20, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



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EKS00LGG

[CAN]



1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.

Data Link Connector Circuit Check

Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor 3. side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M47 terminals 3 (L) and 4 (P).

3(L) - 4(P)

: Approx. 54 - 66 Ω

LAN-107

OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor and data link connector.



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Front Air Control Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of front air control for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect front air control connector.
- Check resistance between front air control harness connector M50 terminals 34 (L) and 35 (P).

34 (L) - 35 (P)

OK or NG

- OK >> Replace front air control.
- NG >> Repair harness between front air control and data link connector.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

: Approx. 54 - 66 Ω

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1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (L) and 15 (P).

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



[CAN]
2.	Disconnect the negative battery terminal.	В
3.	Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side	
OK	and hamess side).	С
0	$K \rightarrow GO TO 2$	
Ň	G >> Repair terminal or connector.	
2		D
<u> </u>		
1.	Disconnect IPDM E/R connector.	Е
2.	Check resistance between IPDM E/R harness connector E122	
	39 (L) - 40 (P) : Approx. 108 - 132 Ω IPDM E/R connector	F
<u>OK</u>	or NG	
O	K >> Replace IPDM E/R.	G
IN	nector E152.	
	Ω	
		Н
_	PKIA8141E	
C A	AN Communication Circuit Check	
1.	CHECK CONNECTOR	1
1.	Turn ignition switch OFF.	
2.	Disconnect the negative battery terminal.	J
3.	Disconnect the following module and control unit connectors and check terminals for deformation, discon-	
	nection, looseness or damage.	IΔ
-		LA
-	A/I assembly	
-	Combination motor	L
-		
-	BCM	
_	Steering angle sensor	IV
_	Front air control	
_	ABS actuator and electric unit (control unit)	
_		
OK	or NG	
0	K >> GO TO 2.	
Ν	G >> Repair or replace as necessary.	

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 Driver seat control unit Combination meter Display control unit BCM Steering angle sensor Front air control ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	A/T assembly
 Combination meter Display control unit BCM Steering angle sensor Front air control ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	Driver seat control unit
 Display control unit BCM Steering angle sensor Front air control ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	Combination meter
 BCM Steering angle sensor Front air control ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	Display control unit
 Steering angle sensor Front air control ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	BCM
 Front air control ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	Steering angle sensor
 ABS actuator and electric unit (control unit) IPDM E/R OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. 	_	Front air control
 IPDM E/R <u>OK or NG</u> OK >> GO TO 2. NG >> Repair or replace as necessary. 	-	ABS actuator and electric unit (control unit)
<u>OK or NG</u> OK >> GO TO 2. NG >> Repair or replace as necessary.	-	IPDM E/R
OK >> GO TO 2. NG >> Repair or replace as necessary.	Oł	<u>K or NG</u>
NG >> Repair or replace as necessary.	C	0K >> GO TO 2.
	N	IG >> Repair or replace as necessary.

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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2. CHECK HARNESS FOR SHORT CIRCUIT

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground

- : Continuity should not exist.
- 14 (P) Ground
- : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-110</u>, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION".
- NG >> Repair harness.



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Data link connector

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IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-13</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON <u>AND/OR START</u>".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 39 and 40.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	39 - 40	100 - 152



PKIA2077E

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System Description

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

Component Parts and Harness Connector Location



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PFP:23710 EKS00LGP

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EKS00LGR

[CAN]



BKWA0188E



[CAN]





BKWA0417E

[CAN]



Work Flow

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1. When there are no indications of "BCM", "HVAC", "ALL MODE AWD/4WD" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)	merenovorum	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "BCM", "HVAC", "ALL MODE AWD/ 4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS	
(WORK SUPPORT	DTC RESULTS TIME	:
	SELF-DIAG RESULTS		
	DATA MONITOR	(01000)	
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTR		-
	ACTIVE TEST		
		F.F.DATA	٩
	Scroll Down	ERASE PRINT	
	BACK LIGHT COPY	MODE BACK LIGHT COPY	Y

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "BCM", "HVAC", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-118</u>, "CHECK SHEET" .
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", puts a check mark onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-118</u>, "CHECK SHEET".

CAUTION:

"ALL MODE AWD/4WD" puts a check mark on the check sheet when "Present" is "UNKWN" and "Past" is "0".

((Example)	CAN D	IAG SU	PPORT	MNTR	
	· · /	ALI	MODE	AWD/4	WD	
				PRSNT	PAST	
		TRANSM	/IT DIAG	OK	OK	
		ECM		UNKWN	0	
		VDC/TC	S/ABS	UNKWN	39	
		TCM		UNKWN	0	
	-	STRG		ŌK	OK	
		PR	INT			
		MODE	BACK	LIGHT	COPY	SKID2244E

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NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- According to the check sheet results (example), start inspection. Refer to <u>LAN-120</u>, "CHECK SHEET ^C <u>RESULTS (EXAMPLE)</u>".

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Check sheet table											
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranomit				Receive	diagnosis			
	EWBORCON	diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	_	UNKWN	-	—	UNKWN	UNKWN	-
ВСМ	No indication	NG	UNKWN	UNKWN	—	UNKWN	_	-	-	-	UNKWN
HVAC	No indication		UNKWN	UNKWN	—	-	UNKWN		—	UNKWN	_
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN		_	UNKWN	UNKWN	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_		UNKWN	-	_	-	-

Symptoms :

Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM



CHECK SHEET RESULTS (EXAMPLE)

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-133</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranomit				Receive	diagnosis			
OLLEOT OTOT	EW Sereen	diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNKWN		UNKWN			UNKWN	UNKIN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-	<u></u>	UNKWN		—
BCM	No indication	NG	UNKWN	UNK	-	UNKWN	—		-	_	UNKWN
HVAC	No indication		UNKWN				UNKWN		-	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN		UNKWN	-	-	UNKWN	-	UNKWN	
ABS		NG	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN				UNKWN		_	_	

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Case 2

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-134</u>, "Circuit Check Between Data <u>A</u> <u>Link Connector and IPDM E/R</u>".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
OLLEOT OTOT	EN SOICCH	diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	UNKWN	UNKWN		UNKON	UNKWN	UNKIN
A/T	-	NG	UNKWN	UNKWN		UNKWN	-	-	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		-	_	UNKIN
HVAC	No indication	_	UNKWN	UNKWN	—		UNKWN		-	UNKWN	-
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	
ABS		NG	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-	_
IPDM E/R	No indication	—	UNKWN	UNKWN			UNKWN		-	_	_



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Case 3

Check ECM circuit. Refer to LAN-135, "ECM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG		—	UNKWN					UNKWN	UNKIN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN		-	UNKWN		-	-	-	UNKWN
HVAC	No indication		UNKWN				UNKWN		—	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN		UNKWN	—	-	UNKWN	-	UNKWN	-
ABS	-	NG	UNKWN		UNKWN		—	UNKWN	UNKWN	—	_
IPDM E/R	No indication	-	UNKWN		-		UNKWN	_	-	-	—



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Case 4

Check TCM circuit. Refer to LAN-136, "TCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKIN	-	-	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	-	_	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN		—	-	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-	
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-	-	—



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Case 5

Check combination meter circuit. Refer to LAN-136, "Combination Meter Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
022201 0101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	UNKVN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN		UNKVN	—	-	-	_	UNKWN
HVAC	No indication		UNKWN	UNKWN			UNKWN		—	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	_
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	UNKWN		-		-



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Case 6

Check BCM circuit. Refer to LAN-137, "BCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	—	UNKWN	UNKWN	UNKIVN		UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	_		UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	-	-	_	UNKWN
HVAC	No indication		UNKWN	UNKWN	—		UNKWN		—	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		_	UNKWN	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	
IPDM E/R	No indication	—	UNKWN	UNKWN		—	UNKWN		-	-	—



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Case 7

Check data link connector circuit. Refer to LAN-137, "Data Link Connector Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranemit				Receive	diagnosis			
022201 0101		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	—		UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN			-	_	UNKWN
HVAC	No indication		UNKWN	UNKWN			UNKWN		—	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN		_	UNKWN	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_	_
IPDM E/R	No indication	—	UNKWN	UNKWN		-	UNKWN		-	-	—



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Case 8

Check steering angle sensor circuit. Refer to LAN-138, "Steering Angle Sensor Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		-	—	_	UNKWN
HVAC	No indication		UNKWN	UNKWN			UNKWN		_	UNKWN	-
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN		—	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-		UNKWN	-	
IPDM E/R	No indication	—	UNKWN	UNKWN		-	UNKWN		—	-	—



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Case 9

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Check front air control circuit. Refer to LAN-138, "Front Air Control Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
022201 0101		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		_	-	_	UNKWN
HVAC	No indication		UNKWN	UNKWN			UNKWN			UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_	_
IPDM E/R	No indication	—	UNKWN	UNKWN		-	UNKWN		-	-	-



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Case 10

Check transfer control unit circuit. Refer to LAN-139, "Transfer Control Unit Circuit Check" .

						CAN DIA	G SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKOVN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	—	UNKWN	-		UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	-	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	-	1	UNKWN	_	-	UNKWN	-
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	—	UNKWN	UNKWN	-	-	UNKWN		-	-	-



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Case 11

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-139</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN DIA	G SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Tranomit				Receive	diagnosis			
OLLEOT OTOT		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	—	UNKWN	-		UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	-	—	_	UNKWN
HVAC	No indication		UNKWN	UNKWN	—		UNKWN		_	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	_
ABS		N	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-	_
IPDM E/R	No indication		UNKWN	UNKWN			UNKWN		_	-	-



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Case 12

Check IPDM E/R circuit. Refer to LAN-140, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	—	UNKWN	-		UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	-	_	—	_	
HVAC	No indication	_	UNKWN	UNKWN	—		UNKWN		—	UNKWN	-
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-	-	



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Case 13

Check CAN communication circuit. Refer to LAN-141, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
0222010101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNK	-	UNKWN		UNKWN			UNKWN	UNKWN
A/T	_	NG	UNKWN	UNK	-	UNKWN	-		UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		-	_	UNKWN
HVAC	No indication		UNKWN	UNKWN	-		UNKWN		-	UNKWN	_
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
ABS		N	UNKWN	UNKWN	UNK		-	UNKWN	UNKWN	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-	-	

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-141</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	UNKWN
HVAC	No indication		UNKWN	UNKWN		-	UNKWN		—	UNKWN	_
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN		_	UNKWN	-	UNKWN	-
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN	-	
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		-	-	—
							••••••				

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-141, "IPDM E/R Ignition Relay А Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranomit				Receive	diagnosis			
022201 0101	ENIGOIO	diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKWN	—			UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	—	-	-	-	UNKWN
HVAC	No indication		UNKWN	UNKWN	—		UNKWN		_	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN		_	_
IPDM E/R	No indication	—	UNKWN	UNKWN	_		UNKWN		-	-	-

Circuit Check Between TCM and Data Link Connector **1. CHECK CONNECTOR**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40
- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector and harness connector F33.
- 2. Check continuity between A/T assembly harness connector F9 terminals 3 (L), 8 (P) and harness connector F33 terminals 12 (L), 11 (P).
 - 3 (L) 12 (L)
 - 8 (P) 11 (P)

OK or NG

- OK >> GO TO 3. NG
 - >> Repair harness.



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: Continuity should exist.

: Continuity should exist.

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector E34.
- 2. Check continuity between harness connector E19 terminals 12 (L), 11 (P) and harness connector E34 terminals 24 (L), 23 (P).
 - 12 (L) 24 (L) 11 (P) - 23 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B69.
- Check continuity between harness connector B40 terminals 24 2. (L), 23 (P) and harness connector B69 terminals 51J (L), 52J (P).
 - 24 (L) 51J (L) 23 (P) - 52J (P)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 5. NG >> Repair harness.





5. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M40 terminals 51J (L), 52J (P) and data link connector M22 terminals 6 (L), 14 (P).

- 51J (L) 6 (L) 52J (P) - 14 (P)
- : Continuity should exist.

: Continuity should exist.

OK or NG

>> Connect all the connectors and diagnose again. Refer to OK LAN-116, "Work Flow" . NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R 1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and 3. harness side).
- Harness connector M31
- Harness connector E152

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

LAN-134



- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).

LAN-135

- ECM connector
- Harness connector E19
- Harness connector F33

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

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- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector E16 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and A/T assembly.



TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of A/T assembly for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F9 terminals 3 (L) and 8 (P).

3 (L) - 8 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace A/T assembly.
- NG >> Repair harness between A/T assembly and harness connector F33.



EKS00LGY

Combination Meter Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

EKS00LGX



- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 11 (L) and 12 (P).

11 (L) - 12 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace combination meter.
- NG >> Repair harness between combination meter and data link connector.



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .
- NG >> Repair harness between BCM and data link connector.



1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check the terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

LAN-137



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: Approx. 54 - 66 Ω

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P)

OK or NG

- OK >> Diagnose again. Refer to LAN-116, "Work Flow" .
- NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M47 terminals 3 (L) and 4 (P).

3 (L) - 4 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor and data link connector.



EKS00LH2

Front Air Control Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of front air control for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

OK or NG

- OK
- NG ness connector E152.

ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

CAN SYSTEM (TYPE 4)

LAN-139

PKIA6844E

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34 (L) - 35 (P) OK or NG

1.

1.

OK

NG

OK >> Replace front air control.

2. CHECK HARNESS FOR OPEN CIRCUIT

Disconnect front air control connector.

M50 terminals 34 (L) and 35 (P).

NG

2. Check resistance between front air control harness connector



2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (L) and 15 (P).

11 (L) - 15 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



IPDM E/R Circuit Check

EKS00LH5

[CAN]

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E122 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and harness connector E152.



1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. Disconnect the following module and control unit connectors and check terminals for deformation, discon-3. nection, looseness or damage. ECM A/T assembly Combination meter BCM Steering angle sensor Front air control Transfer control unit ABS actuator and electric unit (control unit) **IPDM E/R** OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14

6 (L) - 14 (P)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

- 6 (L) Ground
- 14 (P) Ground

: Continuity should not exist. : Continuity should not exist.

OK or NG

OK >> Check ECM and IPDM E/R. Refer to LAN-142, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION" . NG

>> Repair harness.



IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START

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Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 39 and 40.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 122
IPDM E/R	39 - 40	100-132



EKS00LH8

System Description

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

Component Parts and Harness Connector Location



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Schematic

EKS00LHB

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BKWA0190E


[CAN]



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

BKWA0685E

LAN-CAN-14



BKWA0420E

[CAN]



[CAN]

Work Flow

EKS00LHD

1. When there are no indications of "AUTO DRIVE POS.", "BCM", "HVAC", "ALL MODE AWD/4WD" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN		SELECT SYSTEM	
			ENGINE	
	CONSULT- II		A/T	
			ABS	
			AIR BAG	
	ENGINE		BCM	
	START (NISSAN BASED VHCL)		METER A/C AMP	
	START (RENAULT BASED VHCL)		mererovoraa	
	SUB MODE			
	LIGHT COPY]	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	TS
, i ,	WORK SUPPORT	DTC RESULTS	TIME
	SELF-DIAG RESULTS	CAN COMM CIRCUIT	0
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTR		
	ACTIVE TEST		
		F.	F.DATA
	Scroll Down	ERASE PR	
	BACK LIGHT COPY	MODE BACK LIGHT	COPY PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-150</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", puts a check mark onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-150, "CHECK SHEET"</u>.

CAUTION:

"ALL MODE AWD/4WD" puts a check mark on the check sheet when "Present" is "UNKWN" and "Past" is "0".

C I	(Example)	CAN D	IAG SU	PPORT	MNTR	
	, , ,	ALL	MODE	AWD/4	WD	
				PRSNT	PAST	
		TRANSM	AIT DIAG	OK	OK	
		ECM		UNKWN	0	
		VDC/TC	S/ABS	UNKWN	39	
		TCM		UNKWN	0	
	_	STRG		ŌK	OK	
		PR	NT			
		MODE	BACK	LIGHT	COPY	SKIB3244E

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NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- According to the check sheet results (example), start inspection. Refer to <u>LAN-152</u>, "CHECK SHEET ^C <u>RESULTS (EXAMPLE)</u>".

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Check sheet table	;										
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
OLLEOT OTOT	EW SOLCON	diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	-		-
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	—	-		UNKWN
HVAC	No indication	—	UNKWN	UNKWN			UNKWN	_	_	UNKWN	—
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	—
ABS	-	NG	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	_	-
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		—		-

Symptoms :

Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM



Revision: July 2007

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-167, "Circuit Check Between TCM</u> and <u>Driver Seat Control Unit"</u>.

				CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Tranemit				Receive of	diagnosis					
011101		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE		NG	UNKWN	-	UNKWN	UNKIVN			UNKON				
A/T		NG	UNKWN	UNKWN	-	UNKWN	-				-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-		
всм	No indication	NG	UNKWN		-	UNKWN	-	_	-	-	UNKWN		
HVAC	No indication	-	UNKWN		-	-	UNKWN	-	-	UNKWN	-		
ALL MODE AWD/4WD	No indication	-	UNKWN		UNKWN	-	_	UNKWN	-	UNKWN	_		
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	—	-		
IPDM E/R	No indication	-	UNKWN		-		UNKWN		-	-	_		

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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-168, "Circuit Check</u> <u>A</u><u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranomit				Receive of	diagnosis			
0222010101	LINISCICCI	diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	UNKIN					UNKWN
A/T		NG	UNKWN	UNKWN	—	UNK	-				-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-
ВСМ	No indication	NG	UNKWN		-	UNKWN	-	-	-	—	UNKWN
HVAC	No indication	-	UNKWN		—	—	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN				_	UNKWN	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		-		-



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Case 3

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Check harness between data link connector and IPDM E/R. Refer to <u>LAN-169</u>, "Circuit Check Between Data <u>Link Connector and IPDM E/R</u>".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Tranemit				Receive of	diagnosis			
011101	LINISCICCI	diagnosis o	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN		UNK	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	—	UNKWN	-				-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	-	_	-	-	
HVAC	No indication	-	UNKWN	UNKWN	—	-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	
ABS		NG	UNKWN	UNKWN	UNKWN	_	—	UNK	UNKWN		_
IPDM E/R	No indication		UNKWN	UNKWN	_		UNKWN		-		_



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Case 4

Check ECM circuit. Refer to LAN-170, "ECM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
011101 0101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKIVN				
A/T		NG	UNKWN	UNKWN		UNKWN	—	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	—	—	-	-
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	—	-	-	—	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	—	-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN		UNKWN	-	—	UNKWN	-	UNKWN	1
ABS		NG	UNKWN	UNKWN	UNKWN	-		UNKWN	UNKWN		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN		-		



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Case 5

Check TCM circuit. Refer to LAN-170, "TCM Circuit Check" .

						CAN DIA	G SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Tranemit				Receive of	liagnosis			
011101 0101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN		UNKWN	-	-	UNKIVN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN		-
IPDM E/R	No indication		UNKWN	UNKWN	-	-	UNKWN		_		_



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Case 6

Check driver seat control unit circuit. Refer to LAN-171, "Driver Seat Control Unit Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
011101 0101		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN		-	_	
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	—	-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		—	-	-



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Case 7

Check combination meter circuit. Refer to LAN-171, "Combination Meter Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranemit				Receive of	diagnosis			
011101010101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE		NG	UNKWN	_	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKINN	-		-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	—	-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	_
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN		-
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		_		_



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Case 8

Check BCM circuit. Refer to LAN-172, "BCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
011101010101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	_	UNKWN	UNKWN	UNK	-	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	_	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	I	-	UNKWN	-	-	UNKWN	—
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_	
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		—	-	



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Case 9

Check data link connector circuit. Refer to LAN-172, "Data Link Connector Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR								
SELECT SYST	EM screen	Initial	Tranemit		Receive diagnosis											
012201 0101			diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/					
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN					
A/T		NG	UNKWN	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	-					
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-					
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	_	-	—	UNKWN					
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN	-					
ALL MODE AWD/4WD	No indication	—	UNKWN	UNKWN	UNKWN		—	UNKWN	-	UNKWN	-					
ABS		NG	UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN		_					
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		_							



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Case 10

Check steering angle sensor circuit. Refer to LAN-173, "Steering Angle Sensor Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
011101 0101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	_	UNKWN	_		UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	-	-	-
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	_	-	—	UNKWN
HVAC	No indication	-	UNKWN	UNKWN		-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	UNKIN	-	UNKWN	1
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKIN	UNKWN	1	_
IPDM E/R	No indication		UNKWN	UNKWN		_	UNKWN		—		



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Case 11

Check front air control circuit. Refer to LAN-173, "Front Air Control Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR						
SELECT SYST	EM screen	Initial	Tranemit	Receive diagnosis										
0000000000	diagn		diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I			
ENGINE		NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN			
A/T		NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-			
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	_	-	-	UNKWN			
HVAC	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-	UNKWN	-			
ALL MODE AWD/4WD	No indication	NG	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-			
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN		-			
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		_		_			



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Case 12

Check transfer control unit circuit. Refer to LAN-174, "Transfer Control Unit Circuit Check" .

			CAN DIAG SUPPORT MNTR												
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis							
		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R				
ENGINE	—	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN				
A/T		NG	UNKWN	UNKWN		UNKWN	-	-	UNKWN	UNKWN	-				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-				
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	—	_	_	-	UNKWN				
HVAC	No indication	-	UNKWN	UNKWN	I	—	UNKWN	-	-	UNKWN	-				
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		—	UNKWN	-	UNKWN	-				
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN		_					
IPDM E/R	No indication		UNKWN	UNKWN	_	_	UNKWN		-	-					



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Case 13

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-174</u>, "<u>ABS Actuator and Electric Unit</u> (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Tranemit				Receive of	diagnosis			
011101010101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	—	UNKWN	-		UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-		-
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	_	_	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	—		UNKWN	-	-	UNKWN	
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN	UNKWN		_	UNKWN	_	UNKWN	
ABS		NE	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN		-
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		-		-



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Case 14

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Check IPDM E/R circuit. Refer to LAN-175, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranemit				Receive	diagnosis			
011101 0101		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN		UNKWN	_	-	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	—
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	—	—	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	—	—	UNKWN	_	_	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	1
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication		UNKWN	UNKWN	_	_	UNKWN		-	-	-



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Case 15

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Check CAN communication circuit. Refer to LAN-175, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranemit				Receive of	diagnosis			
011101010101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNK		UNKWN	UNKWN	UNKWN		UNKVN		UNKIWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKIN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	-	-	-
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
ABS		N		UNKWN	UNKWN	-	_	UNKWN	UNKWN		-
IPDM E/R	No indication	-	UNKWN	UNKWN	_		UNKWN		-	-	-

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-176, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR							
SELECT SYST	EM screen	Initial	Tranemit		Receive diagnosis										
			diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I				
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN		UNKWN				
A/T	-	NG	UNKWN	UNKWN		UNKWN	-	-	UNKWN	UNKWN	-				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	—	-	-	-				
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	_	-	-	UNKWN				
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	_	-		-				
ALL MODE AWD/4WD	No indication	—	UNKWN	UNKWN	UNKWN		—	UNKWN	-	UNKWN	_				
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN	-	-				
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN		—						

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-176, "IPDM E/R Ignition Relay А Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Tranemit				Receive	diagnosis			
0000000000		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	-	UNKIN	-		UNKAVN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN		-	-	-
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	—	-	UNKWN	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN		-	UNKWN	-	UNKWN	_
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN		_
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN		-	—	_

Circuit Check Between TCM and Driver Seat Control Unit **1. CHECK CONNECTOR**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect A/T assembly connector and harness connector F33. 1.
- 2. Check continuity between A/T assembly harness connector F9 terminals 3 (L), 8 (P) and harness connector F33 terminals 12 (L), 11 (P).
 - 3 (L) 12 (L)
 - 8 (P) 11 (P)
- : Continuity should exist. : Continuity should exist.

OK or NG

- OK >> GO TO 3. NG
 - >> Repair harness.

BA A/T assembly connector Harness connector 3 1112 8 3, 8 12, 11 Ω PKIA6831E

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3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector E34.
- Check continuity between harness connector E19 terminals 12 (L), 11 (P) and harness connector E34 terminals 24 (L), 23 (P).
 - 12 (L) 24 (L) 11 (P) - 23 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (L), 23 (P) and driver seat control unit harness connector P2 terminals 3 (L), 19 (P).
 - 24 (L) 3 (L) 23 (P) - 19 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-148, "Work Flow" .
- NG >> Repair harness.

Harness connector 2423 24, 23 24, 23 3 19 3, 19 PKIA6840E

Circuit Check Between Driver Seat Control Unit and Data Link Connector EKSOOLHF 1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector and harness connector B69.
- 2. Check continuity between driver seat control unit harness connector P2 terminals 3 (L), 19 (P) and harness connector B69 terminals 51J (L), 52J (P).
 - 3 (L) 51J (L) 19 (P) - 52J (P)

: Continuity should exist. : Continuity should exist.

OK or NG

OK	>> GO TO 3.
NG	>> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

	A
Check continuity between harness connector 52J (P) and data link connector M22 terminal	M40 terminals 51J (L), s 6 (L), 14 (P).
51J (L) - 6 (L) : Contin	uity should exist.
52J (P) - 14 (P) : Contin	uity should exist.
OK or NG	
OK >> Connect all the connectors and d LAN-148, "Work Flow" .	
NG >> Repair harness.	
	PKIA6834E
Circuit Check Between Data Link	Connector and IPDM E/R
1. CHECK CONNECTOR	
1. Turn ignition switch OFF.	F
2. Disconnect the negative battery terminal.	·
a. Check following terminals and connecto harness side).	's for damage, bend and loose connection (connector side and
 Harness connector M31 	G
- Harness connector E152	
OK or NG OK >> GO TO 2.	Н
NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	r I
1. Disconnect harness connector M31.	
 Check continuity between data link cont (L), 14 (P) and harness connector M31 (P). 	ector M22 terminals 6 erminals 31G (L), 42G
6 (L) - 31G (L) : Contin	uity should exist.
14 (P) - 42G (P) : Contin	uity should exist.
OK or NG	6, 14 SMJ OCONNECTOR
OK >> GO TO 3.	Ω
3. CHECK HARNESS FOR OPEN CIRCUI	PriA0033E
Disconnect IPDM F/R connector	
2. Check continuity between harness con	nector E152 terminals
31G (L), 42G (P) and IPDM E/R harness nals 39 (L), 40 (P).	connector E122 termi-
31G (L) - 39 (L) : Contin	uity should exist.
42G (P) - 40 (P) : Contin	uity should exist.
OK or NG	<u>31G, 42G</u> <u>39, 40</u>

OK >> Connect all the connectors and diagnose again. Refer to LAN-148, "Work Flow".

NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- ECM connector
- Harness connector E19
- Harness connector F33

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector E16 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and A/T assembly.



EKS00LHI

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of A/T assembly for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F9 terminals 3 (L) and 8 (P).

3 (L) - 8 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace A/T assembly.
- NG >> Repair harness between A/T assembly and harness connector F33.



EKS00LHH

[CAN]

	[CAN]
Driver Seat Control Unit Circuit Check 1. CHECK CONNECTOR	EKS00LHJ
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of driver seat control unit for da unit side and harness side). <u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector. 	mage, bend and loose connection (control
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect driver seat control unit connector. Check resistance between driver seat control unit harness cornector P2 terminals 3 (L) and 19 (P). 3 (L) - 19 (P) Approx. 54 - 66 Ω OK or NG OK or NG NG Replace driver seat control unit. NG Repair harness between driver seat control unit and han ess connector B40. 	r-
Combination Meter Circuit Check 1. CHECK CONNECTOR	EKS00LHK
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of combination meter for damage and harness side). <u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector. 	ge, bend and loose connection (meter side
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect combination meter connector. Check resistance between combination meter harness connector M24 terminals 11 (L) and 12 (P). 11 (L) - 12 (P) Approx. 54 - 66 Ω OK or NG Replace combination meter. NG Repair harness between combination meter and dat link connector. 	a

BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-20, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check the terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-148, "Work Flow" .
- NG >> Repair harness between data link connector and combination meter.



EKS00LHL

EKS00LHM

[CAN]

2. Disconnect the negative battery terminal. 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect steering angle sensor connector. 2. Check resistance between steering angle sensor harness connector M47 terminals 3 (L) and 4 (P). 3 (L) - 4 (P) : Approx. 54 - 66 Ω Steering angle sensor connector OK or NG OK >> Replace steering angle sensor. NG >> Repair harness between steering angle sensor and data link connector. Ω PKIA6838E Front Air Control Circuit Check EKS00LHO **1. CHECK CONNECTOR** 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of front air control for damage, bend and loose connection (unit side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect front air control connector. Check resistance between front air control harness connector 2. M50 terminals 34 (L) and 35 (P). 34 (L) - 35 (P) : Approx. 54 - 66 Ω Front air control connector OK or NG 3435 OK >> Replace front air control. NG >> Repair harness between front air control and data link connector. Ω PKIA8136E

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Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

1.

Transfer Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of transfer control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect transfer control unit connector.
- 2. Check resistance between transfer control unit harness connector E142 terminals 7 (L) and 8 (P).

7 (L) - 8 (P)

OK or NG

- OK >> Replace transfer control unit.
- NG >> Repair harness between transfer control unit and harness connector E152.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

: Approx. 54 - 66 Ω

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (L) and 15 (P).

11 (L) - 15 (P)

: **Approx. 54 - 66** Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



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>> GO TO 2.

>> Repair or replace as necessary.

OK or NG OK

NG

3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. D 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect IPDM E/R connector. Е Check resistance between IPDM E/R harness connector E122 2. terminals 39 (L) and 40 (P). BAT 39 (L) - 40 (P) : Approx. 108 - 132 Ω F IPDM E/R connector OK or NG 4039 OK >> Replace IPDM E/R. NG >> Repair harness between IPDM E/R and harness connector E152. Ω Н PKIA8141E **CAN Communication Circuit Check** EKS00LHS **1. CHECK CONNECTOR** Turn ignition switch OFF. 1. J 2. Disconnect the negative battery terminal. 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage. LAN ECM A/T assembly Driver seat control unit Combination meter BCM Steering angle sensor Μ Front air control Transfer control unit ABS actuator and electric unit (control unit) **IPDM E/R**

LAN-175

1. Turn ignition switch OFF.

1. CHECK CONNECTOR

IPDM E/R Circuit Check

- 2. Disconnect the negative battery terminal.

2. CHECK HARNESS FOR SHORT CIRCUIT

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground

- : Continuity should not exist.
- 14 (P) Ground
- : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-176, "ECM/</u> <u>IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>.
- NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-13</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON <u>AND/OR START</u>".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 39 and 40.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	- 108 - 132
IPDM E/R	39 - 40	





EKS00LHU

System Description

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

Component Parts and Harness Connector Location



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EKS00LHW

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PFP:23710

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Schematic

EKS00LHX

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BKWA0001E



[CAN]



*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

BKWA0686E

LAN-CAN-17



BKWA0423E
[CAN]



[CAN]

Work Flow

EKS00LHZ

1. When there are no indications of "AUTO DRIVE POS.", "BCM", "HVAC", "ALL MODE AWD/4WD" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)	METEROVOVIM	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	TS
, i ,	WORK SUPPORT	DTC RESULTS	TIME
	SELF-DIAG RESULTS	CAN COMM CIRCUIT	0
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTR		
	ACTIVE TEST		
		F.	F.DATA
	Scroll Down	ERASE PR	
	BACK LIGHT COPY	MODE BACK LIGHT	COPY PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", "HVAC", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-184</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", puts a check mark onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-184, "CHECK SHEET"</u>.

CAUTION:

"ALL MODE AWD/4WD" puts a check mark on the check sheet when "Present" is "UNKWN" and "Past" is "0".

((Example)	CAN D	IAG SU	PPORT	MNTR	
		ALL	MODE	AWD/4	WD	
				PRSNT	PAST	
	_	TRANSM	AIT DIAG	OK	OK	
		ECM		UNKWN	0	
		VDC/TC	S/ABS	UNKWN	39	
		TCM		UNKWN	0	
		STRG		OK	OK	
		PR	NT			
		MODE	BACK	LIGHT	COPY	SKIB3244E

[CAN]

NOTE:

- А If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diag-В nostic procedure on service manual. So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- С 6. Check CAN communication line of the navigation system. Refer to AV-147, "CAN Communication Line Check".
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to LAN-184, "CHECK SHEET" .
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to LAN-184, "CHECK SHEET" . NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control unit, replace the control unit. Refer to AV-147, "CAN Communication Line Check" .

9. According to the check sheet results (example), start inspection. Refer to LAN-186, "CHECK SHEET F RESULTS (EXAMPLE)" .

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Check sheet table	9	T											
			[CAN	DIAG SU	PPORT N	/NTR				
SELECT SYSTE	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKWN	UNKWN	H	UNKWN	-	-	UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN				-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	-	UNKWN		-			-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	-	CAN CIRC 2		CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	_	-	-		_	UNKWN
HVAC	No indication		UNKWN	UNKWN	_	-	UNKWN	UNKWN		-		UNKWN	_
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN		-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-		UNKWN	-	-			-
Symptoms :													
			Attach	copy of				Attach co	nov of				
			SELECT	SYSTEM			SE	ELECT S					
		L					L						
					Atta	ach copy d	of						
			C		displa	y control	unit TOB chor	ok choot					
			C		00110		TOTTOTIC	SK SHOOL					
													01/1000015
													SKIB3364E



Revision: July 2007

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CHECK SHEET RESULTS (EXAMPLE)

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

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Check harness between TCM and driver seat control unit. Refer to <u>LAN-202, "Circuit Check Between TCM</u> and <u>Driver Seat Control Unit"</u>.

						CAN	DIAG SU	PPORT N	INTR				
	Miccroon	Initial	Tronomit					Receive	diagnosis				
SELECTOTOT	Initial diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN				_	-			
A/T	-	NG	UNKWN	UNKWN	-		-	-	-	-	UNKWN		-
AUTO DRIVE POS.	No indication	NG	UNKWN	1		UNKWN	—	UNKWN	-	—	-	-	—
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CINC 3	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN		1	UNKWN	-	-	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN		-		UNKWN	UNKWN	-	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN			-	-	-	UNKWN	-		UNKWN	-
ABS	-	NG	UNKWN	UNKWN		-	-	-	UNKWN	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN		-			UNKWN			-		-
													SKID2265F



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Case 2

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Check harness between driver seat control unit and data link connector. Refer to <u>LAN-203, "Circuit Check</u> <u>A</u><u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						CAN	DIAG SU	PPORT N	MNTR				
	Meeroon	Initial	Tronomit					Receive	diagnosis	i			
366601 31316	IN SCIEEN	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN		_		-	_	UNKWN	UNKWN	UNK
A/T	-	NG	UNKWN	UNKWN	-		—	-	-	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No inditiation	NG	UNKWN	-	UNKWN	UNKWN		UNKWN	-	_		-	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4			CAN CIRC 7
BCM	No indication	NG	UNKWN			UNKWN	-		-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN		-	-	UNKWN	UNKWN	-	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN				-		UNKWN	-		UNKWN	
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN	-	_
IPDM E/B	No	-	UNKWN	UNKWN		-		UNKWN	-	_			-



Check harness between data link connector and IPDM E/R. Refer to <u>LAN-204</u>, "Circuit Check Between Data <u>Link Connector and IPDM E/R</u>".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYSTE	Miscreen	Initial	Tranemit					Receive of	diagnosis				
	BINE – O DRIVE POS. No indication	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	UNKOVN
A/T	_	NG	UNKWN	UNKWN		UNKWN	-	-	-		UNKWN		-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4		<u> </u>	CAN CINC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	-		-		
HVAC	No indication	-	UNKWN	UNKWN		-	UNKWN	UNKWN	-		-		
ALL MODE AWD/4WD	Ng ind ation		UNKWN	UNKWN	UNKWN	-		-	UNKWN			UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-		-	UNKWN		-
IPDM E/R	Ng indivation	_	UNKWN	UNKWN		-	-	UNKWN	-				



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Case 4

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Check ECM circuit. Refer to LAN-205, "ECM Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Maaraan	Initial	Troposit					Receive	diagnosis				
SELECT STATE	IN SCIEEN	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		-			-		-				
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	—	UNKWN	-	-	-	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CINC 3		CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN		-	UNKWN	-	—	-		-	-	UNKWN
HVAC	No indication	-	UNKWN		1	-	UNKWN	UNKWN	-	—	-	UNKWN	-
ALL MODE AWD/4WD	No indication		UNKWN		UNKWN	-	1	1	UNKWN	-	1	UNKWN	1
ABS	—	NG	UNKWN		UNKWN	-	-	-	UNKWN	-	UNKWN	-	
IPDM E/R	No indication		UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-	



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Check TCM circuit. Refer to LAN-205, "TCM Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Mecroon	Initial	Tropomit					Receive	diagnosis				
322201 31312	ECT SYSTEM screen Initial diagnosi E - NG IRIVE POS. NO indication NG indication NG indication NG indication - CAN COMM NO indication - P DE AWD/4WD NO	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-				-		UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-		-		-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4		-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN		UNKWN					-		UNKWN
HVAC	No indication	-	UNKWN	UNKWN		-	UNKWN	UNKWN	-		-	UNKWN	-
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-			UNKWN			UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	-	—
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-		UNKWN	-	-	-	-	



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Case 6

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Check driver seat control unit circuit. Refer to LAN-206, "Driver Seat Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Mecroon	Initial	Tropomit					Receive	diagnosis				
322201 31312	IN SCIECT	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN		UNKWN	-	—	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	Ι	UNKWN	-	-	-	-	UNKWN	UNKWN	—
AUTO DRIVE POS.	No inditation	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	—		-	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		-	-		-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	1	-	UNKWN	UNKWN	-	-	-	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	1	-	UNKWN	-		UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN		UNKWN		
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-		UNKWN	-				



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Check combination meter circuit. Refer to LAN-206, "Combination Meter Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Mecroon	Initial	Tropomit					Receive	diagnosis				
322201 3131	IN SCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	UNKWN		—	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN		_	-	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		-	UNKWN	-		-		-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CINC 5		CAN CIRC 2	-	CAN CIRC 4		-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN			-	-	-		-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-		UNKWN	1
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-		UNKWN	-		-	-	



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Case 8

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Check display control unit circuit. Refer to LAN-207, "Display Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	1NTR				
	Meeroon	Initial	Tronomit					Receive of	diagnosis				
322201 31312	STEM screen Initial Irr diagnosis dia — NG UN — NG UN DS. No NG unit — CAN COMM	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN		UNKWN	-	_		-	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-	-	
Display control unit	_	CAN COMM	CAN CINC 1	CAN CINC 3		CAN CINC 5	-	CAM CINC 2		CAM CINC 4	-	-	CAN CINC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-		UNKWN	-	-		UNKWN	
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN	UNKWN	-	-	_	UNKWN	_		UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	1	UNKWN	-	UNKWN	-	—
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-		-	



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Check BCM circuit. Refer to LAN-207, "BCM Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Mecroon	Initial	Tropomit					Receive	diagnosis				
322201 3131	IN SCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN			—	—	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN		UNKWN		-	-		UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-		-		-		-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	-	CAN CINC 2	-	CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indivation	NG	UNKWN	UNKWN	1	UNKWN	-	-	-		-	+	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	1	-	UNKWN		-	-	-	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	-		UNKWN		-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-		-		-	-	-



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Case 10

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Check data link connector circuit. Refer to LAN-208, "Data Link Connector Circuit Check" .

						CAN	DIAG SU	PPORT N	1NTR				
	Mecroon	Initial	Tropomit					Receive of	diagnosis				
322201 31312	IN SCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	Ι	UNKWN	-	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN		UNKWN	-	_	—	-	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	—	-	-	-	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4			CAN CIRC 7
BCM	No inditation	NG	UNKWN	UNKWN	-	UNKWN	1	-		-	-		UNKWN
HVAC	No inditation	-	UNKWN	UNKWN			UNKWN	UNKWN				UNKWN	
ALL MODE AWD/4WD	No inditation		UNKWN	UNKWN	UNKWN	-		_	UNKWN			UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	-	—
IPDM E/R	No inditation	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-	



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Check steering angle sensor circuit. Refer to LAN-208, "Steering Angle Sensor Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYSTE	Miscreen	Initial	Tranemit					Receive	diagnosis				
	IN SOLCON	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	1	UNKWN	UNKWN	—	UNKWN	-	—	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN		_	-	-	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	—	UNKWN	-	-	-	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4		-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN					-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN		-	UNKWN	UNKWN	-			UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-		_			-	UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	—	-		-	UNKWN	-	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-		UNKWN	-		-	-	



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Case 12

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Check front air control circuit. Refer to LAN-209, "Front Air Control Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Meeroon	Initial	Tronomit					Receive	diagnosis	i			
36601 31316	IN SCIEEN	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN		UNKWN	-	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN		_		-	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5		CAN CIRC 2	-	CAM CINC 4		-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	-	-	-	-	UNKWN
HVAC	No inditation	-	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-			UNKWN			UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN		-		UNKWN	-	-		-	



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Check transfer control unit circuit. Refer to LAN-209, "Transfer Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Mecroon	Initial	Tropomit					Receive	diagnosis				
322201 3131	IN SCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	1	UNKWN	UNKWN	-	UNKWN	—	-		UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN		_	-	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-		-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4			CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	-	-		-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	1	-	UNKWN	-
ALL MODE AWD/4WD	No inditation	-	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	1	-	UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	—	-	UNKWN	-		-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-			_



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Case 14

Revision: July 2007

А Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-210, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Meeroon	Initial	Tronomit					Receive	diagnosis				
36660131316	IN SCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		UNKWN
A/T	_	NG	UNKWN	UNKWN		UNKWN			-	-	UNKWN		—
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN		UNKWN	-	-			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4			CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN		-	UNKWN	UNKWN	-	-			
ALL MODE AWD/4WD	No indication	_	UNKWN	UNKWN	UNKWN	-		-	UNKWN	_	-		
ABS	_	N	UNKIN		UNKWN	-	-	-		-		-	-
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-	-	-	-



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Check IPDM E/R circuit. Refer to LAN-210, "IPDM E/R Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYSTE	Miscreen	Initial	Tranemit					Receive	diagnosis				
	IN SOLCON	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	1	NG	UNKWN	-	UNKWN	UNKWN		UNKWN	-	-	UNKWN	UNKWN	UNK
A/T	-	NG	UNKWN	UNKWN	-	UNKWN		-	-	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-		-		-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4		-	CAN CINC 7
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	-		-	-	UNK
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	-	-
IPDM E/R	No inditation		UNKWN	UNKWN	-	-		UNKWN	-	-		-	-

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Case 16

Check CAN communication circuit. Refer to LAN-211, "CAN Communication Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
	Meeroon	Initial	Tronomit					Receive	diagnosis				
366601 31316	IN SCIEEN	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN				-	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKIN	-			-	—	-	UNKIN		-
AUTO DRIVE POS.	No indivation	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	-	-	-		
Display control unit	_	CAN COMM	CAN CINC 1	CAN CINC 3	-	CAN CINC 5	-	CAN CINC 2	-	CAN CINC 4	-	-	CAN CINC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	-	-	UNKWN
HVAC	No indication	_	UNKWN	UNKWN	—	-	UNKWN	UNKWN	-	-	-	UNKWN	
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN	UNKWN	-		-	UNKWN	-	-	UNKWN	
ABS	-	NØ	UNKWN	UNKIN	UNK	-	-	-	UNKWN	-	UNK	-	
IPDM E/R	No inditation		UNKWN	UNKWN	-	-		UNKWN	_	-	-	-	

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-211</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
	Maaroon	Initial	Tronomit					Receive	diagnosis				
36601 31316	IN SCIEEN	diagnosis	diagnosis	ECM	тсм	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_		UNKWN	_	UNKWN	-	-	UNKWN		UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN		_	-	-	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	-		UNKWN	-	UNKWN	-		-	-	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	1	UNKWN	-	-	-	-	-	+	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	1	1	UNKWN	UNKWN	-	1	-		—
ALL MODE AWD/4WD	No indication		UNKWN	UNKWN		1	1	-	UNKWN	1			
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-	-

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Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-211, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYSTE	Miscreen	Initial	Tranemit				-	Receive	diagnosis				
		diagnosis	diagnosis	ECM	ТСМ	METER /M&A	DISPLAY	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	I	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-			_	-	-	UNK	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	—	UNKWN	—	-	-	-	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 5		CAN CIRC 2	-	CAN CIRC 4	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	-	-	-	-	UNKWN
HVAC	No indication	-	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-	-	-	UNKWN	-
ALL MODE AWD/4WD	No indication	-	UNKWN	UNKWN	UNKWN	_		-	UNKWN	_	-	UNKWN	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-		-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	1	-	-	UNKWN	-	-	-	-	-

Circuit Check Between TCM and Driver Seat Control Unit

EKS00LI0

1. Turn ignition switch OFF.

1. CHECK CONNECTOR

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40
- OK or NG
- OK >> GO TO 2.
- NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector and harness connector F33.
- Check continuity between A/T assembly harness connector F9 terminals 3 (L), 8 (P) and harness connector F33 terminals 12 (L), 11 (P).
 - 3 (L) 12 (L)
 - 8 (P) 11 (P)



- OK >> GO TO 3.
- NG >> Repair harness.



: Continuity should exist.

: Continuity should exist.

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector E34.
- Check continuity between harness connector E19 terminals 12 (L), 11 (P) and harness connector E34 terminals 24 (L), 23 (P).
 - 12 (L) 24 (L) 11 (P) - 23 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness.



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Driver seat control

PKIA6840E

EKS00L11

unit connector

3, 19

Harness connector

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24, 23

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4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (L), 23 (P) and driver seat control unit harness connector P2 terminals 3 (L), 19 (P).
 - 24 (L) 3 (L)
 - 23 (P) 19 (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-182, "Work Flow" .
- NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and Data Link Connector 1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector and harness connector B69.
- Check continuity between driver seat control unit harness connector P2 terminals 3 (L), 19 (P) and harness connector B69 terminals 51J (L), 52J (P).
 - 3 (L) 51J (L) 19 (P) - 52J (P)

: Continuity should exist. : Continuity should exist.

OK or NG

OK	>> GO TO 3.
NG	>> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M40 terminals 51J (L), 52J (P) and data link connector M22 terminals 6 (L), 14 (P).

- 51J (L) 6 (L)
- 52J (P) 14 (P)
- : Continuity should exist. : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-182, "Work Flow".
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

1. CHECK CONNECTOR

EKS00LI2

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M31
- Harness connector E152

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M31.
- Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M31 terminals 31G (L), 42G (P).
 - 6 (L) 31G (L) 14 (P) - 42G (P)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (L), 42G (P) and IPDM E/R harness connector E122 terminals 39 (L), 40 (P).
 - 31G (L) 39 (L) 42G (P) - 40 (P)

: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-182, "Work Flow" .

NG >> Repair harness.





- 1. Disconnect A/T assembly connector.
- Check resistance between A/T assembly harness connector F9 terminals 3 (L) and 8 (P).

3 (L) - 8 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace A/T assembly.
- NG >> Repair harness between A/T assembly and harness connector F33.



Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of driver seat control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check resistance between driver seat control unit harness connector P2 terminals 3 (L) and 19 (P).

3 (L) - 19 (P)

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B40.

: Approx. 54 - 66 Ω



Combination Meter Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 11 (L) and 12 (P).

11 (L) - 12 (P)

: **Approx. 54 - 66** Ω

OK or NG

- OK >> Replace combination meter.
- NG >> Repair harness between combination meter and data link connector.



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2. Disconnect the negative battery terminal.

Display Control Unit Circuit Check

3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

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OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 54 - 66 Ω



- OK >> Replace BCM. Refer to <u>BCS-20, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check the terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P)

: **Approx. 54 - 66** Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-182, "Work Flow" .
- NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

- OK >> GO TO 2.
- NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M47 terminals 3 (L) and 4 (P).

3 (L) - 4 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor and data link connector.



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OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect front air control connector. 1. 2. Check resistance between front air control harness connector M50 terminals 34 (L) and 35 (P). BAT 34 (L) - 35 (P) : Approx. 54 - 66 Ω Front air control connector OK or NG OK >> Replace front air control. NG >> Repair harness between front air control and data link connector. Ω PKIA8136E **Transfer Control Unit Circuit Check** EKS00LIC **1. CHECK CONNECTOR** 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of transfer control unit for damage, bend and loose connection (control unit side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect transfer control unit connector. 2. Check resistance between transfer control unit harness connector E142 terminals 7 (L) and 8 (P). 7 (L) - 8 (P) : Approx. 54 - 66 Ω Transfer control unit connector OK or NG OK >> Replace transfer control unit. >> Repair harness between transfer control unit and har-NG ness connector E152.

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Front Air Control Circuit Check

1. CHECK CONNECTOR

Revision: July 2007

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of front air control for damage, bend and loose connection (unit side and harness side).



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ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (L) and 15 (P).

11 (L) - 15 (P)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E122 terminals 39 (L) and 40 (P).

39 (L) - 40 (P)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and harness connector E152.



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CAN Communication Circuit Check

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1.	CHECK CONNECTOR	A
1.	Turn ignition switch OFF.	
2.	Disconnect the negative battery terminal.	В
3.	Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.	
_	ECM	С
-	A/T assembly	
-	Driver seat control unit	
_	Combination meter	D
_	Display control unit	
-	BCM	E
-	Steering angle sensor	
-	Front air control	
-	Transfer control unit	F
-	ABS actuator and electric unit (control unit)	
-	IPDM E/R	
<u> </u>	or NG	G
O	K >> GO TO 2.	
N	G >> Repair or replace as necessary.	Н
2.	CHECK HARNESS FOR SHORT CIRCUIT	
Wit con (P).	h all module and control unit connectors disconnected, check atinuity between data link connector M22 terminals 6 (L) and 14	I
	6 (L) - 14 (P) : Continuity should not exist.	.
OK	or NG	0
0	K >> GO TO 3.	
N	G >> Repair harness.	LA
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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

- 6 (L) Ground
- 14 (P) Ground

: Continuity should not exist. : Continuity should not exist.

OK or NG

OK >> Check ECM and IPDM E/R. Refer to LAN-212, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION" . NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START" .

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Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 39 and 40.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	39 - 40	



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