SECTION LAN SYSTEM

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PRECAUTIONS

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

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

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.
- 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.
- 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

When connecting CONSULT-II to data link connector, connect them through CONSULT-II CONVERTER.

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.
- If NO, GO TO 5.
- 2. Is there any indication other than indications relating to CAN communication system in the self-diagnosis results?
- 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.
- 5. Diagnose CAN communication system. Refer to LAN-8, "CAN Communication Unit" .

Precautions For Trouble Diagnosis CAN SYSTEM

AKS004YN

- 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.

AKS004YM

PRECAUTIONS

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)]



[CAN]

 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.)



J

I

LAN

L

M

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	Wagon															
Axle		2WD AWD														
Engine	VQ35DE															
Transmission		CVT														
Brake control	ABS VDC ABS VI					DC										
Low tire pressure warning system					×	×	×	×					×	×	×	×
Navigation system		×		×		×		×		×		×		×		×
Automatic drive positioner			×	×			×	×			×	×			×	×
CAN system type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CAN system trouble diag- nosis	<u>LA</u> <u>N-</u> <u>23</u>	<u>LA</u> <u>N-</u> 52	<u>LA</u> <u>N-</u> <u>81</u>	<u>LA</u> <u>N-</u> <u>115</u>	<u>LA</u> <u>N-</u> 149	<u>LA</u> <u>N-</u> <u>182</u>	<u>LA</u> <u>N-</u> <u>215</u>	<u>LA</u> <u>N-</u> 252	<u>LA</u> <u>N-</u> 289	<u>LA</u> <u>N-</u> <u>321</u>	<u>LA</u> <u>N-</u> <u>353</u>	<u>LA</u> <u>N-</u> <u>389</u>	<u>LA</u> <u>N-</u> 425	<u>LA</u> <u>N-</u> <u>460</u>	<u>LA</u> <u>N-</u> <u>496</u>	<u>LA</u> <u>N-</u> <u>536</u>

 \times : Applicable

TYPE 1/TYPE 2/TYPE 3/TYPE 4

System Diagram

Type1



[CAN]

AKS004YP

AKS00ASC



ECM

Data link

connector

Display

control unit

тсм

SKIA4908E

IPDM E/R

ABS

actuator and

electric unit

(control unit)

Driver seat

control unit

Input/output Signal Chart

Signals	ECM	тсм	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	ABS actua- tor and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R		R		R			
Engine status signal	Т				R				
Engine coolant temperature signal	Т					R			
CVT position indicator signal		Т				R			
Second position signal		R				Т			
Second position indicator signal		Т				R			
Engine and CVT integrated control	Т	R							
signal	R	Т							
Accelerator pedal position signal	Т	R							
Closed throttle position signal	Т	R							
Wide open throttle position signal	Т	R							
Key switch signal					Т		R		
Ignition switch signal					Т		R		R
P range signal		Т					R		
Stop lamp switch signal		R				Т			
Fuel consumption monitor signal	Т					R			
CVT self-diagnosis signal	R	Т							
ABS operation signal		R						Т	
A/C switch signal	R				Т				
A/C compressor request signal	Т								R
Blower fan motor switch signal	R				Т				
			т	Т		R			
A/C switch/indicator signal			R	R		Т			
Cooling fan speed request signal	Т								R
Position lights request signal					Т	R			R
Low beam request signal					Т				R
Low beam status signal	R								Т
High beam request signal					Т	R			R
High beam status signal	R								Т
Front fog lights request signal					Т				R
		R				R		Т	
Vehicle speed signal	R			R	R	Т	R		
Sleep request 1 signal					Т	R			
Sleep request 2 signal					Т				R
Door switch signal			R	R	Т	R	R		R
Turn indicator signal					т	R			
Key fob ID signal					Т		R		
Key fob door unlock signal					Т		R		
Seat belt buckle switch signal					R	Т			

Revision: 2004 November

T: Transmit R: Receive

Signals	ECM	ТСМ	Display unit	Display control unit	BCM	Unified meter and A/C amp.	Driver seat control unit	ABS actua- tor and electric unit (control unit)	IPDM E/R	A
Oil pressure switch signal					R				Т	0
					Т	R				C
Buzzer output signal					Т	R				_
Fuel level sensor signal	R					Т				D
Fuel level low warning signal			R	R		Т				_
Malfunction indicator lamp signal	Т					R				
ASCD SET lamp signal	Т					R				E
ASCD CRUISE lamp signal	Т					R				
Input shaft revolution signal	R	Т								F
Output shaft revolution signal	R	Т								
Front wiper request signal					Т				R	
Front wiper stop position signal					R				Т	G
Rear window defogger switch signal					Т				R	
Rear window defogger control signal	R		R	R					Т	Ц
Theft warning horn request signal					Т				R	11
Horn chirp signal					Т				R	
ABS warning lamp signal						R		Т		
Brake warning lamp signal						R		Т		
Sustam patting signal			Т	Т	R		R			
System setting signal			R	R	Т		Т			J
Distance to empty signal			R	R		Т				
Manual mode signal		R				Т				LAN
Not manual mode signal		R				Т				
Manual mode shift up signal		R				Т				
Manual mode shift down signal		R				Т				L
Manual mode indicator signal		Т				R				_

Μ

TYPE 5/TYPE 6/TYPE 7/TYPE 8 System Diagram

• Type5



Type6



Type7





Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sen- sor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	G H
Engine speed signal	Т	R			R		R			R		1
Engine status signal	Т					R						J
Engine coolant temperature signal	Т						R					
Engine and CVT integrated control	Т	R										LAN
signal	R	Т										
Accelerator pedal position signal	Т	R								R		
Closed throttle position signal	Т	R										
Wide open throttle position signal	Т	R										
Key switch signal						Т			R			Μ
Ignition switch signal						Т			R		R	
P range signal		Т							R	R		
Stop lamp switch signal		R					Т					
VDC operation signal		R								Т		
Second position indicator signal		Т					R			R		
Second position signal		R					Т					
Fuel consumption monitor signal	Т						R					
CVT self-diagnosis signal	R	Т										
Input shaft 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						

Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sen- sor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
A/C switch/indicator signal				Т	Т		R				
				R	R		Т				
Cooling fan speed request signal	Т										R
Position lights request signal						Т	R				R
Low beam request signal						Т					R
Low beam status signal	R										Т
High beam request signal						Т	R				R
High beam status signal	R										Т
Front fog lights request signal						Т					R
Vehicle speed signal		R					R			Т	
	R		R		R	R	Т		R		
Sleep request 1 signal						Т	R				
Sleep request 2 signal						Т					R
Door switch signal				R	R	Т	R		R		R
Turn indicator signal						Т	R				
Key fob ID signal						Т			R		
Key fob door unlock signal						Т			R		
Seat belt buckle switch signal						R	Т				
Oil pressure switch signal						R T	R				Т
Buzzer output signal						Т	R				
Fuel level sensor signal	R						Т				
Fuel level low warning signal				R	R		Т				
Malfunction indicator signal	Т						R				
ASCD SET lamp signal	Т						R				
ASCD CRUISE lamp signal	Т						R				
Front wiper request signal						т					R
Front wiper stop position signal						R					т
Rear window defogger switch signal						т					R
Rear window defogger control signal	R			R	R						Т
Theft warning horn request signal						т					R
Horn chirp signal						т					R
Steering angle sensor signal						•		т		R	
			т				P	•		IX.	
Tire pressure data signal			' т	P	P						
CVT position indicator signal		т	1	IX	IX		D			D	
		I								к т	
							ĸ				
VDC OFF Indicator lamp signal	1	1	1			1	ĸ		1		

Revision: 2004 November

Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sen- sor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	A B C
SLIP indicator lamp signal							R			Т		
Brake warning lamp signal							R			Т		D
System setting signal				Т	Т	R			R			
System setting signal				R	R	Т			Т			
Distance to empty signal				R	R		Т					E
Manual mode signal		R					Т					
Not manual mode signal		R					Т					F
Manual mode shift up signal		R					Т					1
Manual mode shift down signal		R					Т					
Manual mode indicator signal		Т					R					G
TYPE 9/TYPE10/TYPE 11/7 System Diagram	TYPE 1	2										Н

Type9





• Type11



• Type12



Input/output Signal Chart

Signals	ECM	ТСМ	Dis- play unit	Dis- play control unit	BCM	Uni- fied meter and A/ C amp.	Driver seat control unit	AWD control unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
CVT position indicator signal		Т				R					
Second position signal		R				Т					D
Second position indicator signal		т				R					
Engine speed signal	Т	R		R		R		R			_
Engine status signal	Т				R						
Engine coolant temperature signal	Т					R					
Accelerator pedal position signal	Т	R						R			F
Closed throttle position signal	Т	R									
Wide open throttle position signal	Т	R									
Key switch signal					Т		R				G
Ignition switch signal					Т		R			R	
P range signal		Т					R				Н
								R	Т		
Stop lamp switch signal		R				Т					
Fuel consumption monitor signal	Т					R					
CVT self-diagnosis signal	R	Т									
ABS operation signal		R							Т		.1
A/C switch signal	R				Т						0
A/C compressor request signal	Т									R	
Blower fan motor switch signal	R				Т						LA
A/C switch/indicator signal			T R	T R		R T					
Cooling fan speed request signal	т									R	
Position lights request signal					т	R				R	
Low beam request signal					т					R	M
Low beam status signal	R									т	
High beam request signal					т	R				R	
High beam status signal	R									т	
Front fog lights request signal					т					R	
		R				R		R	Т		
Vehicle speed signal	R			R	R	т	R				
Sleep request 1 signal					т	R					
Sleep request 2 signal					Т					R	
Door switch signal			R	R	Т	R	R			R	
Key fob ID signal					Т		R				
Key fob door unlock signal					Т		R				
Turn indicator signal					Т	R					
Seat belt buckle switch signal					R	Т					

Revision: 2004 November

[CAN]

T: Transmit R: Receive A

Signals	ECM	ТСМ	Dis- play unit	Dis- play control unit	BCM	Uni- fied meter and A/ C amp.	Driver seat control unit	AWD control unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Oil pressure switch signal					R					Т
					T	R				
Buzzer output signal					Т	R				
Fuel level sensor signal	R					Т				
Fuel level low warning signal			R	R		Т				
Malfunction indicator lamp signal	Т					R				
ASCD SET lamp signal	Т					R				
ASCD CRUISE lamp signal	Т					R				
Input shaft revolution signal	R	Т								
Output shaft revolution signal	R	Т								
Front wiper request signal					Т					R
Front wiper stop position signal					R					Т
Rear window defogger switch signal					Т					R
Rear window defogger control signal	R		R	R						Т
Engine and CVT integrated control	Т	R								
signal	R	Т								
Theft warning horn request signal					Т					R
Horn chirp signal					Т					R
ABS warning lamp signal						R			Т	
Brake warning lamp signal						R			Т	
System setting signal			Т	Т	R		R			
			R	R	Т		Т			
AWD warning lamp signal						R		Т		
AWD lock indicator lamp signal						R		Т		
AWD lock switch signal						Т		R		
Parking brake switch signal						Т		R		
Distance to empty signal			R	R		Т				
Manual mode signal		R				Т				
Not manual mode signal		R				Т				
Manual mode shift up signal		R				Т				
Manual mode shift down signal		R				Т				
Manual mode indicator signal		Т				R				

TYPE 13/TYPE 14/TYPE 15/TYPE 16 System Diagram



А

В

С

D

Е

F

Н

J

L

Μ

AWD

control unit

IPDM E/R

SKIA4930E

BCM

Type13



ECM

тсм



Data link

connector

Display

control unit



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Steer ing angle sen- sor	Drive r seat con- trol unit	AWD con- trol unit	ABS actu- ator and elec- tric unit (con- trol unit)	IPDM E/R
Engine and CVT integrated control	Т	R										
signal	R	Т										
Second position signal		R					Т					
VDC operation signal		R									Т	
Ston Jamp switch signal										R	Т	
Stop lamp switch signal		R					Т					
Key switch signal						Т			R			
Ignition switch signal						Т			R			R
P range signal		Т							R		R	
Closed throttle position signal	Т	R										
Wide open throttle position signal	Т	R										
Second position indicator signal		Т					R				R	
Engine speed signal	Т	R			R		R			R	R	
Engine status signal	Т					R						
Engine coolant temperature signal	Т						R					
Accelerator pedal position signal	Т	R								R	R	
Fuel consumption monitor signal	Т						R					
CVT self-diagnosis signal	R	Т										
Input shaft revolution signal	R	Т										
Output shaft revolution signal	R	Т										
A/C switch signal	R					Т						
A/C compressor request signal	Т											R

Revision: 2004 November

Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Steer ing angle sen- sor	Drive r seat con- trol unit	AWD con- trol unit	ABS actu- ator and elec- tric unit (con- trol unit)	IPDM E/R	A B C
Blower fan motor switch signal	R					Т							
				Т	Т		R						D
A/C switch/indicator signal				R	R		Т						
Cooling fan speed request signal	Т											R	
Position lights request signal						Т	R					R	E
Low beam request signal						Т						R	
Low beam status signal	R											Т	F
High beam request signal						Т	R					R	Γ
High beam status signal	R											Т	
Front fog lights request signal						Т						R	G
		R					R			R	Т		
Vehicle speed signal	R		R		R	R	Т		R				
Sleep request 1 signal						Т	R						Π
Sleep request 2 signal						Т						R	
Door switch signal				R	R	Т	R		R			R	I
Turn indicator signal						Т	R						
Key fob ID signal						Т			R				
Key fob door unlock signal						Т			R				J
Seat belt buckle switch signal						R	Т						
						R						Т	LAN
Oil pressure switch signal						Т	R						
Buzzer output signal						Т	R						
Fuel level sensor signal	R						Т						L
Fuel level low warning signal				R	R		Т						
Malfunction indicator signal	Т						R						ЪЛ
ASCD SET lamp signal	Т						R						IVI
ASCD CRUISE lamp signal	Т						R						
Front wiper request signal						Т						R	
Front wiper stop position signal						R						Т	
Rear window defogger switch signal						Т						R	
Rear window defogger control signal	R			R	R							Т	
Theft warning horn request signal						Т						R	
Horn chirp signal						Т						R	
Steering angle sensor signal								Т			R		
Tire pressure signal			Т				R						
Tire pressure data signal			Т	R	R								
CVT position indicator signal		Т					R				R		
ABS warning lamp signal							R				Т		

Revision: 2004 November

Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	BCM	Uni- fied meter and A/C amp.	Steer ing angle sen- sor	Drive r seat con- trol unit	AWD con- trol unit	ABS actu- ator and elec- tric unit (con- trol unit)	IPDM E/R
VDC OFF indicator lamp signal							R				Т	
SLIP indicator lamp signal							R				Т	
Brake warning lamp signal							R				Т	
System setting signal				Т	Т	R			R			
Cystem setting signal				R	R	Т			Т			
AWD warning lamp signal							R			Т		
AWD lock indicator lamp signal							R			Т		
AWD lock switch signal							Т			R		
Parking brake switch signal							Т			R		
Distance to empty signal				R	R		Т					
Manual mode signal		R					Т					
Not manual mode signal		R					Т					
Manual mode shift up signal		R					Т					
Manual mode shift down signal		R					Т					
Manual mode indicator signal		Т					R					

PFP:23710

[CAN]

AKS0068S

AKS0068T

А

В

D

F

E

Н

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



-

LAN

L

Μ

Schematic



AKS0069A



TKWB0121E

[CAN]



TKWA0790E

[CAN]

LAN-CAN-02



TKWB0122E

[CAN]

LAN-CAN-03 A



TKWB0125E

Work Flow

AKS00ASL

[CAN]

1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP" 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		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT D	IAG MOD	E	SE	LF-DIAG	RESUL	TS	
(WORK S	UPPORT		DTC	RESUL	rs	TIME	
	SELF-DIAG	G RESULT	гs	CAN C		RCUIT	0	
	DATA M	ONITOR			01000			
	DATA MONI	TOR (SPI	EC)					
	CAN DIAG SU	PPORT N	INTR					
	ACTIV	E TEST						
						E	F.DATA	
		Scroll	Down	ERA	\SE	PR	INT	
	BACK	LIGHT	COPY	MODE	BACK	LIGHT	COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "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-30</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>30, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.
- 7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-30, "CHECK SHEET" .
- Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-30, "CHECK SHEET"</u>.

LAN-28

	NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit, Refer to AV-101, "CAN Communication Line Check".
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-32</u> , "CHECK SHEET <u>RESULTS (EXAMPLE)</u> ".

-

CHECK SHEET

NOTE:

1

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

					CAN DIA	AG SUPPOR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	SIS METER /M&A	VDC/TCS /ABS	IPDM E/
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN
FRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	CAN 7
ЗСМ	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	-	-	_	_	-	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	-	_
		Att	ach copy of ECT SYSTEI	м		Attach SELECT	copy of SYSTEM			
			CA	Attac disı N DIAG MO	ch copy of olay unit NITOR chec	k sheet				



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 data link connector. Refer to <u>LAN-43, "Circuit Check Between TCM and</u> <u>Data Link Connector"</u>.

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Tranamit			Re	ceive diagno	sis				
	EW Sereen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	-		
Display unit	-	CAN COMM	CAN 1	САЛ З	_	-	CAN 2	CAN 5	_	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		

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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-43</u>, <u>A</u> <u>"Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

						CAN DIAG SUPPORT MNTR								
SELECT SYST	FM screen	Initial	Tronomit			Re	ceive diagno	sis						
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS					
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN				
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_				
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	C 📢 7				
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	UNKWN				
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_				
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	-	_				
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_				



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Case 3

Check ECM circuit. Refer to LAN-44, "ECM Circuit Check" .

				CAN DIAG SUPPORT MNTR								
SELECT SYST	FM screen	Initial	Tranomit			Re	ceive diagno	sis	VDC/TCS /ABS UNKWN - UNKWN - UNKWN -			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A		IPDM E/F		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	_		
Display unit	-	CAN COMM	CAN 1	САЛ З	_	_	CAN 2	CAN 5	-	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
ABS	-	NG	UNKWN	UNKWN	_	-	_	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		



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Case 4

Check TCM circuit. Refer to LAN-45, "TCM Circuit Check" .

				CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis				
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	_	—	—	UNKWN	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
ABS	-	NG	UNKWN	UNKWN	_	-	—	_	-	_		
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	UNKWN	_	_	_		



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Case 5

Check display unit circuit. Refer to LAN-45, "Display Unit Circuit Check" .

				CAN DIAG SUPPORT MNTR								
SELECT SYST	SELECT SYSTEM screen		Transmit	Receive diagnosis								
022201 0101	Liviooroon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	_		
Display unit	-	CAN COMM	C 📢 1	С 🔊 З	_	-	C 📢 2	C 📢 5	_	C 📢 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		


Case 6

Check data link connector circuit. Refer to LAN-46, "Data Link Connector Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	FM screen	Initial	Tronomit	Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	Ι	CAN 2	CAN 5	_	CAN 7		
ВСМ	No indication	NG	UNKWN	UNKWN	—	Ι	_	UNKWN	—	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	—		
ABS	-	NG	UNKWN	UNKWN	_	-	-	_	_	—		
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	UNKWN	_	_	_		



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Case 7

Check BCM circuit. Refer to LAN-46, "BCM Circuit Check" .

Initial diagnosis	Transmit			Re	ceive diagno	sis						
diagnosis	diagnosis			Receive diagnosis								
	5	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F				
NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	UNKWN				
on NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN					
CAN COMM	CAN 1	CAN 3	-	_	C 📢 2	CAN 5	_	CAN 7				
on NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN				
on —	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_				
NG	UNKWN	UNKWN	_	-	_	_	-	-				
on —	UNKWN	UNKWN	_	_		_	-	-				
ic	ion NG CAN COMM ion NG ion - NG ion -	ion NG UNKWN CAN COMM CAN 1 ion NG UNKWN ion — UNKWN ion — UNKWN ion — UNKWN ion — UNKWN	ion NG UNKWN UNKWN CAN COMM CAN 1 CAN 3 ion NG UNKWN UNKWN ion - UNKWN UNKWN NG UNKWN UNKWN ion - UNKWN UNKWN UNKWN UNKWN	ion NG UNKWN UNKWN - CAN COMM CAN 1 CAN 3 - ion NG UNKWN UNKWN - ion - UNKWN UNKWN UNKWN NG UNKWN UNKWN - ion - UNKWN UNKWN - ion - UNKWN UNKWN -	ion NG UNKWN UNKWN — — CAN COMM CAN 1 CAN 3 — — ion NG UNKWN UNKWN — — ion — UNKWN UNKWN UNKWN UNKWN NG UNKWN UNKWN UNKWN — — ion — UNKWN UNKWN — —	ion NG UNKWN UNKWN - - CAN COMM CAN 1 CAN 3 - - Can 2 ion NG UNKWN UNKWN - - - ion - UNKWN UNKWN UNKWN UNKWN UNKWN NG UNKWN UNKWN UNKWN - - - ion - UNKWN UNKWN - - -	ion NG UNKWN UNKWN - - - UNKWN CAN COMM CAN 1 CAN 3 - - CAN 2 CAN 5 ion NG UNKWN UNKWN - - UNKWN ion - UNKWN UNKWN UNKWN - - NG UNKWN UNKWN - - - ion - UNKWN UNKWN - - NG UNKWN UNKWN - - - ion - UNKWN UNKWN - -	ion NG UNKWN UNKWN - - - UNKWN UNKWN CAN COMM CAN 1 CAN 3 - - CAY 2 CAN 5 - ion NG UNKWN UNKWN - - - UNKWN - ion - UNKWN UNKWN UNKWN UNKWN - - UNKWN NG UNKWN UNKWN - - - - - ion - UNKWN UNKWN - - - - ion - UNKWN UNKWN - - - - ion - UNKWN UNKWN - - - -				



Case 8

Check unified meter and A/C amp. circuit. Refer to LAN-47, "Unified Meter and A/C Amp. Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	-		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	C 📢 5	-	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-		
ABS	-	NG	UNKWN	UNKWN	—	-	-	_	-	-		
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	_	_	-		



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Case 9

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-47</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

	SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
			Tranamit	Receive diagnosis								
SELECT STSTEM screen		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	-	UNKWN	UNKWN	—		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	—	—	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_		_		
ABS	-	v ∕a	UNKWN	UNKWN	_	_	_	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		



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Case 10

Check IPDM E/R circuit. Refer to LAN-48, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	FM screen	Initial	Tronomit	Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	-		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	C 📢 7		
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-		
ABS	-	NG	UNKWN	UNKWN	_	-	-	_	_	-		
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	-	_		



Case 11

Check CAN communication circuit. Refer to LAN-48, "CAN Communication Circuit Check" .

					CAN DI	AG SUPPOF	TMNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	-
Display unit	-	CAN COMM	C 📢 1	С 📢 З	_	-	C 📢 2	C 📢 5	-	C 📢 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	Ι	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
ABS	-	V	UNKWN	UNKWN	-	-	_	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	UNKWN	-	-	-
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										DVIA92565

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Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-51</u>, "IPDM E/R Ignition Relay <u>Circuit Check</u>".

			CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial			Receive diagnosis								
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	-			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_		-			
ABS	-	NG	UNKWN	UNKWN	_	-	_	_	-	-			
IPDM E/R	No indication	-	UNKWN	UNKWN	—	-	UNKWN	-	-	-			

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-51</u>, "IPDM E/R Ignition Relay Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR				
SELECT SYST	FM screen	Initial Transmit		Receive diagnosis							
SELECT STSTEM SCIENT		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	-	
Display unit	-	CAN COMM	CAN 1	CAN 3	—	-	CAN 2	CAN 5	_	CAN 7	
BCM	No indication	NG	UNKWN	UNKWN	—	-	—	UNKWN	-	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	—	
ABS	-	NG	UNKWN	UNKWN	_	_	-	_	-	_	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-	-	
										DKIV 8328E	

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Disconnect ECM connector and harness connector M82. 4 Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y). 8 (L) - 6 (L) : Continuity should exist. Data link connector 9 (Y) - 14 (Y) : Continuity should exist. Harness connector 14 98 OK or NG 6 8,9 6,14 OK >> Connect all the connectors and diagnose again. Refer to LAN-28, "Work Flow" . Ω NG >> Repair harness. SKIA5014E Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) AKS0068Z 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 M9 Harness connector B2 Harness connector B4 Harness connector E105 OK or NG OK >> GO TO 2. LAN NG >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect harness connector M9. 1. 2. Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y). TS BAT 6 (L) - 1 (L) : Continuity should exist. Data link connector 14 (Y) - 10 (Y) : Continuity should exist.

OK or NG

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

Harness connector 14 6 10 6,14 1,10 Ω SKI45015E

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$\overline{\mathbf{3}}$. Check harness for open circuit

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

 - 3 (L) 11 (L)

10 (Y) - 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-28, "Work Flow"</u>. NG >> Repair harness.



AKS0069C

[CAN]

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



TCM Circuit Check	AKS00691
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check following terminals and connectors for damage, bend and loose connection (cor and harness side). TCM connector Harness connector F102 Harness connector M82 OK or NG 	ntrol module side
OK >> GO TO 2.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
1. Disconnect TCM connector.	
 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y). 5 (L) - 6 (Y) : Approx. 54 - 66Ω 	BAT
OK or NG TCM connection OK >> Replace TCM. NG >> Repair harness between TCM and ECM. 5	
Display Unit Circuit Check 1. CHECK CONNECTOR	PKIA0817E
 Display Unit Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of display unit for damage, bend and loose connection (1) 	PKIA0817E
 Display Unit Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of display unit for damage, bend and loose connection (ness side). OK or NG 	PKIA0817E
 Display Unit Circuit Check 1. CHECK CONNECTOR 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. 3. Check terminals and connector of display unit for damage, bend and loose connection (ness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	PKIA0817E
 Display Unit Circuit Check CHECK CONNECTOR Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of display unit for damage, bend and loose connection (ness side). OK or NG OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. CHECK HARNESS FOR OPEN CIRCUIT 	PKIA0817E

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to <u>LAN-28, "Work Flow"</u>.
- NG >> Repair harness between data link connector and BCM.



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 M34 terminals 39 (L) and 40 (Y).
 - 39 (L) 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "Removal and Installation of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.



AKS00694

Unified Meter and A/C Amp. Circuit Check	AKS00693
 CHECK CONNECTOR Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of unified meter and A/C amp. for (meter side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	damage, bend and loose connection
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect unified meter and A/C amp. connector. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y). (L) - 11 (Y) Approx. 54 - 66Ω OK or NG NG >> Replace unified meter and A/C amp. NG Repair harness between unified meter and A/C amp. and data link connector. 	Unified meter and A/C amp.connector
 ABS Actuator and Electric Unit (Control Unit) Circuit 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 (conconnection (control unit side and harness side). OK or NG OK ->> GO TO 2. 	t Check AKS00695
NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect ABS actuator and electric unit (control unit) connector. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y). (L) - 15 (Y) (Approx. 54 - 66Ω) OK or NG NG Repair harness between ABS actuator and electric unit (control unit). NG Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R. 	ABS actuator and electric unit (control unit) connector

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 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.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication 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, unit side, meter side, control unit side and harness side).
- ECM
- TCM
- Display unit
- BCM
- Unified meter and A/C amp.
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS00697

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AKS00696

2. CHECK HARNESS FOR SHORT CIRCUIT А 1. Disconnect following connectors. ECM connector В Harness connector M82 Display unit connector BCM connector Unified meter and A/C amp. connector Harness connector M9 2 Check continuity between data link connector M24 terminals 6 (L) and 14 (Y). 6 (L) - 14 (Y) : Continuity should not exist. Data link connector F OK or NG OK >> GO TO 3. NG >> Check the following harnesses. If any harness is damaged, repair the harness. E Harness between data link connector and ECM Ω • Harness between data link connector and harness SKIA6868E connector M82 Harness between data link connector and display unit Harness between data link connector and BCM Н Harness between data link connector and unified meter and A/C amp. Harness between data link connector and harness connector M9 3. CHECK HARNESS FOR SHORT CIRCUIT Check continuity between data link connector M24 terminals 6 (L). 14 (Y) and ground. 6 (L) - Ground : Continuity should not exist. Data link connector 14 (Y) - Ground : Continuity should not exist. 14 6 OK or NG 6, 14 OK >> GO TO 4. NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and ECM
- Harness between data link connector and harness connector M82
- Harness between data link connector and display unit
- Harness between data link connector and BCM
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and harness connector M9



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- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT



- 5 (L) Ground
- : Continuity should not exist. : Continuity should not exist.
- 6 (Y) Ground
- OK or NG OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground 10 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2 Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

9. CHECK HARNESS FOR SHORT CIRCUIT



- electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-51, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK

NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-28, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132







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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



AKS00A4K

AKS00A4L



Revision: 2004 November

AKS00A4N



DATA LINE



[CAN]

LAN-CAN-05 A



TKWB0011E

LAN-CAN-06



TKWB0012E

Work Flow

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1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", 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)	
	SUB MODE	
	LIGHT COPY	BACK LIGHT COPY PKIA2093E
Print all the data o AMP", "ABS", and "I	of "SELF-DIAG RES PDM E/R" displaye	SULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C [[] d on CONSULT-II.
(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS
	WORK SUPPORT	
	SELF-DIAG RESULTS	
	DATA MONITOR	
	DATA MONITOR (SPEC)	
	CAN DIAG SUPPORT MNTR	
	ACTIVE TEST	
		F.F.DATA
	Scroll Down	ERASE PRINT
	BACK LIGHT COPY	MODE BACK LIGHT COPY PKIA8260E
Print all the data of ' C AMP", "ABS", and	"CAN DIAG SUPPO 1 "IPDM E/R" displa	DRT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/
(Example)	SELECT DIAG MODE	CAN DIAG SUPPORT MNTR
· · · /	WORK SUPPORT	PRSNT
	SELF-DIAG RESULTS	INITIAL DIAG OK
	DATA MONITOR	TRANSMIT DIAG OK TCM OK
	DATA MONITOR (SPEC)	VDC/TCS/ABS OK
	CAN DIAG SUPPORT MNTR	METER/M&A OK ICC UNKWN
	ACTIVE TEST	BCM/SEC OK
		AWD/4WD/e4WD UNKWN
	Scroll Down	PRINT Scroll

4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-59</u>, "CHECK SHEET".

MODE BACK LIGHT

COPY

BACK LIGHT COPY

5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-59</u>, "CHECK SHEET".

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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-59</u>, <u>"CHECK SHEET"</u>.

LAN-57

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 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 <u>LAN-59</u>, "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 <u>AV-175</u>, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-61, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

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

SELECT SYSTE					CAN DI	AG SUPPOF	T MNTR			
INGINE	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	—	-	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	—	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	—	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	_
ABS	—	NG	UNKWN	UNKWN	_	-	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	-	-	_
		Att	ach copy of ECT SYSTE	м		Attach SELECT	copy of SYSTEM			
			CAN DI	Attac display AG SUPPOF	ch copy of control unit T MONITOF	R check shee	ət			

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Attach copy of Attach copy of Attach copy of TRANSMISSION ENGINE BCM SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of METER A/C AMP ABS IPDM E/R SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of ENGINE TRANSMISSION всм CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR MNTR Attach copy of Attach copy of Attach copy of METER A/C AMP IPDM E/R ABS CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR MNTR PKIA8345E

CHECK SHEET RESULTS (EXAMPLE)

/////// : Malfunctioning part

ECM

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 data link connector. Refer to <u>LAN-72</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAN DIA	G SUPPOR	TMNTR			
	EM scroop	la ital	Tuo no no la			Re	ceive diagno	sis		
SELECT STOT		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN		_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_

BCM

Data link

connector

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Display

control unit

Unified

meter and A/C amp.

ABS

actuator and

electric unit

(control unit)

IPDM E/R

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Case 2

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Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-72</u>, <u>"Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

r										
				r	CAN DIA	AG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
	diagnosis diagnosis ECM TCM DISPLAY BCM/SEC METER VDC/TCS / /M&A /ABS							IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_		CAN CIRC 2	CAN CIRC 5	_	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	_	I		UNKWN	—	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN		_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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Case 3

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Check ECM circuit. Refer to LAN-73, "ECM Circuit Check" .

				-	CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	osis		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANOIRC 3	—	-	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	—	UNKWN		UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	-	—	_		—
IPDM E/R	No indication	_	UNKWN	UNKWN	—	—	UNKWN	-	—	_



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Case 4

Check TCM circuit. Refer to LAN-74, "TCM Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	_	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



Case 5

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Check display control unit circuit. Refer to LAN-74, "Display Control Unit Circuit Check" .

					CAN DIA	G SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	osis		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CANORC 1	CANVIRC 3	_	_	CANORC 2	CANOIRC 5	-	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN		UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_		—	_		—
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	-	—	-
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Case 6

Check data link connector circuit. Refer to LAN-75, "Data Link Connector Circuit Check" .

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Tronomit			Re	ceive diagno	osis		
OLLEON ONON	EW Screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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Case 7

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Check BCM circuit. Refer to LAN-75, "BCM Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	—	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	_	CANORC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	—	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	—	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_



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Case 8

Check unified meter and A/C amp. circuit. Refer to LAN-76, "Unified Meter and A/C Amp. Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Tronomit			Re	ceive diagno	osis		
	Lin boreen	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CANORC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	—	_	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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Case 9

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А Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-76, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Tronomit			Re	ceive diagno	osis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
ABS	-	N ∕3	UNKWN	UNKWN	_	_	-	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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Case 10

Check IPDM E/R circuit. Refer to LAN-77, "IPDM E/R Circuit Check" .

_										
					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis	-	-
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	—	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	—	UNKWN	—	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	—	_	—	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	-	_	_
								-		
										PKIA8369E



Case 11

Check CAN communication circuit. Refer to LAN-77, "CAN Communication Circuit Check" .

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis	-	
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	—	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	_	_	CANORC 2	CANORC 5	-	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	—	UNKWN	—	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
ABS	_	V	UNKWN	UNKWN	_	_	—	_	—	-
IPDM E/R	No indication	1	UNKWN	UNKWN	_	_	UNKWN	—	_	_
										PKIA8370E

Case 12

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А Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-80, "IPDM E/R Ignition Relay Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Heceive diagnosis							
				ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	—	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	Ι	Ι	CAN CIRC 2	CAN CIRC 5	—	CAN CIRC 7	
BCM	No indication	NG	UNKWN	UNKWN		-	_	UNKWN	_	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	—	
ABS	-	NG	UNKWN	UNKWN	-	-	-	_	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_	

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-80, "IPDM E/R Ignition Relay Circuit Check" .

		CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5		CAN CIRC 7	
ВСМ	No indication	NG	UNKWN	UNKWN	—	_	—	UNKWN	—	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	_	_	-		-	—	
IPDM E/R	No indication	-	UNKWN	UNKWN	—	_	UNKWN	-	_	_	
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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4 Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L)
 - 9 (Y) 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-57, "Work Flow" .
- NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) AKS00A4Q

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9. 1.
- Check continuity between data link connector M24 terminals 6 2. (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

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



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$\overline{\mathbf{3}}$. Check harness for open circuit

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)

ECM Circuit Check

1. CHECK CONNECTOR

harness side).

Turn ignition switch OFF.

10 (Y) - 15 (Y)

: Continuity should exist.

Check terminals and connector of ECM for damage, bend and loose connection (control module side and

: Continuity should exist.

OK or NG

1.

2.

3.

OK or NG

NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-57, "Work Flow" . NG >> Repair harness.



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2. CHECK HARNESS FOR OPEN CIRCUIT

>> Repair terminal or connector.

Disconnect the negative battery terminal.

1. Disconnect ECM connector.

>> GO TO 2.

2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and ECM.



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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.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y)

: Approx. 54 - 66 Ω

OK or NG

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



	[CAN]
Data Link Connector Circuit Check . CHECK CONNECTOR	AKS00A4U
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check data link connector and terminals for damage, bend and loose connection (connerness side). <u>DK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector. 	ector side and har-
CHECK HARNESS FOR OPEN CIRCUIT	
Check resistance between data link connector M24 terminals 6 (L) nd 14 (Y). 6 (L) - 14 (Y) : Approx. 54 - 66Ω	T.S.
DK or NG OK >> Diagnose again. Refer to LAN-57, "Work Flow". NG >> Repair harness between data link connector and BCM.	
SCM Circuit Check	SKIA6868E AKS00A4V
. Turn ignition switch OFF.	
 Disconnect the negative battery terminal. Check terminals and connector of BCM for damage, bend and loose connection (contro harness side). 	ol module side and
<u>)K or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector.	
CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect BCM connector. Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y). 	
39 (L) - 40 (Y) : Approx. 54 - 66Ω	BAT
<u>NK or NG</u> OK >> Replace BCM. Refer to <u>BCS-14, "Removal and Installa-</u> tion of BCM". NG >> Repair harness between BCM and data link connector.	

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3. NG >> Check the

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9





: Continuity should not exist.



1.

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OK or NG

OK

NG



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4. 1.
- Check continuity between harness connector B4 terminals 3 (L) 2. and 10 (Y).
 - 3 (L) 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector B4 and harness connector B2.



Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground. 3 (L) - Ground

10 (Y) - Ground

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



Harness connector 3

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F102.

>> GO TO 5.

Disconnect TCM connector.

nals 5 (L) and 6 (Y). 5(L) - 6(Y)

4. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 termi-

>> Repair harness between TCM and harness connector

TCM connector **O** CONNECTOR тсм 5

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8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

OK or NG

OK >> GO TO 9.

48 (L) - 49 (Y)

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

9. CHECK HARNESS FOR SHORT CIRCUIT



- 48 (L) Ground 49 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-80, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-57, "Work Flow".
- NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-10, "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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



IPDM E/R connector	DISCONNECT
	SKIA6873E



ECM and IPDM E/R



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LKIA0037

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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TKWB0014E

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LAN-CAN-08



TKWB0015E

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LAN-CAN-09 A



TKWB0016E

Work Flow

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1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

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

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	TS
()	WORK SUPPORT	DTC RESULTS	TIME
	SELF-DIAG RESULTS		0
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTH		
	ACTIVE TEST		
		F	F.DATA
	Scroll Dow	ERASE PR	RINT
	BACK LIGHT COF	MODE BACK LIGHT	COPY PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "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-88, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>88, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.
- 7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-88, "CHECK SHEET" .
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-88, "CHECK SHEET"</u>.

LAN-86

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	NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-101, "CAN Communication Line Check".
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-90, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u> .

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	e									
					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	osis	i	
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	_
ABS	-	NG	UNKWN	UNKWN	_	-	-	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	_
					Γ			7		
		Attach copy of Attach copy of								
		SEL	ECT SYSTE	M		SELECT	SYSTEM			
[
				Attac	h copy of					
			CA	disp N DIAG MO	olay unit NITOR chec	k sheet				
										PKIA8373E



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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 data link connector. Refer to <u>LAN-103</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAN DIA	AG SUPPOR	T MNTR					
	EM screen	Initial	Transmit diagnosis		Receive diagnosis							
	LWSCIECH	diagnosis		ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	UNKWN	-		
Display unit	_	CAN COMM	CAN 1	С	-	_	CAN 2	CAN 5	-	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-		
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	-	-		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-103</u>, "Circuit Check <u>A</u><u>Between Data Link Connector and Driver Seat Control Unit</u>".

					CAN DIA	G SUPPOR	T MNTR						
SELECT SYST	EM screen	Initial	Tronomit		Receive diagnosis								
022201 0101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	—	UNKWN	UNKWN	-			
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	C 📢 7			
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	-			
ABS	_	NG	UNKWN	UNKWN	_	-	-	_	-	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_			

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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-104</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

			CAN DIAG SUPPORT MNTR									
SELECT SYST	FM screen	Initial diagnosis	Transmit - diagnosis	Receive diagnosis								
				ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	-		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	_	C 📢 7		
всм	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	—	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	—		
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		

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Case 4

Check ECM circuit. Refer to LAN-105, "ECM Circuit Check" .

				CAN DIAG SUPPORT MNTR								
SELECT SYST	FM screen	Initial	Transmit - diagnosis	Receive diagnosis								
		diagnosis		ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	—	UNKWN	UNKWN			
Display unit	_	CAN COMM	CAN 1	С 📢 З	—	—	CAN 2	CAN 5	—	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	—	l		
ABS	_	NG	UNKWN	UNKWN	_	_	—	_	_			
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	UNKWN	_	-	_		



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Case 5

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

		CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis							
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-		
Display unit	—	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	CAN 7		
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNKWN	-	-	-	-	-	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		



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Case 6

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

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Tronomit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	C 📢 1	С 🔊 З	-	-	C 📢 2	CAN 5	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	—	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNKWN	-	_	-	-	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	_	_



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Case 7

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

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	—	UNKWN	UNKWN	_
Display unit	—	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNKWN	_	_	—	_	-	_
IPDM E/R	No indication		UNKWN	UNKWN	_	_	UNKWN	_	-	_

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Case 8

Check BCM circuit. Refer to LAN-107, "BCM Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR						
SELECT SYST	EM screen	Initial	Tronomit		Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	UNKWN	UNKWN	_			
Display unit	—	CAN COMM	CAN 1	CAN 3	-	-	C 4 √12	CAN 5	-	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	UNKWN			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	_			
ABS	_	NG	UNKWN	UNKWN	-	-	—	_	-	_			
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	_	-	-			



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Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-108, "Unified Meter and A/C Amp. Circuit Check" .

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	_
ABS	-	NG	UNKWN	UNKWN	-	-	_	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	-

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Case 10

Check driver seat control unit circuit. Refer to LAN-108, "Driver Seat Control Unit Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR						
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_			
Display unit	—	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	_			
ABS	_	NG	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-109</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAN DIA	AG SUPPOR				
	EM sereen	1	T			Re	ceive diagno	sis		
SELECT STOT		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	—
ABS	_	N/	UNKWN	UNKWN	_	-	_	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	—	UNKWN	_	_	-

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Case 12

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

					CAN DIA	AG SUPPOR	T MNTR						
SELECT SYST	EM screen	Initial	Tronomit		Receive diagnosis								
	LWSOCCH	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	UNKWN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_				
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	_	UNKWN			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	_			
ABS	_	NG	UNKWN	UNKWN	-	_	-	_	-	-			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_			



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Case 13

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Check CAN communication circuit. Refer to LAN-110, "CAN Communication Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	С 🕅 З	_	-	C √1 2	C 📢 5	_	C 📢 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	N	UNKWN	UNKWN	-	-	-	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	—		UNKWN	-	—	_
										PKIA8387E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-114</u>, "IPDM E/R Ignition Relay <u>Circuit Check</u>".

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	
Display unit	_	CAN COMM	CAN 1	CAN 3	—	—	CAN 2	CAN 5	—	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN		UNKWN	UNKWN		UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	
ABS	_	NG	UNKWN	UNKWN	-	_	_	1	_	1
IPDM E/R	No indication		UNKWN	UNKWN	-	_	UNKWN	I	_	1
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Case 15

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Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-114</u>, "IPDM E/R Ignition Relay <u>A</u> <u>Circuit Check</u>".

					CAN DIA	AG SUPPOR	T MNTR						
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis								
OLLEGT OTOT	EW Sorcen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	_			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	-	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	_		-	UNKWN	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	-	-			
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	-			

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-86, "Work Flow"</u>. NG >> Repair harness.



Circuit Check Between Data Link Connector 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 M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2. Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-86, "Work Flow" .
- NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric **Unit (Control Unit)** AKS00A59

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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 B4
- Harness connector E105

OK or NG

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



SKIA6865E

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and ECM.



AKS00A5C

Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display unit 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 display unit connector.
- Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66Ω

OK or NG

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



[CAN]

	[CAN]
Data Link Connector Circuit Check 1. CHECK CONNECTOR	AKS00A5E
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check data link connector and terminals for damage, bend and loose connection (conne ness side). <u>OK or NG</u> OK >> GO TO 2. 	ector side and har-
NG >> Repair terminal or connector.	
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).	T.S.
OK or NG OK >> Diagnose again. Refer to LAN-86, "Work Flow" NG >> Repair barness between data link connector and BCM	
3CM Circuit Check 1. CHECK CONNECTOR	SKIA6868E AKS00A5E
 Turn ignition switch OFF. Disconnect the negative battery terminal. 	
 Check terminals and connector of BCM for damage, bend and loose connection (contro harness side). 	I module side and
OK or NG OK >> GO TO 2. NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect BCM connector. Check resistance between BCM harness connector M34 terminals 39(L) and 40 (Y). 	Ĩ
39 (L) - 40 (Y) : Approx. 54 - 66Ω	
OK >> Replace BCM. Refer to BCS-14, "Removal and Installa- tion of BCM". NG >> Repair harness between BCM and data link connector.	

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.



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[CAN]


CAN Communication 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, unit side, meter side, control unit side and harness side).
- ECM
- TCM
- Display unit
- BCM
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9



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$\overline{\mathbf{3}}$. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L)), Г
14 (Y) and ground.	

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

- OK or NG
- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5(L)-6(Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

- 5 (L) Ground
- : Continuity should not exist.
- 6 (Y) Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.





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6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

7. CHECK HARNESS FOR SHORT CIRCUIT



- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.





Harness connector

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

- 3 (L/Y) Ground
 - : Continuity should not exist.

19 (BR/W) - Ground : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.

10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector. 1.
- 2 Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground
- : Continuity should not exist. : Continuity should not exist.
- 49 (Y) Ground

OK or NG

OK >> GO TO 12.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-114, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-86, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.







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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-27, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

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AKS00A5L

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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AKS00ADZ

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TKWB0018E

[CAN]

LAN-CAN-11



TKWB0019E

[CAN]

LAN-CAN-12 A



TKWB0020E

Work Flow

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[CAN]

1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

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

(Example)	SELECT DIAG MODE		SELF-DIAG RESULT	rs
(/	WORK SUPPORT	_	DTC RESULTS	TIME
	SELF-DIAG RESULTS	c		0
	DATA MONITOR		[01000]	
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			
			EI	F.DATA
	Scroll Down		ERASE PRI	NT
	BACK LIGHT COPY	M	IODE BACK LIGHT	СОРҮ

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "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-122, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-122</u>, "CHECK SHEET".

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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line</u> <u>Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-122</u>, <u>"CHECK SHEET"</u>.

	[CAN]	
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-122, "CHECK SHEET".	А
	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-175</u> , "CAN Communication Line Check".	В
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-124, "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.

Check sheet table	e									
				•	CAN DI	AG SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	osis	1	1
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	-	-	_	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	_	_	-
					Γ			7		
		Δ++	ach conv of			Attach	copy of			
		SEL	ECT SYSTE	м		SELECT	SYSTEM			
					L					
				Attac display	h copy of control unit					
			CAN DIA	AG SUPPOR	T MONITOF	? check shee	t			
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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 data link connector. Refer to <u>LAN-137</u>, "Circuit Check Between TCM and <u>Data Link Connector</u>".

			CAN DIAG SUPPORT MNTR							
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	osis		
	LWSGreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNHWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN RC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN	-	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	_	_	-



Check harness between data link connector and driver seat control unit. Refer to <u>LAN-137</u>, "Circuit Check <u>A</u><u>Between Data Link Connector and Driver Seat Control Unit</u>".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Tronomit			Re	ceive diagno	sis		
OLLEON ONOT	diagno		diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_

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Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-138</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

		CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	_	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN		—	—	UNKWN	-	UNKWN
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	Ι	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	_	—
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_

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Case 4

Check ECM circuit. Refer to LAN-139, "ECM Circuit Check" .

			CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis			
		diagnosis	sis diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN VIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7	
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN	-	-	
ABS	_	NG	UNKWN	UNKWN	_	_	-	-	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	



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Check TCM circuit. Refer to LAN-140, "TCM Circuit Check" .

SELECT SYSTER Initial diagnosis Transmit diagnosis Transmit diagnosis Initial diagnosis Transmit diagnosis Image: T						CAN DIA	AG SUPPOF	T MNTR			
Display control unit-NGUNKWN-UNKWNUNKWN-UNKWNUNKWN-UNKWNUNKWN-UNKWN	SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
ENGINE - NG UNKWN - UNKWN - UNKWN UNKWN - - UNKWN - - UNKWN - - UNKWN - CAN CIRC 7 CAN CIRC 5 - CAN CIRC 7 CAN CIRC 7 DINKWN UNKWN - - UNKWN - <td>011201 0101</td> <td></td> <td>diagnosis</td> <td>diagnosis</td> <td>ECM</td> <td>ТСМ</td> <td>DISPLAY</td> <td>BCM/SEC</td> <td>METER /M&A</td> <td>VDC/TCS /ABS</td> <td>IPDM E/R</td>	011201 0101		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
TRANSMISSION No indication NG UNKWN UNKWN - - - UNKWN UNKWN - Display control unit - CAN COMM CAN CIRC 1 CAN CIRC 3 - - CAN CIRC 2 CAN CIRC 5 - CAN CIRC 7 BCM No indication NG UNKWN UNKWN - - - UNKWN - - UNKWN - - UNKWN - - - UNKWN -	ENGINE	-	NG	UNKWN	-	UNKWN	—	UNKWN	UNKWN	-	UNKWN
Display control unit - CAN COMM CAN CIRC 1 CAN CIRC 3 - - CAN CIRC 2 CAN CIRC 5 - CAN CIRC 7 BCM No indication NG UNKWN UNKWN - - - UNKWN - - - - CAN CIRC 7 UNKWN -	TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	—
BCM No indication NG UNKWN UNKWN - - UNKWN - UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN - - UNKWN - - - UNKWN - - - UNKWN - <td>Display control unit</td> <td>-</td> <td>CAN COMM</td> <td>CAN CIRC 1</td> <td>CAN CIRC 3</td> <td>-</td> <td>_</td> <td>CAN CIRC 2</td> <td>CAN CIRC 5</td> <td>-</td> <td>CAN CIRC 7</td>	Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
METER A/C AMP No indication - UNKWN UNKWN UNKWN UNKWN - - Indication MG UNKWN - Indication Inditeration Inditeration	ВСМ	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	_	UNKWN
AUTO DRIVE POS. No indication NG UNKWN - UNKWN - UNKWN UNKWN -	METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	-
ABS - NG UNKWN UNKWN	AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	-	-
	ABS	-	NG	UNKWN	UNKWN	_	-	-	-	-	-
IPDM E/R No indication - UNKWN UNKWN UNKWN	IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	UNKWN	-	-	-



Case 6

Check display control unit circuit. Refer to LAN-140, "Display Control Unit Circuit Check" .

		CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis							
OLLEOT OTOT	LWSOCCH	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	—	UNKWN	UNKWN	_		
Display control unit	-	CAN COMM	CAN ORC 1	CANORC 3	_	_	CANORC 2	CANORC 5	_	CANORC 7		
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	-	-		
ABS	-	NG	UNKWN	UNKWN	_	-	-	-	_	-		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		



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Check data link connector circuit. Refer to LAN-141, "Data Link Connector Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	I	—	CAN CIRC 2	CAN CIRC 5		CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	-

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Case 8

Check BCM circuit. Refer to LAN-141, "BCM Circuit Check" .

				CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis						
OLLEOT OTOT	EW Sereen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R				
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN				
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_				
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CANORC 2	CAN CIRC 5	-	CAN CIRC 7				
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	UNKWN				
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	-				
ABS	-	NG	UNKWN	UNKWN	_	_	-	-	_	_				
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_				



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Check unified meter and A/C amp. circuit. Refer to LAN-142, "Unified Meter and A/C Amp. Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	—	CAN CIRC 2	CAN ORC 5	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_
ABS	-	NG	UNKWN	UNKWN	-	_	-	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_

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Case 10

Check driver seat control unit circuit. Refer to LAN-142, "Driver Seat Control Unit Circuit Check" .

			_		CAN DIA	G SUPPOR	T MNTR						
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis									
011101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	-			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7			
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN	-	-			
ABS	-	NG	UNKWN	UNKWN	_	-	-	-	-	-			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_			



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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-143</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
000000000		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNK	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	—	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	_
ABS	_	V	UNKWN	UNKWN	_	-	-	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_

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Case 12

Check IPDM E/R circuit. Refer to LAN-143, "IPDM E/R Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR				
SELECT SYST	EM screen	Initial	Initial	Transmit			Re	ceive diagno	sis		
OLLEON ONON		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	CANVIRC 7	
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN	-	-	
ABS	_	NG	UNKWN	UNKWN	_	_	-	-	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	UNKWN	_	_	_	



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Check CAN communication circuit. Refer to LAN-144, "CAN Communication Circuit Check" .

					CAN DIA	AG SUPPOR	TMNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
	LWSGreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	—	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	-	—	CANORC 2	CANOIRC 5	—	CANVIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	_	V	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 "OFF". Refer to <u>LAN-147</u>, "IPDM E/R Ignition Relay <u>Circuit Check</u>".

					CAN DIA	AG SUPPOF	TMNTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	-	UNKWN	—	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	—	UNKWN	UNKWN	—			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		—	CAN CIRC 2	CAN CIRC 5		CAN CIRC 7			
BCM	No indication	NG	UNKWN	UNKWN	-	—	_	UNKWN	-	UNKWN			
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	UNKWN	UNKWN		_			
ABS	_	NG	UNKWN	UNKWN		_	—	_	1	_			
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-147</u>, "IPDM E/R Ignition Relay <u>A</u> <u>Circuit Check</u>".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	osis		
	LW GOICON	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	—	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK	_	_	_	UNK	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	_	-	_	_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-120, "Work Flow"</u>. NG >> Repair harness.



Circuit Check Between Data Link Connector 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 M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2. Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-120, "Work Flow" .
- NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric **Unit (Control Unit)** AKS00AE4

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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 B4
- Harness connector E105

OK or NG

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



SKIA6865E

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and ECM.



AKS00AE7

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.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y)

: Approx. 54 - 66 Ω

OK or NG

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



AKS00AE6

[CAN]

	[CAN]
Data Link Connector Circuit Check . CHECK CONNECTOR	AKS00AE8
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check data link connector and terminals for damage, bend and loose connection (connection ness side). <u>DK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector. 	tor side and har-
2. CHECK HARNESS FOR OPEN CIRCUIT	
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y). 6 (L) - 14 (Y) : Approx. 54 - 66Ω	s.
DK or NG DK or NG OK >> Diagnose again. Refer to LAN-120, "Work Flow" NG >> Repair harness between data link connector and BCM.	
BCM Circuit Check	SKIA6868E AKSOOAE9
. Turn ignition switch OFF.	
 Check terminals and connector of BCM for damage, bend and loose connection (control harness side). 	module side and
<u>DK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector.	
CHECK HARNESS FOR OPEN CIRCUIT Disconnect BCM connector. Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).	
 CHECK HARNESS FOR OPEN CIRCUIT Disconnect BCM connector. Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y). 39 (L) - 40 (Y) : Approx. 54 - 66Ω 	BAT

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.



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[CAN]



CAN Communication 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, control unit side, meter side and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9


$\overline{\mathbf{3}}$. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connect	or M24 terminals 6 (L),
14 (Y) and ground.	

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.

: Continuity should not exist.

Harness between data link connector and harness connector M9

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5(L)-6(Y)

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground

: Continuity should not exist.

6 (Y) - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.





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6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

7. CHECK HARNESS FOR SHORT CIRCUIT



- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.







9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

- 3 (L/Y) Ground
 - : Continuity should not exist.

19 (BR/W) - Ground : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.

10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector. 1.
- 2 Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground
- : Continuity should not exist. : Continuity should not exist.

49 (Y) - Ground OK or NG

- OK >> GO TO 12.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-148, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-120, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"" .

LAN-147







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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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



AKS00AEG

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

Schematic IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 49 СРU 48 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 15 ÷ STEERING ANGLE SENSOR Ω UNIFIED METER AND A/C AMP. 6 BCM (BODY CONTROL MODULE) 39 DATA LINK CONNECTOR 4 9 DISPLAY UNIT 9 4 LOW TIRE PRESSURE WARNING CONTROL UNIT 21 თ TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 9 ഹ 86 ECM 94

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TKWB0022E

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LAN-CAN-14



TKWB0023E

[CAN]

LAN-CAN-15 A



TKWB0024E

Work Flow

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", 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)		
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "ABS", and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SE	LF-DIAG RESULTS	
()	WORK SUPPORT	DTC	RESULTS TIME	
	SELF-DIAG RESULTS	CAN C		
	DATA MONITOR			
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			
			F.F.DATA	
	Scroll Down	ER/	ASE PRINT	
	BACK LIGHT COPY	MODE	BACK LIGHT COPY	PKIA8260F

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "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-156</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-156, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.
- 7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-156, "CHECK SHEET"

	[CAN]	
8.	Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-156, "CHECK SHEET"</u> .	А
	NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to <u>AV-101, "CAN Communication Line Check"</u> .	В
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-158, "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.

Chaoly aboat tabl												
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			-				Rec	eive diagr	nosis			
SELECT SYST	EW Screen	Initial diagnosis	Iransmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	-	-	UNKWN	-	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
ABS	—	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	_	-	-	-
		SE	Attach cop	y of STEM			Attach SELEC	n copy of TSYSTEN	1			
				CAN DIA	Attach c display AG MONIT	opy of / unit OR checł	< sheet					
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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

Check harness between TCM and data link connector. Refer to <u>LAN-171, "Circuit Check Between TCM and</u> <u>Data Link Connector"</u>.

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			-
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	—	-			—	UNKWN	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	-	—	-
Display unit	_	CAN COMM	CAN 1	С 📢 з	_	C 4 € 6	_	CAN 2	CAN 5	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNI	UNKWN	UNKWN	-	-	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 ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>A</u> <u>172, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	-	UNKWN		—	UNKWN	UNKWN	—	UNKWN	UNK	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_		_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	-	_	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7	
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	-	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	
ABS	_	NG	UNKWN		UNKWN	-	_	-	—	UNKWN	_	-	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	

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Case 3

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Check ECM circuit. Refer to LAN-173, "ECM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE		NG		-		_	-	UNKWN	UNKWN	_		
TRANSMISSION	No indication	NG	UNKWN		Ι	_	-	Ι	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	Ι	UNKWN	_	Ι	-
Display unit	-	CAN COMM	CAN 1	С 📢 з	_	CAN 6	_	CAN 2	CAN 5	_	Ι	CAN 7
BCM	No indication	NG	UNKWN		-	-	-	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	Ι	_	UNKWN	-
ABS	-	NG	UNKWN		UNKWN	_	-	-	_	UNKWN	-	-
IPDM E/R	No indication	—	UNKWN	UNKWN		-	_	UNKWN		—	_	—
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Case 4

Check TCM circuit. Refer to LAN-173, "TCM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR					
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis								
011201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-		_	-	UNKWN	UNKWN	-	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	_	-	_	
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	-	CAN 7	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNIOWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	_	UNKWN	-	_	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	_	_	-	—	



Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-174</u>, "Low <u>Tire Pressure Warning Control</u> <u>Unit Circuit Check</u>".

		1										
						CAN DIA	G SUPPO	RT MNTR	! -			
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	OSIS			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	—	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	_	_	UNKWN	_	UNKWN	—
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	-	UNKWN	-	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3			_	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN		_	_	1	UNKWN		_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	I	Ι	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-		UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

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Case 6

Check display unit circuit. Refer to LAN-174, "Display Unit Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR					
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis								
011101 0101	2	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	UNKWN	-	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	-	_	-	
Display unit	_	CAN COMM	CAN 1	С 📢 З	-		-	CAN 2		-	-	CAN 7	
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	_	-	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	-	-	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	—	_	UNKWN	_	_	-	-	



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Check data link connector circuit. Refer to LAN-175, "Data Link Connector Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	—	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	_	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	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 BCM circuit. Refer to LAN-175, "BCM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	-	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	_	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	C 📢 2	CAN 5	_	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN			_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	-		-	—	-	-



Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-176, "Unified Meter and A/C Amp. Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	—	UNKWN		_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	_	-	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	_	-	UNKWN	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2		-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	Ι	-	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-176, "Steering Angle Sensor Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
OLLEON ONOT	Livisoreen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	_	UNKWN	_	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	Ι	Ι	-	-	UNKWN	Ι	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
ABS		NG	UNKWN	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_
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Revision: 2004 November

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Case 11

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-177, "ABS Actuator and Electric Unit</u> (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	—	-	UNKWN	UNKWN	—		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	—	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	_	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	—	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	-	UNKWN	-
ABS	-	N	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-177, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	-	UNKWN	-	_	-	—



Case 13

Case 20: Check CAN communication circuit. Refer to LAN-178, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis		-	
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-		-	—			_	UNK	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	Ι	—	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	_	-	UNKWN	-	-	-
Display unit	_	CAN COMM		С 📢 з	-		_	C 📢 2		_	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	Ι	Ι	-	Ι	UNKWN		—	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—
ABS	-	N				-	-	-	_	UNK	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN		-	_	UNKWN		_	_	—
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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-181, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	Ι	UNKWN	-	-	UNKWN	UNKWN		UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	UNKWN	—
AIR PRESSURE MONITOR	No indication	NG	UNKWN		—	-	-	—	UNKWN	-	-	—
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5		1	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		-	UNK	—
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	—	UNKWN	-	—
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	—	—	—
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Case 15

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Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-181</u>, "IPDM E/R Ignition Relay <u>A</u> <u>Circuit Check</u>".

						CAN DIA		RT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	Rec DISPLAY	eive diagn BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	-	-	UNKWN	_	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	Ι	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	1	-	-	UNK	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN		_		UNKWN	_	_	_	-

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-154, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) AKS00AEN

1. CHECK CONNECTOR

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- Turn ignition switch OFF. 1.
- 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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 2. (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6(L) 1(L) 14 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)
 - 10 (Y) 15 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-154, "Work Flow".

NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).
 - 94 (L) 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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



Harness connector 3,10 ABS actuator and electric unit (control unit) connector C/UNIT O CONNECTOR 11,15 Ω

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- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit 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 low tire pressure warning 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 low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace low tire pressure warning control unit.
- NG >> Repair harness between low tire pressure warning control unit and TCM.



1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.



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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit 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 data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2. NG >> Repair term

>> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: **Approx. 54 - 66**Ω

<u>OK or NG</u>

OK >> Diagnose again. Refer to <u>LAN-154, "Work Flow"</u>.

NG >> Repair harness between data link connector and BCM.



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.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "<u>Removal and Installa-</u> tion of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. 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 unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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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 M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

1. CHECK CONNECTOR

Turn ignition switch OFF.

>> GO TO 2.

11 (L) - 15 (Y)

: Approx. 54 - 66 Ω

OK or NG

1.

2.

3.

OK or NG OK

NG

1.

2.

OK or NG

OK

NG

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





IPDM E/R Circuit Check 1. CHECK CONNECTOR

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

OK or NG

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

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).
 - 48 (L) 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication Circuit Check

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 (control module side, control unit side, unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

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

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9



Data link connector

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2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5(L) - 6(Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT



- 5 (L) Ground
- : Continuity should not exist.
- 6 (Y) Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) 2. and 10 (Y).
 - 3 (L) 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

> 3 (L) - Ground 10 (Y) - Ground

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.


8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2 Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

9. CHECK HARNESS FOR SHORT CIRCUIT



OK or NG

- OK >> GO TO 10.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-181, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-154, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



BAT IPDM E/R connector 49 48 Ω SKI46873F

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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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AKS00AF4

LAN-CAN-16

DATA LINE



TKWB0026E

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TKWB0027E

LAN-CAN-18



Work Flow

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP", or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

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

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "ABS", and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE		SELF-DIAG RESULTS	3
、 · · <i>,</i>	WORK SUPPORT	_	DTC RESULTS	ΓIME
	SELF-DIAG RESULTS			0
	DATA MONITOR	-	(01000)	
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST	L		
			EE.	DATA
	Scroll Down		ERASE PRIN	Т
	BACK LIGHT COPY	N	IODE BACK LIGHT C	COPY PKIA8260E

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "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-189</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-189</u>, "CHECK SHEET".

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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line</u> <u>Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-189</u>, <u>"CHECK SHEET"</u>.

 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 <u>LAN-189</u>, "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 <u>AV-175</u>, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-191, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

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 DIAC	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn				
	1	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	/SEC	/M&A	STRG	/ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	UNKWN	_
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	-	_	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
ЗСМ	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_
PDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-
		SE	Attach cop	y of STEM			Attach SELECT	n copy of ⁻SYSTEM	1			
					Attach c display cor	opy of htrol unit						
			CAN	I DIAG SU	IPPORT M	IONITOR	check she	et				

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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 data link connector. Refer to <u>LAN-204</u>, "Circuit Check Between TCM and <u>Data Link Connector</u>".

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	_	-		UNKWN	—		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	—	-	UNKWN	—	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	-	CANORC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN		-	_	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN		UNKWN	_	-	-	-	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_



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Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u>205, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	iosis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	—	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	CANLORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	-	-	_	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_	_

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Case 3

Check ECM circuit. Refer to LAN-206, "ECM Circuit Check" .

SELECT SYSTEM Screen $ Initial diagnosis Transmit diagnosi diagnosis Transmit di diagnosi diagnosis Tra$							CAN DIA	SUPPOR	RT MNTR				
Initial diagnosis In	SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
ENGINE - NG UNKWN - UNKWN - UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN - - UNKWN UNKWN - - UNKWN - UNKWN - UNKWN - - UNKWN - - UNKWN - - UNKWN - - - UNKWN - - UNKWN - - UNKWN -	022201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
TRANSMISSION No indication NG UNKWN UNKWN UNKWN UNKWN Image: Mail of the state	ENGINE	-	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNI	-	UNKWN	UNKWN
AIR PRESSURE MONITOR No indication NG UNKWN -	TRANSMISSION	No indication	NG	UNKWN		-	-	_	-	UNKWN	_	UNKWN	-
Display control unit - CAN COMM CAN CIRC 1 CAN CIRC 3 - CAN CIRC 6 - CAN CIRC 2 CAN CIRC 5 - - CAN CIRC 7 BCM No indication NG UNKWN UNKWN - - - UNKWN UNKWN - - - UNKWN - - - UNKWN - - - - UNKWN - <	AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	Ι	Ι	UNKWN	_	_	—
BCM No indication NG UNKWN UNKWN - - - - UNKWN - - UNKWN - - - UNKWN UNKWN - - UNKWN - - - UNKWN - - - UNKWN - - - UNKWN -	Display control unit	_	CAN COMM	CAN CIRC 1	CAN IRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 7
METER A/C AMP No indication - UNKWN UNKWN UNKWN UNKWN UNKWN - - UNKWN - - UNKWN - - UNKWN - - - UNKWN - - - UNKWN - - - - - UNKWN - <	ВСМ	No indication	NG	UNKWN		-	-	Ι	Ι	UNKWN	_	-	UNKWN
ABS - NG UNKWN UNKWN UNKWN	METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
	ABS	_	NG	UNKWN	UNKWN	UNKWN	-	Ι	I		UNKWN	—	-
	IPDM E/R	No indication	—	UNKWN		-	_	-	UNKWN	-	—	—	_



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Check TCM circuit. Refer to LAN-206, "TCM Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit			-	Rec	eive diagr	iosis		-	
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-		_	_	UNKWN	UNKWN	—	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	_	-	UNKWN		UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN		_	_	—	-	UNKWN	-	—	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	—	-	UNKWN	Ι	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	—
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	—	—
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	UNKWN	_	1	—	—
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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-207</u>, "Low Tire Pressure Warning Control <u>A</u> <u>Unit Circuit Check</u>".

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
	Liviooroon	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	—	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CANCRC 6	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	—	_	UNKWN	—	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_	-



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

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	Ι	UNKWN	—	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	Ι	Ι	UNKWN	-	—	-
Display control unit		CAN COMM	CANORC 1	CANORC 3		CANCRC 6	Ι	CANCRC 2	CANCRC 5	-	-	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	Ι	Ι	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	I	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	—	-	_	UNKWN	_	_
IPDM E/R	No indication	—	UNKWN	UNKWN	_	_	-	UNKWN	-	_	-	-



Case 7

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

	Maaraan						Rec	eive diagn	osis			
SELECT SYSTEM	IVI Screen	Initial diagnosis	Iransmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	UNKWN	_
	No indication	NG	UNKWN	-	_	_	_	-	UNKWN	-	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	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-208, "BCM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	—		UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CANORC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	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 unified meter and A/C amp. circuit. Refer to LAN-209, "Unified Meter and A/C Amp. Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR								
SELECT SYST	EM screen	Initial	Initial Transmit		Receive diagnosis											
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R				
ENGINE	_	NG	UNKWN	—	UNKWN	_	—	UNKWN		_	UNKWN	UNKWN				
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	—	UNKWN	-	UNKWN	_				
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	-	-	_				
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CANORC 5	-	-	CAN CIRC 7				
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	UNKWN				
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_				
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	_	UNKWN	-	-				
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_	_				



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Check steering angle sensor circuit. Refer to LAN-209, "Steering Angle Sensor Circuit Check" .

			CAN DIAG SUPPORT MNTR												
SELECT SYST	EM screen	Initial	Tranamit	Receive diagnosis											
	diagno		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	—	UNKWN	-	—	UNKWN	UNKWN	—	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	Ι	UNKWN		UNKWN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	Ι	Ι	UNKWN	-	Ι	—			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	Ι	CAN CIRC 2	CAN CIRC 5	I	١	CAN CIRC 7			
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	-	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—			
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	1	Ι	1	UNKWN	Ι	_			
IPDM E/R	No indication	—	UNKWN	UNKWN	_	—	-	UNKWN		-	ļ	—			
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Case 11

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

						CAN DIA	G SUPPOR	RT MNTR							
SELECT SYST	EM screen	Initial	Tranomit	Receive diagnosis											
OLLEON ONON	diagnos		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	-	UNKWN	—	—	UNKWN	UNKWN	—	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	-	UNKWN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	Ι	UNKWN	_	_	-			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7			
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	Ι	UNKWN	_	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-			
ABS	_	N	UNKWN	UNKWN	UNKWN	_	_	-	_	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 SUPPORT MNTR											
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis											
	diagn		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F			
ENGINE	-	NG	UNKWN	—	UNKWN	_	-	UNKWN	UNKWN	—	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	UNKWN	-			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	—	_		UNKWN	_	-	-			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CANORC 7			
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	UNKWN			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-			
ABS	-	NG	UNKWN	UNKWN	UNKWN	—	-			UNKWN	-	-			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_			



[CAN]

Case 13

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

						CAN DIA	G SUPPOI	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis									
		diagnosis	diagnosis	ECM TCM TIRE-P DISPLAY BCM METER STRG VDC/TCS IF							IPDM E/R			
ENGINE	-	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNK		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	_	_	-		
Display control unit	_	CAN COMM	CANORC 1	CAN CIRC 3	-	CANVIRC 6	-	CANORC 2	CANORC 5	-	-	CAN CAC 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-		
ABS	_	N		UNIXWN	UNKWN	-	-	-	_		-	-		
IPDM E/R	No indication	—	UNKWN	UNKWN	_	-	-	UNKWN	_	—	—	-		
				-										
												DKIA9426E		

Case 14

Н Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-214, "IPDM E/R Ignition Relay Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Tranomit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN				-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	Ι	-	-	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	—	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	—	—	_	UNKWN	_	-
IPDM E/R	No indication	—	UNKWN	UNKWN	_	_	-	UNKWN	-	_	-	—
												PKIA8437E

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Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-214</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

				CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis											
	diagnosis		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	—	UNKWN	_	_	UNKWN	UNKWN	—	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	_	UNKWN	—			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	I	-	_	_	—	UNKWN	—	-	—			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	Ι	CAN CIRC 7			
ВСМ	No indication	NG	UNKWN	UNKWN	-	—	_	—	UNKWN	-	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_			
ABS	_	NG	UNKWN	UNKWN	UNKWN	Ι	-	-	-	UNKWN	Ι	—			
IPDM E/R	No indication	—	UNKWN	UNKWN	-		-	UNKWN		_	1	—			
												DKIA9429E			
												I NIA0400E			

Circuit Check Between TCM and Data Link Connector

AKS00AF6

- 1. CHECK HARNESS FOR OPEN CIRCUIT
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-187, "Work Flow".
- NG >> Repair harness.







4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)
 - 10 (Y) 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-187, "Work Flow".
- NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).
 - 94 (L) 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

LAN-206





AKS00AF9

AKS00AF8

1. Disconnect TCM connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

2 Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y)

: Approx. 54 - 66 Ω

OK or NG

1.

2.

3.

OK

NG

1.

2.

OK

NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check AKSOOAFA 1. CHECK CONNECTOR F Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of low tire pressure warning control unit for damage, bend and loose con-G nection (control unit side and harness side). OK or NG >> GO TO 2. Н >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect low tire pressure warning control unit connector. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y). 9 (L) - 21 (Y) : Approx. 54 - 66Ω Low tire pressure warning control unit connector OK or NG LAN >> Replace low tire pressure warning control unit. >> Repair harness between low tire pressure warning control unit and TCM. Ω SKIA6885E Μ **Display Control Unit Circuit Check** AKS00AFB 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.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y)

: Approx. 54 - 66Ω

OK or NG

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



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-187, "Work Flow" .
- NG >> Repair harness between data link connector and BCM.



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 M34 terminals 39 (L) and 40 (Y).

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace BCM. Refer to BCS-14, "Removal and Installation of BCM" .
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection 3 G (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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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.



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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

: Approx. 54 - 66Ω

OK or NG

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



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.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).
 - 11 (L) 15 (Y)

: **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 IPDM E/R.

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

LAN-210



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AKS00AFG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector. 1.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

OK or NG

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- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication Circuit Check

1. CHECK CONNECTOR

F 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. G control unit side, meter side, sensor side and harness side). ECM TCM Н Low tire pressure warning control unit Display control unit BCM Unified meter and A/C amp. Steering angle sensor J ABS actuator and electric unit (control unit) IPDM E/R Between ECM and IPDM E/R LAN Between ECM and TCM OK or NG



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LAN-211

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2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector _
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

- OK or NG
- OK >> GO TO 3.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9



Data link connector

SKIA6868F

[CAN]



Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground. 3 (L) - Ground

10 (Y) - Ground

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground 49 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-214, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-187, "Work Flow" .
- NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-10, "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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)			
ECM	94 - 86	108 - 132			
IPDM E/R	48 - 49	1 100 - 132			







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2004 Murano

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



TKWB0029E
[CAN]



TKWB0030E

[CAN]

LAN-CAN-20



TKWB0031E

[CAN]

LAN-CAN-21 A



TKWB0032E

Work Flow

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[CAN]

1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ABS", and "IPDM E/R" displayed on CON-SULT-II.

(Example)	SELECT DIAG	MODE	SELF-DIAG RESUL	TS	
	WORK SUPP	PORT	DTC RESULTS	TIME	
	SELF-DIAG RE	ESULTS		0	
	DATA MONIT	ITOR			
	DATA MONITOR	R (SPEC)			
	CAN DIAG SUPPC	ORT MNTR			
	ACTIVE TE	EST			
			F	.F.DATA	
	s	Scroll Down	ERASE PR	RINT	
	BACK LIG	GHT COPY	MODE BACK LIGHT	COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ABS", and "IPDM E/R" displayed on CONSULT-II.

SELECT DIAG MODE CAN DIAG SUPPORT MNTR WORK SUPPORT PRSNT SELF-DIAG RESULTS PRSNT DATA MONITOR OK DATA MONITOR (SPEC) OK CAN DIAG SUPPORT MNTR OK ACTIVE TEST Scroll Down BACK Scroll Down BACK LIGHT COPY	
--	--

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-222</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>222, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.

LAN-220

	[CAN]	
7.	Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-222, "CHECK SHEET"	А
8.	Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to LAN-222, "CHECK SHEET".	
	NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit, Refer to AV-101, "CAN Communication Line Check".	В
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-224, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u> .	С
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		E
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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											
	-					CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit			0	Rec	eive diagr	nosis			
	Livi Sercen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	_	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	—	-	-	UNKWN	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	-	UNKWN	_	-	_	_
]							
		SE	Attach cop	y of STEM			Attach SELECT	n copy of T SYSTEN	1			
Attach copy of display unit CAN DIAG MONITOR check sheet												
												PKIA8439E



Revision: 2004 November

PKIA8441E

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 data link connector. Refer to <u>LAN-239</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
	LW Sereen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	Ι	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	С∢И́З	_		-	CAN 2	CAN 5	-	-	CAN 7
всм	No indication	NG	UNKWN		_	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN	Ι	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	-	-	-
ABS	_	NG	UNKWN			-	-	-		UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNK	_	-	—	UNKWN	_	-	_	_



Case 2

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Check harness between data link connector and driver seat control unit. Refer to <u>LAN-239</u>, "Circuit Check <u>A</u><u>Between Data Link Connector and Driver Seat Control Unit</u>".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	iosis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	1	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	Ι	_	-	—	—	UNKWN	Ι	—	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	-	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNK	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	_	-	-
ABS	_	NG	UNKWN	UNKWN	UNK	_	_	-	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	_	UNKWN	_	_	_	_



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Case 3

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Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u>240, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Tranomit				Rec	eive diagn	iosis			
	LIN Sereen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	1	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	Ι	_	_	-	-	UNKWN	Ι	—	_
Display unit	_	CAN COMM	CAN 1	CAN 3	Ι	CAN 6	-	CAN 2	CAN 5	Ι	-	
BCM	No indication	NG	UNKWN	UNKWN	-	—			UNKWN	Ι	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNK	—
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	—	UNKWN	UNKWN	—	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

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Case 4

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Check ECM circuit. Refer to LAN-241, "ECM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		-	UNKWN	_	-		UNION	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	_	UNKWN	-	UNKWN	—
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	-	_
Display unit	_	CAN COMM	CAN 1	C € 3	-	CAN 6	-	CAN 2	CAN 5	_	١	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	I	UNKWN	-	_	UNKWN	UNKWN	_	1	-
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-242, "TCM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
	LIN Sereen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	—	-	UNKWN	-	_	-
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	Ι	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	_	_	-
ABS	-	NG	UNKWN	UNKWN		_	_	-	_	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	-	-	_

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Case 6

А Check low tire pressure warning control unit circuit. Refer to LAN-242, "Low Tire Pressure Warning Control Unit Circuit Check"

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	C 📢 6	-	CAN 2	CAN 5	-	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	_	-	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	-	UNKWN	1	_	-	-



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Case 7

Check display unit circuit. Refer to LAN-243, "Display Unit Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	iosis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	—	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	Ι	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	—	—	-	UNKWN	_	_	-
Display unit	_	CAN COMM	C 📢 1	С∢√із	_		_	C 📢 2	C 📢 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-		UNKWN	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	_	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	—	UNKWN	UNKWN	_	-	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_		—	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

/////// : Malfunctioning part Low tire Unified Steering pressure warning control unit meter and angle A/C amp. sensor CAN H CAN L ABS actuator and Driver seat Data link ECM тсм BCM IPDM E/R Display unit control unit electric unit (control unit) connector SKIA5271E

Case 8

Check data link connector circuit. Refer to LAN-243, "Data Link Connector Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
	Lin ooroon	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	Ι	UNKWN	-	Ι	UNKWN	UNKWN	1	UNKWN	UNKWN
TRANSMISSION	SION No indication		UNKWN	UNKWN	-	-	_	Ι	UNKWN	1	UNKWN	-
AIR PRESSURE MONITOR	RESSURE MONITOR No indication		UNKWN	1	-	-	—	Ι	UNKWN	I	—	-
Display unit	_	CAN COMM	CAN 1	CAN 3		CAN 6	-	CAN 2	CAN 5	1	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	-	_	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	-	-	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	_	UNKWN	-	_	—	—



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Case 9

Case 17: Check BCM circuit. Refer to LAN-244, "BCM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
OLLEOT OTOT	LIN Sereen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	—	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	—	—	_	UNKWN	_	_	-
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	C 1 2	CAN 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_		-	_	_	_

/////// : Malfunctioning part Low tire Unified Steering pressure warning control unit meter and angle A/C amp. sensor CAN H CAN L ABS Driver seat actuator and Data link ECM тсм всм IPDM E/R Display unit control unit electric unit (control unit) connector SKIA5273E

Case 10

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Check unified meter and A/C amp. circuit. Refer to LAN-244, "Unified Meter and A/C Amp. Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Tranemit				Rec	eive diagn	osis			
022201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	PRESSURE MONITOR No indication		UNKWN	-	-	-	-	-	UNKWN	-	-	-
Display unit	splay unit		CAN 1	CAN 3	_	CAN 6	-	CAN 2		-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	I	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	—	UNKWN		-	-	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_		UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	_



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Revision: 2004 November

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Case 11

Check steering angle sensor circuit. Refer to LAN-245, "Steering Angle Sensor Circuit Check" .

						CAN DIAG	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Tranemit				Rec	eive diagn	iosis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	Ι	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	Ι	UNKWN		Ι	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	—	UNKWN	UNKWN	—	_	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	—	UNKWN	—	_	_	-

///////, : Malfunctioning part Low tire Unified Steering pressure meter and angle warning control unit A/C amp. sensor CAN H CAN L ABS Driver seat actuator and Data link ECM тсм Display unit BCM IPDM E/R control unit electric unit connector (control unit) SKIA5275E

Case 12

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Check driver seat control unit circuit. Refer to LAN-245, "Driver Seat Control Unit Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	SURE MONITOR No indication		UNKWN	Ι	-	-	-	Ι	UNKWN	I	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	Ι	UNKWN	Ι	-	UNKWN
METER A/C AMP	No indication	I	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ι	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	I	_	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	-



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Case 13

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Case 21: Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-246</u>, "<u>ABS Actuator and</u> <u>Electric Unit (Control Unit) Circuit Check</u>".

						SUPPOI						
	EMeereen	1	T			0/11/0//	Rec	eive diagn	osis			
SELECT STST	EW SCIECT	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	RANSMISSION No indication		UNKWN	UNKWN	_	_	_	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	-	UNKWN	-	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-		_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	_	-
ABS	_	NØ		UNKWN		_	_	1	I	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_

/////// : Malfunctioning part Low tire Unified Steering pressure meter and angle warning A/C amp. sensor control unit CAN H CAN L ABS Driver seat actuator and Data link IPDM E/R тсм BCM ECM Display unit control unit electric unit connector (control unit) SKIA5277E

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Case 14

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Check IPDM E/R circuit. Refer to LAN-246, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	Ι	Ι	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	-	-	-	Ι	UNKWN	—	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	—	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	—	-	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	_	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	-	UNKWN	-	—	_	—



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Case 15

Check CAN communication circuit. Refer to LAN-247, "CAN Communication Circuit Check" .

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	iosis	1	1	
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		Ι	UNKWN	-	Ι		UNKWN	-	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	_	-	Ι	-	UNKWN	-	—	_
Display unit	_	CAN COMM		С 📢 З	_		-	CAN 2		-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-		UNKWN	—	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	-
ABS	_	NG I	UNKWN	UNKWN		-	I	-	_	UNKWN	—	_
IPDM E/R	No indication	_	UNKWN	UNKWN		_	_	UNKWN	_	_		—
												PKIA8455E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-251</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	Ι	UNKWN	UNKWN	-		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-		Ι	UNKWN	—	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	I	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNK	-	-	UNKWN	UNKWN	_	-	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-		UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	-	UNKWN	_	-	_	_
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Case 17

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А Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-251, "IPDM E/R Ignition Relay Circuit Check" .

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	-	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-		-	UNIWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	Ι	_	-	—	—	UNKWN	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	—	CAN 6	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	I		UNKWN	_	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	I	_	UNKWN	—
AUTO DRIVE POS.	No indication	NG	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 HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 4. (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L)
- : Continuity should exist.
- 9 (Y) 14 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-220, "Work Flow" .

NG >> Repair harness.

LAN Data link connector Harness connector 14 98 6 8,9 6,14 Ω SKIA5014E Circuit Check Between Data Link Connector and Driver Seat Control Unit AKS00AFR

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 (connector side and 3. harness side).
- Harness connector M9
- Harness connector B2

OK or NG

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

LAN-239

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2. Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-220, "Work Flow" . NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric **Unit (Control Unit)** AKS00AES

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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 B4
- Harness connector E105

OK or NG

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



Revision: 2004 November

SKIA6865E

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of low tire pressure warning 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 low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace low tire pressure warning control unit.
- NG >> Repair harness between low tire pressure warning control unit and TCM.



AKSODAEV

[CAN]

Display Unit Circuit Check AKS00AFW А 1. CHECK CONNECTOR 1. Turn ignition switch OFF. В 2. Disconnect the negative battery terminal. 3. Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side). С OK or NG OK >> GOTO2NG >> Repair terminal or connector. D 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect display unit connector. 1. F 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y). 14 (L) - 16 (Y) : Approx. 54 - 66Ω Display unit connector E OK or NG 14 16 OK >> Replace display unit. NG >> Repair harness between display unit and data link connector. Ω Н SKIA6867E Data Link Connector Circuit Check AKS00AFX **1. CHECK CONNECTOR** Turn ignition switch OFF. 1. J Disconnect the negative battery terminal. 2. 3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side). LAN OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. L 2. CHECK HARNESS FOR OPEN CIRCUIT Check resistance between data link connector M24 terminals 6 (L) Μ and 14 (Y). 6 (L) - 14 (Y) : Approx. 54 - 66 Ω Data link connector OK or NG

- OK >> Diagnose again. Refer to <u>LAN-220</u>, "Work Flow".
- NG >> Repair harness between data link connector and BCM.



[CAN]

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.
- Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



AKS00AFZ

	[CAN]
Steering Angle Sensor Circuit Check 1. CHECK CONNECTOR	AKS00AG0
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of steering angle sensor for dam side and harness side). 	age, bend and loose connection (sensor
<u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect steering angle sensor connector. Check resistance between steering angle sensor barness con- 	
nector M33 terminals 4 (L) and 5 (Y). 4 (L) - 5 (Y) : Approx. 54 - 66Ω	Steering angle
OK >> Replace steering angle sensor. NG >> Repair harness between steering angle sensor and data link connector.	sensor connector
	SKI46870E
Driver Seat Control Unit Circuit Check 1. CHECK CONNECTOR	AKS00AG1
 Turn ignition switch OFF. Disconnect the negative battery terminal. 	
Check following terminals and connectors for damage, bend and harness side).	I loose connection (control unit side and
Driver seat control unit connector	
Harness connector B9	
OK or NG OK >> GO TO 2.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
1. Disconnect driver seat control unit connector	
 Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W). 	
3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω	Driver seat control unit connector

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GOTO2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Disconnect ABS actuator and electric unit (control unit) connector. 1.

: Approx. 54 - 66Ω

2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector. 1.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- >> Repair harness between IPDM E/R and ABS actuator NG and electric unit (control unit).





AKS00AG3

	[CAN]	
C/ 1.	AN Communication Circuit Check AKS00AG CHECK CONNECTOR	1
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 control unit side, unit side, meter side, sensor side and harness side).	I
-		
-	I CM	
-	Display upit	
-	BCM	
_	Unified meter and A/C amp	
-	Steering angle sensor	
_	Driver seat control unit	
_	ABS actuator and electric unit (control unit)	
_	IPDM E/R	
_	Between ECM and IPDM E/R	
_	Between ECM and TCM	(
_	Between ECM and driver seat control unit	
Ok	(or NG	
0		
Ν	G >> Repair terminal or connector.	

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- 1. Disconnect following connectors.
- ECM connector _
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

- OK or NG
- OK >> GO TO 3.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9



Data link connector

SKIA6868F

Disconnect TCM connector.

- nals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Continuity should not exist.

OK or NG

1.

2

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.

Check continuity between TCM harness connector F103 termi-



5. CHECK HARNESS FOR SHORT CIRCUIT



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9



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Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

- 3 (L/Y) Ground
- 19 (BR/W) Ground : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.





- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2 Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

- OK >> GO TO 11.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT



OK or NG

- OK >> GO TO 12.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-251, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-220, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	



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BAT IPDM E/R connector 49 48 С Ω SKI46873F F

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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



AKS00AG8


AKS00AGA

LAN-CAN-22

DATA LINE



TKWB0034E

[CAN]



TKWB0035E

LAN-CAN-24



TKWB0036E

Work Flow

[CAN]

AKS00AGB

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS." or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

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

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ABS", and "IPDM E/R" displayed on CON-SULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESU	LTS		
()	WORK SUPPORT	DTC RESULTS	TIME		
	SELF-DIAG RESULTS		0		
	DATA MONITOR	[01000]			
	DATA MONITOR (SPEC)				
	CAN DIAG SUPPORT MNTR				
	ACTIVE TEST				
			F.F.DATA		
	Scroll Down	ERASE PF	RINT		
	BACK LIGHT COPY	MODE BACK LIGHT	COPY	PKIA8260E	

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ABS", "IPDM E/R" displayed on CON-SULT-II.

(Example)	SELECT DIAG MODE		CAN DIAG SU	PPORT N	INTR		
(/	WORK SUPPORT		ENG	INE PBS	NT		LAN
	SELF-DIAG RESULTS	INI	TIAL DIAG	0	K		
	DATA MONITOR	TC	ansmit diag M	0	ĸ		
	DATA MONITOR (SPEC)		C/TCS/ABS	0	к		L
		ME	TER/M&A		K		
	CAN DIAG SUPPORT MNTR	BC	, M/SEC		K		
	ACTIVE TEST	IPD	DM E/R	0	ĸ		
		AW	/D/4WD/e4WD	UN	KWN		M
	Scroll Down		PRINT		Scroll Down		
	BACK LIGHT COPY	мо	DDE BACK	LIGHT	COPY	DKIV6343E	

- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-259, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-259</u>, "CHECK SHEET".

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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line Check"</u>.

LAN-257

- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-259</u>, <u>"CHECK SHEET"</u>.
- 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 <u>LAN-259</u>, "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 <u>AV-175</u>, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-261, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

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

SELECT SYSTI ENGINE TRANSMISSION IR PRESSURE MONITOR Display control unit BCM METER A/C AMP AUTO DRIVE POS. ABS	EM screen — No indication No indication —	Initial diagnosis NG NG NG	Transmit diagnosis UNKWN UNKWN		TCM UNKWN	TIRE-P	Rec DISPLAY –	eive diagr BCM /SEC UNKWN	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE TRANSMISSION AIR PRESSURE MONITOR Display control unit BCM METER A/C AMP AUTO DRIVE POS. ABS	 No indication No indication 	diagnosis NG NG NG	diagnosis UNKWN UNKWN	ECM -	TCM UNKWN	TIRE-P	DISPLAY	SEC /SEC	/METER /M&A	STRG	/ABS	IPDM E/R
ENGINE TRANSMISSION AIR PRESSURE MONITOR Display control unit BCM METER A/C AMP AUTO DRIVE POS. ABS	 No indication No indication 	NG NG NG	UNKWN UNKWN		UNKWN	-	_	UNKWN		_		
TRANSMISSION AIR PRESSURE MONITOR Display control unit BCM METER A/C AMP AUTO DRIVE POS. ABS	No indication No indication —	NG NG	UNKWN					011111	ONICON		UNKWN	UNKWN
AIR PRESSURE MONITOR Display control unit BCM METER A/C AMP AUTO DRIVE POS. ABS	No indication —	NG		ONKWIN	-	-	-	-	UNKWN	_	UNKWN	-
Display control unit 3CM WETER A/C AMP AUTO DRIVE POS. ABS	_		UNKWN	_	-	-	-	Ι	UNKWN	-	—	-
BCM METER A/C AMP AUTO DRIVE POS. ABS		CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	; —	CAN CIRC 2	CAN CIRC 5	1	-	CAN CIRC 7
METER A/C AMP AUTO DRIVE POS. ABS	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	_	UNKWN
AUTO DRIVE POS. ABS	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_
ABS	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	-	_	_
	—	NG	UNKWN	UNKWN	UNKWN	_		-	_	UNKWN	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	_	—	_	-
		SE	Attach cop	y of STEM			Attach SELECT	n copy of SYSTEM	1			
			CAN	I DIAG SU	Attach c display co JPPORT N	copy of ntrol unit MONITOR	check she	et				

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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 data link connector. Refer to <u>LAN-276, "Circuit Check Between TCM and</u> <u>Data Link Connector"</u>.

						CAN DIAC	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Tronomit				Rec	eive diagn	osis			
	LIVISOICCIT	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-		UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	—	-	-	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN ORC 3	_	CAN ORC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
всм	No indication	NG	UNKWN		-	-	-	Ι	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-		—	-	UNKWN	UNKWN	-	-	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNK	-	_	_	UNKWN	_	_	_	_



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Check harness between data link connector and driver seat control unit. Refer to <u>LAN-276</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit</u>".

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	-		-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	-	—	-	-	UNKWN	-	—	-
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	-	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	I	_	Ι	Ι	UNKWN		_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-		-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	—	-
ABS		NG	UNKWN		UNKWN	_	1	-	_		_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-

PKIA8460E



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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u><u>A</u><u>277, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)"</u>.

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	Ι	UNKWN	Ι	1	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-			-	UNKWN	-	_	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	_	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	-	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_	_



Check ECM circuit. Refer to LAN-278, "ECM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Tronomit				Rec	eive diagr	iosis			
	LWBBRCCH	diagnosis	Transmit ECM TCM TIRE-P DISPLAY BCM METER STRG VDC/TCS JUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN LUNIZANIN							IPDM E/F		
ENGINE	-	NG		-	UNKWN	-	-	UNKWN		-		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	-	UNKWN	-	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CANORC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	-	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	_	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

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Case 5

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Check TCM circuit. Refer to LAN-279, "TCM Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis		-	
011201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_		Ι	-	UNKWN	UNKWN	1	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		Ι	_		UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_		I	—	I	UNKWN	-	—	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	Ι	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	I	I	_	1	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	I	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_		-	_	UNKWN	UNKWN	—	—	_
ABS	-	NG	UNKWN	UNKWN	UNKWN		—	-	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	_	UNKWN	_	_	_	_



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Case 6

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Check low tire pressure warning control unit circuit. Refer to <u>LAN-279</u>, "Low <u>Tire Pressure Warning Control</u> <u>Unit Circuit Check</u>".

		CAN DIAG SUPPORT MNTR Receive diagnosis										
	=M sereen	lucities l	T				Rec	eive diagn	osis			
SELECT STOR		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	-	UNKWN	_	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN ORC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	-	_
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	_	-	_



Case 7

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Check display control unit circuit. Refer to LAN-280, "Display Control Unit Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis		-	-
011201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	Ι	UNKWN	I	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		Ι	_	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	-	-	—	-	UNKWN	-	_	-
Display control unit	_	CAN COMM	CAN ORC 1	CANORC 3	_	CAN ORC 6	-	CANORC 2	CANORC 5	-	-	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	I	I	—	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	I	_	UNKWN	UNKWN	-	—	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	١	—	-	Ι	UNKWN	—	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	-	-	UNKWN	_	_	_	_



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Check data link connector circuit. Refer to LAN-280, "Data Link Connector Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Tranomit				Rec	eive diagr	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	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 BCM circuit. Refer to LAN-281, "BCM Circuit Check" .

						CAN DIAC	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	I	-		UNKWN		UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	1	_	-	UNKWN	-	UNKWN	Ι
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	—	-	UNKWN	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CANORC 2	CAN CIRC 5	-	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	Ι	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-		UNKWN	-	-	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	—	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN UNKWN							-	



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Check unified meter and A/C amp. circuit. Refer to LAN-281, "Unified Meter and A/C Amp. Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis	is diagnosis ECM TCM TIRE-P DISPLAY BCM METER STRG VDC/TCS /ABS IPDM									IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	_	UNKWN		_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CANORC 5	-	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNIOWN	-	—	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		1	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	_	UNKWN		Ι	—	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	—	-	_	_	UNKWN	_	_
IPDM E/R	No indication	_	- UNKWN UNKWN								_	

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Case 11

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Check steering angle sensor circuit. Refer to LAN-282, "Steering Angle Sensor Circuit Check" .

						CAN DIAC	SUPPOF	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-	UNKWN	I	-	UNKWN	UNKWN		UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		_	_	UNKWN	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	_	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7	
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		-	UNKWN	UNKWN	_	_	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	



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Check driver seat control unit circuit. Refer to LAN-282, "Driver Seat Control Unit Circuit Check" .

						CAN DIAC	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	I	I	UNKWN	UNKWN	1	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	Ι	Ι	Ι	Ι	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	I	1	UNKWN	UNKWN	1	1	_
ABS		NG	UNKWN	UNKWN	UNKWN	-	-	-	_	UNKWN	-	-
IPDM E/R	No indication	_	- 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-283</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN DIA	<u> SUPPOI</u>	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	_		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	-		-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	_	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_		-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	-	-
ABS	_	V	UNKWN	UNKWN	UNIWN	_	_	-	_	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	-	UNKWN	_	_	_	_



Check IPDM E/R circuit. Refer to LAN-283, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	—	UNKWN	—	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	CANORC
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

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Case 15

Check CAN communication circuit. Refer to LAN-284, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	iosis					
011101 0101		diagnosis	diagnosis	ECM	CM TCM TIRE-P DISPLAY BCM METER /M&A STRG VDC/TCS /ABS IPDM E/									
ENGINE	_	NG	UNK	_	UNKWN	_	-		UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	-	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	-	-	-		
Display control unit	-	CAN COMM	CANORC 1	CAN ORC 3	-	CAN ORC 6	_	CANORC 2	CANORC 5	-	-	CANORC 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	-	-		
ABS	-	V	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-288</u>, "IPDM E/R Ignition Relay H <u>Circuit Check"</u>.

					CAN DIAG SUPPORT MNTR								
	EM scroop	lettial	Tre e e reit				Rec	eive diagn	osis				
SELECT STOT		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-	– UNYWN – – UNKWN UNKWN – UNYWN UNKWN								
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN	-	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7	
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNIOWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	-	-	
ABS	_	NG	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-288, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR									
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN		Ι	_	_	1	UNKWN	Ι	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	-	_		-	UNKWN	-	-	—
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	Ι	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	Ι	_	Ι	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	Ι	UNKWN	UNKWN	_	-	-
ABS		NG	UNKWN	UNKWN	UNKWN	_	Ι	-	-	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_
												PKIA8475E

Circuit Check Between TCM and Data Link Connector

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1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-257, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector 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 M9
- Harness connector B2

OK or NG

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



2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2 Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)
- : 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 B4.
- 2. Check continuity between harness connector B2 terminals 1 (L). 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-257, "Work Flow" .
- NG >> Repair harness.

Harness connector Harness connector 3 1 10 10 Н 1,10 3,10 Ω SKIA5016

Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) AKSODAGE

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 B4
- Harness connector E105

OK or NG

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

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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

10 (Y) - 10 (Y)



Harness connector

3,10

73

10

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) har-

ness connector E24 terminals 11 (L), 15 (Y).

- 3 (L) 11 (L) 10 (Y) - 15 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-257, "Work Flow" . NG





1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 termi-2. nals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



[CAN]

AKS00AGF

SKIA5017E

ABS actuator and electric unit

11,15

O CONNECTOR

(control unit) connector

C/UNIT

Ω

2. CHECK HARNESS FOR OPEN CIRCUIT F 1 Disconnect TCM connector. Check resistance between TCM harness connector F103 termi-2. nals 5 (L) and 6 (Y). 5 (L) - 6 (Y) : Approx. 54 - 66 Ω TCM connector OK or NG OK тсм **O** CONNECTOR >> Replace TCM. NG >> Repair harness between TCM and low tire pressure 5 warning control unit. PKIA0817E Low Tire Pressure Warning Control Unit Circuit Check AKS00AGH 1. CHECK CONNECTOR Turn ignition switch OFF. 1. 2. Disconnect the negative battery terminal. LAN 3. Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side). OK or NG L >> GO TO 2. OK NG >> Repair terminal or connector. 2. CHECK HARNESS FOR OPEN CIRCUIT Μ 1. Disconnect low tire pressure warning control unit connector. 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y). 9 (L) - 21 (Y) : Approx. 54 - 66Ω Low tire pressure warning control unit connector OK or NG OK >> Replace low tire pressure warning control unit. NG >> Repair harness between low tire pressure warning control unit and TCM. SKIA6885

1. Turn ignition switch OFF.

TCM Circuit Check

1. CHECK CONNECTOR

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

TCM connector

Harness connector F102

OK or NG

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



[CAN] AKS00AGG

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LAN-279

2004 Murano

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 M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y)

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit 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 data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-257, "Work Flow".
- NG >> Repair harness between data link connector and BCM.



AKS00AGJ

[CAN]

Revision: 2004 November

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 M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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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.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

: Approx. 54 - 66Ω

OK or NG

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



Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.



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[CAN]



CAN Communication 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, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

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

[CAN]

2. CHECK HARNESS FOR SHORT CIRCUIT А 1. Disconnect following connectors. ECM connector R Low tire pressure warning control unit connector Harness connector M82 Display control unit connector BCM connector Unified meter and A/C amp. connector Steering angle sensor connector Harness connector M9 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y). 6 (L) - 14 (Y) : Continuity should not exist. Data link connector OK or NG E OK >> GO TO 3. NG >> Check the following harnesses. If any harness is damaged, repair the harness. Harness between data link connector and ECM Ω • Harness between data link connector and low tire pressure warning control unit SKIA6868E Н • Harness between data link connector and harness connector M82 Harness between data link connector and display control unit Harness between data link connector and BCM Harness between data link connector and unified meter and A/C amp. Harness between data link connector and steering angle sensor Harness between data link connector and harness connector M9 3. CHECK HARNESS FOR SHORT CIRCUIT LAN Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground. 6 (L) - Ground : Continuity should not exist. Data link connector 14 (Y) - Ground : Continuity should not exist. 14 6 OK or NG 6, 14 OK >> GO TO 4. Μ NG >> Check the following harnesses. If any harness is damaged, repair the harness. Harness between data link connector and ECM SKIA6874E Harness between data link connector and low tire pressure warning control unit Harness between data link connector and harness connector M82 Harness between data link connector and display control unit Harness between data link connector and BCM

- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M9



4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect TCM connector. 1.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5(L) - 6(Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



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TCM connector

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O CONNECTOR

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5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

- 5 (L) Ground
- : Continuity should not exist.
- 6 (Y) Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) 2. and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9



SKIA5020E

7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

3 (L/Y) - Ground

: Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT



- 48 (L) Ground 49 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> GO TO 12.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-288, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-257, "Work Flow" .
- NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection" .

Resistance value (Ω)

(Approx.)

Ignition power supply circuit. Refer to PG-10, "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 48 and 49.

Terminal

04 06

108 - 132	94 - 80	LCIVI
100 - 132	48 - 49	IPDM E/R

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AKS00AGS







[CAN]

Unit

LAN-288
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



AKS00AGV



TKWB0037E

[CAN]



TKWB0038E

[CAN]

LAN-CAN-26



TKWB0039E

[CAN]

LAN-CAN-27 A



TKWB0040E

Work Flow

[CAN]

1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", 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)	METEB A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

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

(Example)	SELECT DIAG MODE	SELF	-DIAG RESULTS
()	WORK SUPPORT	DTC RI	ESULTS TIME
	SELF-DIAG RESULTS		
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTR		
	ACTIVE TEST		
			F.F.DATA
	Scroll Down	ERASE	E PRINT
	BACK LIGHT COPY	MODE BA	ACK LIGHT COPY

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "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-296, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>296, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.
- 7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-296, "CHECK SHEET"

	[CAN]	
8.	Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to LAN-296, "CHECK SHEET".	А
	NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to <u>AV-101, "CAN Communication Line Check"</u> .	В
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-298, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u> .	
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NOTE:

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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										
					CA	N DIAG SU	PPORT MI	NTR diagnosis			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	1	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
				,							
		A SEI	.ttach copy _ECT SYS [−]	of ГЕМ		SE	Attach copy LECT SYS	of TEM			
				/ CAN DIAG	Attach copy display uni MONITOR	of t check shee	ət				



PKIA8478E

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 data link connector. Refer to <u>LAN-310, "Circuit Check Between TCM and</u> <u>Data Link Connector"</u>.

					CA	N DIAG SU		ITR			
	EM screen	luitin l	Transmit				Receive of	diagnosis			
SELECT STOT	LIVISCIEEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	-		UNKWN	UNKWN	_	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	-	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	_	CAN 7
всм	No indication	NG	UNKWN		—	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN		UNK	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN		_	-	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN		—	-	-	—	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	_	_



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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u><u>A</u><u>311, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
	EM screen	Initial	Transmit				Receive of	diagnosis			
	EW Screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN		-	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	—		-
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_			-
ALL MODE AWD/4WD	_	NG	UNKWN		_	_	_	UNK	_	UNKWN	1
ABS	-	NG	UNKWN		_	_	_	_	_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

PKIA8479E



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Check ECM circuit. Refer to LAN-312, "ECM Circuit Check" .

					CA	N DIAG SU	PPORT MI	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
	Lin corcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK	_		UNKWN	UNKWN	—	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	-	UNKWN	-	UNKWN	-
Display unit	—	CAN COMM	CAN 1	САЛЗ	—	_	CAN 2	CAN 5	-	_	CAN 7
BCM	No indication	NG	UNKWN		—	-	_	UNKWN	-	—	UNKWN
METER A/C AMP	No indication	—	UNKWN		UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN		—	_	-	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN		—	_	_	_	_	—	—
IPDM E/R	No indication	-	UNKWN		—	-	UNKWN	-	-	_	-
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Case 4

Check TCM circuit. Refer to LAN-312, "TCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNK	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	—	_	CAN 2	CAN 5	_	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	—	-	—	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNK	UNKWN	UNKWN	-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	—	-	-		-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	—	-	UNKWN	_	-	-	-



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Case 5

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Check display unit circuit. Refer to LAN-313, "Display Unit Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
	LW BOICEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN	-
Display unit	_	CAN COMM	C 📢 1	С 📢 З	_	_	C 📢 2	C 📢 5	_		C 📢 7
всм	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN		UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	-	-	_	—	-	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	_	-	-	-



Case 6

Check data link connector circuit. Refer to LAN-313, "Data Link Connector Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranamit				Receive of	diagnosis			
	LIN BOICON	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	—	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN		_	-	UNKWN	—	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	-	-	-	—	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	-	_	-



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Check BCM circuit. Refer to LAN-314, "BCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
	EM screen	la tra l	Turnenti				Receive of	diagnosis			
SELECT STOT	LIVISCIEEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNK	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	-	UNKWN	—
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	C 1 2	CAN 5	-	_	CAN 7
всм	No invication	NG	UNKWN	UNKWN	—	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN		_	UNKWN	UNKWN	—
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	_	_	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	—	-	_	—	-	-	—
IPDM E/R	No indication	-	UNKWN	UNKWN	—	-		_	-	_	-



Case 8

Check unified meter and A/C amp. circuit. Refer to LAN-314, "Unified Meter and A/C Amp. Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN		UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	-	UNKWN	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	_		-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_		-	UNKWN	
ABS	_	NG	UNKWN	UNKWN	—	-	_	_	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Check AWD control unit circuit. Refer to LAN-315, "AWD Control Unit Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Tranomit		Receive diagnosis								
	Lin corcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN		UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	-	UNKWN	—	UNKWN	_		
Display unit	—	CAN COMM	CAN 1	CAN 3	—	_	CAN 2	CAN 5	—	_	CAN 7		
BCM	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	-	-	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN	_		
ALL MODE AWD/4WD	_	NG			_	-	_		—		_		
ABS	_	NG	UNKWN	UNKWN	—	-	_		-	-	_		
IPDM E/R	No indication	-	UNKWN	UNKWN	—	-	UNKWN	_	-	-	-		
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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-315</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	EM screen	Initial	Tranomit				Receive	diagnosis			
diagnosis			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	UNKWN	-
ABS	_	N			—	-	_	—	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

PKIA8487E //////, : Malfunctioning part ABS actuator and electric unit Unified BCM meter and A/C amp. (control unit) CAN H CAN L AWD Data link ECM TCM Display unit IPDM E/R control unit connector

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Check IPDM E/R circuit. Refer to LAN-316, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	UNKWN	_		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	_	UNKWN	-	UNKWN	—	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	-	CAN 7	
всм	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	-	_	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	—	-	-	-	-	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_	

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[CAN]

Case 12

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Check CAN communication circuit. Refer to LAN-317, "CAN Communication Circuit Check" .

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SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK	-	UNK	-		UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM		САЛЗ	_	-	CAN 2	C 📢 5	-	_	
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG		UNKWN	_	-	_		-	UNKWN	-
ABS	_	NA			—	-	_	_	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	-	_	-

Case 13

Н Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-320, "IPDM E/R Ignition Relay Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Tranemit	Receive diagnosis								
		diagnosis	gnosis diagnosis		тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN			-	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN			—	UNKWN	-	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3			CAN 2	CAN 5	—	_	CAN 7	
всм	No indication	NG	UNKWN	UNKWN		1	—	UNKWN	—	_	UNKWN	
METER A/C AMP	No indication		UNKWN	UNKWN		UNKWN	UNKWN		UNKWN	UNKWN	_	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	_	-	—	UNKWN	-		—	
ABS	_	NG	UNKWN	UNKWN	—	_	—	_	-	_	_	
IPDM E/R	No indication	1	UNKWN	UNKWN		-	UNKWN		-	_	_	
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Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-320, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Initial Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN		_	_	_		—	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	—	_	CAN 7		
ВСМ	No indication	NG	UNKWN	UNKWN	_	—	—	UNKWN	—	—	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	—		
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	_	—	_	UNKWN	—	UNKWN	_		
ABS	-	NG	UNKWN		_	_	_	_	—	_	_		
IPDM E/R	No indication	-	UNKWN	UNKWN	_	—	UNKWN	—	-	-	—		
											PKIA8491E		

Circuit Check Between TCM and Data Link Connector

AKS00AGY

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-294, "Work Flow".
- NG >> Repair harness.







4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)
 - 10 (Y) 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-294, "Work Flow".
- NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).
 - 94 (L) 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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



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ABS actuator and electric unit

11,15

O CONNECTOR

(control unit) connector

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Harness connector

3,10

∃ 3 10





- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and ECM.



Display Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2. NG >> Repair ter

S >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).
 - 14 (L) 16 (Y)

: Approx. 54 - 66Ω

OK or NG

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



1. CHECK CONNECTOR

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

OK or NG

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



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: Approx. 54 - 66Ω

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

OK or NG

- OK >> Diagnose again. Refer to LAN-294, "Work Flow".
- NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

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[CAN]

- 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.
- Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



AKS00AH5

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit $_{\rm G}$ side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).
 - 8 (L) 16 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace AWD control unit.
- NG >> Repair harness between AWD control unit and IPDM E/ R.



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.

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AWD control unit connector	LAN
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$\overline{2}$. 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 E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



IPDM E/R Circuit Check

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[CAN]

1. Turn ignition switch OFF.

1. CHECK CONNECTOR

- 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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



	[0,]
	N Communication Circuit Check
•	CHECK CONNECTOR
	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 unit side, meter side, control unit side and harness side).
	ECM
-	TCM
-	Display unit
-	BCM
-	Unified meter and A/C amp.
	AWD control unit
	ABS actuator and electric unit (control unit)
	IPDM E/R
	Between ECM and IPDM E/R
-	Between ECM and TCM
ЭK	or NG
O	K >> GO TO 2.
N	3 >> Repair terminal or connector.
2.	CHECK HARNESS FOR SHORT CIRCUIT
۱.	Disconnect following connectors.
-	ECM connector
	Harness connector M82
	Display unit connector
	BCM connector
	Unified meter and A/C amp. connector
	Harness connector M9
2.	Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).
	6 (L) - 14 (Y) : Continuity should not exist.
-	

<u>OK or NG</u>

OK >> GO TO 3.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect TCM connector.
- Check continuity between TCM harness connector F103 termi-2. nals 5 (L) and 6 (Y).

5(L) - 6(Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



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TCM connector

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Check continuity between TCM harness connector F103 terminals 5

5. CHECK HARNESS FOR SHORT CIRCUIT

(L), 6 (Y) and ground.

5 (L) - Ground 6 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.



SKIA5020E

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- 2 Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 7.
- NG >> Repair harness between harness connector B4 and harness connector B2.



Harness connector 3 💻

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3,10

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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- : Continuity should not exist.
- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Repair harness between harness connector B4 and harness connector B2.

8. CHECK HARNESS FOR SHORT CIRCUIT



Check continuity between IPDM E/R harness connector E9 ter-2. minals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

>> GO TO 9. OK

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105





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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground 49 (Y) - Ground
- : Continuity should not exist.
- : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-320, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-294, "Work Flow" .
- NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10</u>, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" <u>AND/OR "START"</u>.

LAN-320

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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	109 122
IPDM E/R	48 - 49	106 - 132



IPDM E/R connector

49 48

48, 49





BAT

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AKS00AHA

PFP:23710

AKS00AHC

AKS00AHD

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[CAN]

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



LAN

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Schematic





TKWB0041E

[CAN]



TKWB0042E

LAN-CAN-29



TKWB0043E
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LAN-CAN-30 A



TKWB0044E

Work Flow

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1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", 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)	METEB A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

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

(Example)	SELECT DIAG MODE	SELF	-DIAG RESULTS
()	WORK SUPPORT	DTC RI	ESULTS TIME
	SELF-DIAG RESULTS		
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTR		
	ACTIVE TEST		
			F.F.DATA
	Scroll Down	ERASE	E PRINT
	BACK LIGHT COPY	MODE BA	ACK LIGHT COPY

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "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-328, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>328, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line</u> <u>Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-328</u>. <u>"CHECK SHEET"</u>.

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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 <u>LAN-328</u> , "CHECK SHEET". NOTE:	A
Q	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-175</u> , "CAN Communication Line Check".	В
9.	RESULTS (EXAMPLE)".	С
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CHECK SHEET

NOTE:

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

					CA	N DIAG SU	PPORT M	ITR dia manaja			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	—	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_		_
		A SEI	ttach copy _ECT SYS [~]	of TEM		, SE	Attach copy LECT SYS	of TEM			
			CANI	4 dis DIAG SUPF	Attach copy play contro PORT MON	of unit ITOR chec	k sheet				



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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

Check harness between TCM and data link connector. Refer to <u>LAN-342</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	FM screen	Initial	Tranomit				Receive	diagnosis			
		diagnosis	diagnosis	Inosis ECM TCM DISPLAY BCM METER AWD/4WD VDC/TCS /ABS IPD							IPDM E/R
ENGINE	_	NG	UNKWN	VN – UNKWN – UNKWN UNKWN – U							
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN		_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN			UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	-	_	-	_	-	—	-
IPDM E/R	No indication	-	UNKWN		-	_	UNKWN	_	-	—	-



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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>A</u> <u>343, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CA	N DIAG SU	PPORT MM	NTR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN		_	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN		_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_		-	UNKWN	_
ABS	-	NG	UNKWN		_	_	_	-	_	_	—
IPDM E/R	No indication	_	UNKWN	UNKWN	—	_	UNKWN	_	_	_	_

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Check ECM circuit. Refer to LAN-344, "ECM Circuit Check" .

			CAN DIAG SUPPORT MNTR										
	EM screen	Lettin I	Turana ana it				Receive	diagnosis					
SELECTOTOT	LIVISCIECI	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNK	_	UNK	—	UNK	UNKWN		_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN		—	-	-	UNKWN	-	UNKWN	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7		
BCM	No indication	NG	UNKWN		_	_	_	UNKWN	-	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN		UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	UNKWN	_		
ABS	_	NG	UNKWN		-	-	-	-	-	_	-		
IPDM E/R	No indication	_	UNKWN		-	-	UNKWN	_	-	_	_		



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Case 4

Check TCM circuit. Refer to LAN-344, "TCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranomit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN		UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	—	UNKWN	—
ABS	_	NG	UNKWN	UNKWN			_	-	_		—
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-	-	_
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Check display control unit circuit. Refer to LAN-345, "Display Control Unit Circuit Check" .

SELECT SYSTEM screen Initial diagnosis Transmit diagnosis CAN DIAG SUPPORT MNTR SELECT SYSTEM screen Initial diagnosis Transmit diagnosis Transmit diagnosis Receive diagnosis METER //M&A AWD/4WD VDC/TCS //ABS IPDM E/R ENGINE - NG UNKWN - UNKWN - UNKWN UNKWN - CANORC 1 CANORC 3 - - CANORC 2 CANORC 5 - - CANORC 7 BCM No indication NG UNKWN UNKWN UNKWN UNKWN - - - UNKWN - - UNKWN												
SELECT SYSTEM Initial diagnosis Transmit field Image of the second s						CA	N DIAG SU	PPORT MN	ITR			
Delete of of other Link of SectionInitial diagnosisHarisfinit diagnosisECMTCMDISPLAYBCM /SECMETER /M&AAWD/4WDVDC/TCS /ABSIPDM E/RENGINE-NGUNKWN-UNKWN-UNKWNUNKWNUNKWN-UNKWNTRANSMISSIONNo indicationNGUNKWNUNKWNUNKWNUNKWN-UNKWN-Display control unit-CAN COMMCANORC1CANORC3CANORC2CANORC5CANORC7BCMNo indicationNGUNKWNUNKWNUNKWNUNKWNCANORC7BCMNo indicationNGUNKWNUNKWNUNKWNUNKWNUNKWNCANORC5CANORC7BCMNo indicationNGUNKWNUNKWNUNKWNUNKWNUNKWNUNKWNUNKWNUNKWNCANORC5CANORC7BCMNo indication-UNKWNUNKWNUNKWNUNKWNUNKWNUNKWN <t< td=""><td>SELECT SYST</td><td>EM screen</td><td>Initial</td><td>Trancmit</td><td></td><td></td><td>_</td><td>Receive</td><td>diagnosis</td><td></td><td></td><td></td></t<>	SELECT SYST	EM screen	Initial	Trancmit			_	Receive	diagnosis			
ENGINE-NGUNKWN-UNKWNUNKWNUNKWNUNKWN-UNKWNTRANSMISSIONNo indicationNGUNKWNUNKWNUNKWN-UNKWN-Display control unit-CAN COMMCAN CRC1CAN CRC3CAN CRC2CAN RC5CAN CRC7BCMNo indicationNGUNKWNUNKWNUNKWN-UNKWN-CAN CRC7METER A/C AMPNo indication-UNKWNUNKWNUNKWNUNKWNUNKWNUNKWNUNKWN-ALL MODE AWD/4WD-NGUNKWNUNKWNUNKWN<			diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
TRANSMISSIONNo indicationNGUNKWNUNKWNIIUNKWNIUNKWNIDisplay control unitICAN COMCAN CRC 1CAN CRC 3IICAN CRC 2CAN CRC 5IICAN CRC 7BCMNo indicationNGUNKWNUNKWNIIIUNKWNIIIIICAN CRC 7METER A/C AMPNo indicationIUNKWNUNKWNUNKWNUNKWNUNKWNIIUNKWNIII <td>ENGINE</td> <td>_</td> <td>NG</td> <td>UNKWN</td> <td>_</td> <td>UNKWN</td> <td>—</td> <td>UNKWN</td> <td>UNKWN</td> <td>UNKWN</td> <td>—</td> <td>UNKWN</td>	ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
Display control unit-CAN COMMCAN GRC 1CAN GRC 3CAN GRC 2CAN GRC 5CAN GRC 7BCMNo indicationNGUNKWNUNKWNUNKWNUNKWNUNKWNUNKWNMETER A/C AMPNo indication-UNKWNUNKWNUNKWNUNKWNUNKWNUNKWN-UNKWN-UNKWNUNKWNUNKWNUNKWNUNKWNUNKWN	TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	—	_	UNKWN	-	UNKWN	-
BCMNo indicationNGUNKWNUNKWNIIUNKWNIUNKWNIUNKWNIUNKWNIUNKWNIUNKWNIUNKWNIUNKWNIIUNKWNIIUNKWNIIIIIIIUNKWNIII </td <td>Display control unit</td> <td>_</td> <td>CAN COMM</td> <td>CAN ORC 1</td> <td>CAN ORC 3</td> <td>_</td> <td>_</td> <td>CAN CRC 2</td> <td>CANORC 5</td> <td>—</td> <td>_</td> <td>CAN CRC 7</td>	Display control unit	_	CAN COMM	CAN ORC 1	CAN ORC 3	_	_	CAN CRC 2	CANORC 5	—	_	CAN CRC 7
METER A/C AMPNo indication-UNKWNUNKWNUNKWNUNKWNUNKWN-UNKWNUNKWN-ALL MODE AWD/4WD-NGUNKWNUNKWNUNKWN-UNKWN-ABS-NGUNKWNUNKWNIPDM E/RNo indication-UNKWNUNKWN	всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
ALL MODE AWD/4WD - NG UNKWN UNKWN - - UNKWN - UNKWN - ABS - NG UNKWN UNKWN - <t< td=""><td>METER A/C AMP</td><td>No indication</td><td>—</td><td>UNKWN</td><td>UNKWN</td><td>UNKWN</td><td></td><td>UNKWN</td><td> </td><td>UNKWN</td><td>UNKWN</td><td>_</td></t<>	METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN		UNKWN		UNKWN	UNKWN	_
ABS - NG UNKWN UNKWN - </td <td>ALL MODE AWD/4WD</td> <td>_</td> <td>NG</td> <td>UNKWN</td> <td>UNKWN</td> <td>_</td> <td>—</td> <td>—</td> <td>UNKWN</td> <td>-</td> <td>UNKWN</td> <td>—</td>	ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	—	—	UNKWN	-	UNKWN	—
IPDM E/R No indication - UNKWN - - UNKWN - - - -	ABS	_	NG	UNKWN	UNKWN		_	_	-	_	—	_
	IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	UNKWN	-	-	—	-
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Case 6

Check data link connector circuit. Refer to LAN-345, "Data Link Connector Circuit Check" .

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	—	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Check BCM circuit. Refer to LAN-346, "BCM Circuit Check" .

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	EM screen	Initial	Transmit		-	-	Receive	diagnosis	-		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—		UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	GUNKWN UNKWN -				_	UNKWN	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CRC 2	CAN CIRC 5	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	—	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	_	-	-	-	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	-	-	-



Case 8

Check unified meter and A/C amp. circuit. Refer to LAN-346, "Unified Meter and A/C Amp. Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit		-	-	Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_		-	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CANORC 5	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_		-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_		-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Check AWD control unit circuit. Refer to LAN-347, "AWD Control Unit Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit diagnosis		Receive diagnosis								
		diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	—	UNKWN	_	UNKWN	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7		
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	-	UNKWN		
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_		UNKWN	-		
ALL MODE AWD/4WD	_	NG	UNK				—		-	UNKIVN	-		
ABS	_	NG	UNKWN	UNKWN	-	_	—	_	-	_	-		
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	-	-	_	-		
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Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-347, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial diagnosis	Trancmit				Receive	diagnosis				
			diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7	
ВСМ	No indication	NG	UNKWN	UNKWN	_	—	_	UNKWN	—	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN		—	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	-	UNKWN	-	UNK	_	
ABS	_	N	UNK		-	-	—	_	-	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	



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Check IPDM E/R circuit. Refer to LAN-348, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial diagnosis	Trancmit				Receive of	diagnosis				
			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CRC 7	
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNK	
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	-	
ABS	_	NG	UNKWN	UNKWN	-	_	-	-	-	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	-	-	_	
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Case 12

Check CAN communication circuit. Refer to LAN-349, "CAN Communication Circuit Check" .

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	The second					Receive	diagnosis				
	LWBGGGGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	-	NG		_		—	UNK	UNKWN		—		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	-	
Display control unit	-	CAN COMM	CAN ORC 1	CAN ORC 3	_	-	CANORC 2	CAN ORC 5	-	_	CANORC 7	
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_	
ALL MODE AWD/4WD	-	NG			_	—	-	UNKWN	-		-	
ABS	-	N			_	_	-	_	-	—	-	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_	
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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-352, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

					CA	N DIAG SU	PPORT MN	ITR					
SELECT SYST	FM screen	Initial	Tronomit		Receive diagnosis								
	Livi boroon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	—		_	UNKWN	UNKWN	UNKWN	—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		_	UNKWN	_	UNKWN	_		
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	_		CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
BCM	No indication	NG	UNKWN	UNKWN	_	-		UNKWN	-	_	UNKWN		
METER A/C AMP	No indication	—	UNKWN	UNKWN		UNKWN	UNKWN	—	UNKWN	UNKWN	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_		_	UNKWN	-		-		
ABS	_	NG	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-352</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial diagnosis	Transmit				Receive	diagnosis					
			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN			_	_		—	UNKWN	—		
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 2	CAN CIRC 5	—	-	CAN CIRC 7		
BCM	No indication	NG	UNKWN	UNKWN			_	UNKWN	—	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	—		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN			_	UNKWN	—	UNKWN	—		
ABS	_	NG	UNKWN			-	_	-	—	_	-		
IPDM E/R	No indication	_	UNKWN	UNKWN			UNKWN		—	_	—		
											DIVINGENCE		
											PRIA6506E		

Circuit Check Between TCM and Data Link Connector

AKS00AHH

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-326, "Work Flow".
- NG >> Repair harness.







4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)
 - 10 (Y) 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-326, "Work Flow".
- NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).
 - 94 (L) 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

LAN-344





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AKS00AHJ

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and ECM.



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 _G 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 M43 terminals 25 (L) and 26 (Y).
 - 25 (L) 26 (Y)

: Approx. 54 - 66Ω

OK or NG

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



1. CHECK CONNECTOR

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

OK or NG

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



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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66Ω

6 (L) - 14 (Y)

OK or NG

- OK >> Diagnose again. Refer to LAN-326, "Work Flow" .
- NG >> Repair harness between data link connector and BCM.



BCM 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 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.
- Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14, "Removal and Installa-</u> tion of <u>BCM"</u>.
- NG >> Repair harness between BCM and data link connector.



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit $_{\rm G}$ side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).
 - 8 (L) 16 (Y)

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace AWD control unit.
- NG >> Repair harness between AWD control unit and IPDM E/ R.



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.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



IPDM E/R Circuit Check

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[CAN]

CHECK CONNECTOR 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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).





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(∟) and 14 (1).		
	6 (L) - 14 (Y)	: Continuity should not exist.	Data link connector
OK or	NG		
OK	>> GO TO 3.		
NG	>> Check the followin aged, repair the ha	ig harnesses. If any harness is dam- arness.	
	 Harness betwee 	en data link connector and ECM	
	 Harness betwe connector M82 	en data link connector and harness	SKIA6868E
	 Harness betwee 	en data link connector and display contr	ol unit
	 Harness betwee 	en data link connector and BCM	
	 Harness betwee 	en data link connector and unified mete	r and A/C amp.
	 Harness betwee 	en data link connector and harness con	nector M9
Revisio	n: 2004 November	LAN-349	2004 Murano

CA	N Communication Circuit Check
1.	CHECK CONNECTOR
1. 2. 3. - -	Turn ignition switch OFF. Disconnect the negative battery terminal. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side and harness side). ECM TCM Display control unit
-	
-	
-	AVVD control unit ABS actuator and electric unit (control unit)
_	
_	Between FCM and IPDM E/R
_	Between ECM and TCM
ОК	or NG
0	 К >> GO TO 2.
N	G >> Repair terminal or connector.
2.	CHECK HARNESS FOR SHORT CIRCUIT
1.	Disconnect following connectors.
-	ECM connector
_	Harness connector M82
-	Display control unit connector
-	BCM connector
-	Unified meter and A/C amp. connector
-	Harness connector M9
2.	Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).
	6 (L) - 14 (Y) : Continuity should not exist.
OK	

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

4. CHECK HARNESS FOR SHORT CIRCUIT

5. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect TCM connector.
- Check continuity between TCM harness connector F103 termi-2. nals 5 (L) and 6 (Y).

5(L) - 6(Y)

: Continuity should not exist.

: Continuity should not exist.

: Continuity should not exist.

OK or NG

OK or NG

OK

NG

OK >> GO TO 5.

(L), 6 (Y) and ground.

5 (L) - Ground 6 (Y) - Ground

>> GO TO 6.

F102.

NG >> Repair harness between TCM and harness connector F102.







SKIA5020E

and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

1.

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- OK >> GO TO 7.
- NG >> Repair harness between harness connector B4 and harness connector B2.

Check continuity between harness connector B4 terminals 3 (L)



Harness connector

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3,10

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7. CHECK HARNESS FOR SHORT CIRCUIT

6. CHECK HARNESS FOR SHORT CIRCUIT

Disconnect harness connector B4.

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- : Continuity should not exist.
- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Repair harness between harness connector B4 and harness connector B2.

8. CHECK HARNESS FOR SHORT CIRCUIT



 Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 9.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105



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SKIA5022E

Revision: 2004 November

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground 49 (Y) - Ground
- : Continuity should not exist.
- : Continuity should not exist.

CAN SYSTEM (TYPE 10)

OK or NG

- OK >> GO TO 10.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-352, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-326, "Work Flow" .
- NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"

LAN-352

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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	109 122
IPDM E/R	48 - 49	106 - 132





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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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Schematic



TKWB0045E

AKS00AHX

[CAN]



TKWB0046E

LAN-CAN-32



TKWB0047E

[CAN]

LAN-CAN-33 A



TKWB0048E

Work Flow

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1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)	LJ	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

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

(Example)	SELECT DIAG MOD	E	SELF-DIAG RESU	.TS	
()	WORK SUPPORT		DTC RESULTS	TIME	
	SELF-DIAG RESUL	s		0	
	DATA MONITOR				
	DATA MONITOR (SP	EC)			
	CAN DIAG SUPPORT N	NTR			
	ACTIVE TEST				
				.F.DATA	
	Scroll	Down	ERASE PF	INT	
	BACK LIGHT	COPY	MODE BACK LIGHT	COPY	PKIA8

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD", "ABS", and "IPDM E/R" displayed on CON-SULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-360, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>360, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.
- 7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-360, "CHECK SHEET"

LAN-358

	[CAN]	
8.	Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to LAN-360, "CHECK SHEET".	A
	NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-101. "CAN Communication Line Check"	D
9.	According to the check sheet results (example), start inspection. Refer to <u>LAN-362</u> , "CHECK SHEET <u>RESULTS (EXAMPLE)</u> ".	В
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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	Э										
		CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial Transmit Receive diagnosis									
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	/SEC	/M&A	AWD/4WD	/ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	-	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	-	—	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	-	_	-	_	-	—	-
IPDM E/R	No indication	—	UNKWN	UNKWN	_	_	UNKWN	_	—	—	—
		Attach copy of SELECT SYSTEM				Attach copy of SELECT SYSTEM					
Attach copy of display unit CAN DIAG MONITOR check sheet											
											PKIA8


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 data link connector. Refer to <u>LAN-376</u>, "Circuit Check Between TCM and <u>Data Link Connector</u>".

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	LW Sorcen	diagnosis	Indistrict TCM DISPLAY BCM METER /M&A AWD/4WD VDC/TG /ABS A UNKWN — UNKWN UNKWN UNKWN UNKWN UNKWN — A UNKWN UNKWN — — UNKWN UNKWN — — A UNKWN UNKWN — — — UNKWN — — M CAN 1 CAN 3 — — CAN 2 CAN 5 — — A UNKWN UNKWN — — — UNKWN — — UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN — —		VDC/TCS /ABS	IPDM E/R					
ENGINE	_	NG	UNKWN	—	UNKWN		UNK	UNK		-	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN	-
Display unit	_	CAN COMM	CAN 1	С 📢 з	-	_	CAN 2	CAN 5	-	_	CAN 7
ВСМ	No indication	NG	UNKWN		_	-	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNK	UNKWN	UNKWN	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	-	_	_
	•		•				•				

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Case 2

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Check harness between data link connector and driver seat control unit. Refer to <u>LAN-376</u>, "Circuit Check <u>A</u><u>Between Data Link Connector and Driver Seat Control Unit</u>".

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	EM screen	Initial	Tranemit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN		1	UNKIN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_		l
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	-	
BCM	No indication	NG	UNKWN	UNKWN	_	-	—	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN		Ι
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_		-
ALL MODE AWD/4WD	_	NG	UNKWN		_	_	_	UNKWN	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	—	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	—	_	_	_



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Case 3

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Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>377, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranamit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN		UNKWN	UNKWN		_	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	—		CAN 2	CAN 5	-	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN		UNKWN	UNKWN	_	_	I
ALL MODE AWD/4WD	_	NG	UNKWN		—	-			—	UNKWN	_
ABS	_	NG	UNKWN		_	_	_	_	_	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	-	_	_

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Case 4

Check ECM circuit. Refer to LAN-378, "ECM Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		_		_		UNKWN	UNKWN	—	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	-	UNKWN	—	UNKWN	
Display unit	-	CAN COMM	CAN 1	САЛЗ	-	-	CAN 2	CAN 5	—	—	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN		_	-	UNKWN	—	_	UNKWN
METER A/C AMP	No indication	—	UNKWN		UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	Ι
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	—	_	
ALL MODE AWD/4WD	_	NG	UNKWN		_	_	_	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN		_	_	_	—	—	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_		_	_



Case 5

Check TCM circuit. Refer to LAN-379, "TCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	LW Sorcen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	—
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNK	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	-	-	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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Case 6

Check display unit circuit. Refer to LAN-379, "Display Unit Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	-	UNKWN	-	UNKWN	-
Display unit	_	CAN COMM	C 📢 1	С∢√із	_	_	C 📢 2	C 📢 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	—	—		UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	Ι
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	—	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	—	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	—	—			-	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Case 7

Check data link connector circuit. Refer to LAN-380, "Data Link Connector Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranamit				Receive of	diagnosis			
	EWBBREEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	-	UNKWN	—
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	-	_	_	_	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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Case 8

Check BCM circuit. Refer to LAN-380, "BCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_		UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	—	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3		-	C 📢 2	CAN 5	—	—	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_		UNKWN	—	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	Ι
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	—		UNKWN	—	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN		_		_	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-381, "Unified Meter and A/C Amp. Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Tranomit				Receive of	diagnosis			
	Lin corcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	_	UNKWN	_	UNKWN	UNK	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_		UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	C € 15	-	—	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	—	_		UNK	-	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	—	UNKWN		_	_	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	_	—		UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_		_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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Case 10

Check driver seat control unit circuit. Refer to LAN-381, "Driver Seat Control Unit Circuit Check" .

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	FM screen	Initial	Tranamit				Receive of	diagnosis			
OLLEGT OTOT	EWBBREEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	—	UNKWN	UNKWN	_	_	—
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	—	_	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_			_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 11

Check AWD control unit circuit. Refer to LAN-382, "AWD Control Unit Circuit Check" .

					CA	N DIAG SU	PPORT MM	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	LWBGreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	UNKWN	-	UNKWN	—
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_		UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG			_	_	_		_		-
ABS	-	NG	UNKWN	UNKWN	_	-	-	-	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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Case 12

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-382</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

					CA	N DIAG SU	PPORT M	VTR			
SELECT SYST	EM screen	Initial	Transmit			_	Receive	diagnosis			
022201 0101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN		-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	-	_	UNKWN	-		_
ABS	-	NØ	UNKWN		_	-	-	-	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	-	-	_	_



Case 13

Check IPDM E/R circuit. Refer to LAN-383, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR									
	Miscreen	Initial	Transmit	Receive diagnosis								
GELEGT GTOTEN	diagnosis		iai Transmit - iosis diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION N	lo indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	_	CAN 7	
BCM N	lo indication	NG	UNKWN	UNKWN	_			UNKWN	_	_	UNK	
METER A/C AMP	lo indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	_	
AUTO DRIVE POS. N	lo indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	-	_	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	—	UNKWN	-	UNKWN	-	
ABS	-	NG	UNKWN	UNKWN	_	_	-	—	-	_	-	
IPDM E/R	lo indication	_	UNKWN	UNKWN	-	_	UNKWN	—	-	_	_	

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Case 14

Check CAN communication circuit. Refer to LAN-383, "CAN Communication Circuit Check" .

		CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit diagnosis		Receive diagnosis								
		diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG		_		—	UNKWN	UNKWN		—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	-		
Display unit	_	CAN COMM		С 📢 З	_	_	C 📢 2	CA X 15	-	_	C 📢 7		
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	-	_		
ALL MODE AWD/4WD	_	NG		UNKWN	_	_	_	UNKWN	-	UNKWN	-		
ABS	_	NA	UNK	UNKWN	_	_	_	_	-	-	-		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_		

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-388, "IPDM E/R Ignition Relay Circuit Check".

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SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	_		_	UNKWN	UNKWN	UNKWN	—	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	_	UNKWN	—	UNKWN	—	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	—	UNKWN	—	—	UNKWN	
METER A/C AMP	No indication	—	UNKWN	UNKWN		UNKWN	UNKWN	_	UNKWN		-	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	_	_	—	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	—	_	—	UNKWN	_		—	
ABS	_	NG	UNKWN	UNKWN	_	_	—	-	_	_	—	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	
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Case 16

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Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-388, "IPDM E/R Ignition Relay</u> <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR									
SELECT SYST	FM screen	Initial	Tranamit	Receive diagnosis								
	di		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	—	UNKWN		UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNK	—	UNKWN	—	
Display unit	—	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	-	—	CAN 7	
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	—	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	_	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	—	-	UNKWN	—	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN		-		1	—	_	_	
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	UNKWN	_	-	_	-	
											PKIA8524E	

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-358, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector 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 M9
- Harness connector B2

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



2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2 Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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

BAT Data link connector Harness connector 14 1 10 6 6,14 1.10 Ω SKIA5015E

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3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L). 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

- OK or NG
 - OK >> Connect all the connectors and diagnose again. Refer to LAN-358, "Work Flow" .
 - NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) AKSODAIZ

- 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 (connector side and 3. harness side).
- Harness connector B4
- Harness connector E105

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



$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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



Harness connector

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ABS actuator and electric unit

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O CONNECTOR

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(control unit) connector

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3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) har-

ness connector E24 terminals 11 (L), 15 (Y).

- 3 (L) 11 (L) 10 (Y) - 15 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-358, "Work Flow" . NG

>> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 termi-2. nals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



TCM Circuit Check	AKS00Al4
1. CHECK CONNECTOR	
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check following terminals and connectors for damage, bend and loose connection (control module and harness side). TCM connector Harness connector F102 Harness connector M82 OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	e side
2. CHECK HARNESS FOR OPEN CIRCUIT	
1. Disconnect TCM connector.	
 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y). 5 (L) - 6 (Y) : Approx. 54 - 66Ω 	
$\frac{OK \text{ or NG}}{OK} >> \text{ Replace TCM.}$ $TCM \text{ connector}$ $TCM \text{ connector}$	
NG >> Repair harness between TCM and ECM.	
Display Unit Circuit Check 1. CHECK CONNECTOR	A0817E AKS00AI5
1. Turn ignition switch OFF.	
 Disconnect the negative battery terminal. Check terminals and connector of display unit for damage, bend and loose connection (unit side and loose connection). 	d har-
ness side).	ana
OK or NG	
NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
1 Disconnect display unit connector	
 Check resistance between display unit harness connector M39 	
terminals 14 (L) and 16 (Y).	
14 (L) - 16 (Υ) : Approx. 54 - 66Ω Display unit connector	
OK or NG OK >> Replace display unit. NG >> Repair harness between display unit and data link connector.	
SKI	A6867E

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to <u>LAN-358</u>, "Work Flow".
- NG >> Repair harness between data link connector and BCM.



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 M34 terminals 39 (L) and 40 (Y).
 - 39 (L) 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "Removal and Installation of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.





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	[CAN]
Unified Meter and A/C Amp. Circuit Check 1. CHECK CONNECTOR	AKS00AI8
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of unified meter and A/C amp. (meter side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. CHECK HARNESS FOR OPEN CIRCUIT 	for damage, bend and loose connection
 Disconnect unified meter and A/C amp. connector. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y). 	
1 (L) - 11 (Y) : Approx. 54 - 66Ω OK or NG	Unified meter and A/C amp.connector
OK >> Replace unified meter and A/C amp. NG >> Repair harness between unified meter and A/C amp. and data link connector.	

Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W)

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.

: Approx. 54 - 66Ω



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AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD 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 AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

8 (L) - 16 (Y)

OK or NG

- OK >> Replace AWD control unit.
- NG >> Repair harness between AWD control unit and IPDM E/ R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

: Approx. 54 - 66Ω

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.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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IPDM E/R Circuit Check AKS00AIC А 1. CHECK CONNECTOR 1. Turn ignition switch OFF. В 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). С OK or NG OK >> GOTO2NG >> Repair terminal or connector. D 2. CHECK HARNESS FOR OPEN CIRCUIT Disconnect IPDM E/R connector. 1. F 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y). BAT 48 (L) - 49 (Y) : Approx. 108 - 132 Ω IPDM E/R connector OK or NG 49 48 OK >> Replace IPDM E/R. NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit). Ω Н SKIA6873E **CAN Communication Circuit Check** AKS00AID **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, unit side, meter side, control unit side and harness side). ECM TCM Display unit BCM Unified meter and A/C amp. Driver seat control unit _ Μ AWD control unit ABS actuator and electric unit (control unit)

- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

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

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- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3. NG >> Check the

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9



Data link connector

6

6, 14

SKIA6874E

- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9



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Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

- 3 (L/Y) Ground
- 19 (BR/W) Ground : Continuity should not exist.

: Continuity should not exist.

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.





- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground
- : Continuity should not exist. : Continuity should not exist.
- 49 (Y) Ground

OK or NG

OK >> GO TO 12.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit
- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-388, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-358, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.





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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-27, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)		
ECM	94 - 86	108 - 132		
IPDM E/R	48 - 49	100 - 132		



[CAN]

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AKS00AIF

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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Revision: 2004 November

[CAN]

PFP:23710

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Schematic



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94

ECM

DATA LINE

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[CAN]



TKWB0050E

LAN-CAN-35



TKWB0051E

[CAN]

LAN-CAN-36 A



TKWB0052E

Work Flow

AKS00A5Q

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1. When there are no indications of "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)	LJ	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

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

(Example)	SELECT D	IAG MO	DE	SELF-DIAG RESULTS	
· · · /	WORK S	UPPOR	г	DTC RESULTS TIME	
	SELF-DIAG	G RESUL	.TS		
	DATA M	ONITOR			
	DATA MONI	TOR (SF	PEC)		
	CAN DIAG SU	PPORT	MNTR		
	ACTIV	E TEST			
				F.F.DATA	
		Scrol	Down	ERASE PRINT	
	BACK	LIGHT	COPY	MODE BACK LIGHT COPY	PKIA8260E

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD", "ABS", and "IPDM E/R" displayed on CON-SULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-396, "CHECK SHEET"</u>.
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-396, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line</u> <u>Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-396</u>, <u>"CHECK SHEET"</u>.

LAN-394

[CAN]	
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 <u>LAN-396, "CHECK SHEET"</u> .	А
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-175</u> , " <u>CAN Communication Line Check</u> ". According to the check sheet results (example), start inspection. Refer to <u>LAN-398</u> , " <u>CHECK SHEET</u> RESULTS (EXAMPLE)".	В
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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.

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	—	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_		_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
		ASEI	ttach copy _ECT SYS ⁻	of ΓΕΜ		SE	ttach copy of _ECT SYSTEM				
			CAN	A dis DIAG SUPF	Attach copy play contro PORT MON	of unit ITOR chec	k sheet				
CAN SYSTEM (TYPE 12)



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 data link connector. Refer to <u>LAN-412</u>, "Circuit Check Between TCM and <u>Data Link Connector</u>".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	Lin borcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_			UNK		UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	—	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3		—	CAN CIRC 2	CAN CIRC 5	—		CAN CIRC 7
BCM	No indication	NG	UNKWN			_	-	UNKWN	-	Ι	UNKWN
METER A/C AMP	No indication	—	UNKWN			UNKWN	UNKWN		UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	—		_	UNKWN	UNKWN	_		_
ALL MODE AWD/4WD	_	NG	UNKWN		_	-	_	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN		_	-	_	_	-	_	-
IPDM E/R	No indication	_	UNKWN		_	_	UNKWN	_	—	—	_

PKIA8526E



Check harness between data link connector and driver seat control unit. Refer to <u>LAN-412</u>, "Circuit Check <u>A</u><u>Between Data Link Connector and Driver Seat Control Unit</u>".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranemit			-	Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNK	—	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-		-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK		-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN		_	_	_	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN		_	_	_	_	—	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>413, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	Lin corcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNK	—	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	—	UNKWN	_		_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		_	CAN CIRC 2	CAN CIRC 5	—	—	CAN CRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	—	—	UNKWN	_	—	UNK
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN		_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	—	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNK		—	—	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN		_	_	—	_	_		_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

PKIA8528E



CAN SYSTEM (TYPE 12)

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Case 4

Check ECM circuit. Refer to LAN-414, "ECM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranomit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		_	UNKWN	_		UNKWN	UNK	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN		—	—	—	UNKWN	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	-	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN		_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	—	UNKWN		UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	Ι	UNKWN	_	UNKWN	UNKWN	-	_	-
ALL MODE AWD/4WD	_	NG	UNKWN		_	_	—	UNKWN	-	UNKWN	-
ABS	_	NG	UNKWN		_	_	—	—	-	_	-
IPDM E/R	No indication	_	UNKWN	UNK	_	_	UNKWN	_	_	_	_



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Check TCM circuit. Refer to LAN-415, "TCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
	LWBGGGGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	—		_	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	—	UNKWN	—	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN		UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	_	_	—	_	—	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

PKIA8530E



CAN SYSTEM (TYPE 12)

Case 6

Check display control unit circuit. Refer to LAN-415, "Display Control Unit Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranomit				Receive of	diagnosis			
	Lin boroon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CRC 1	CAN ORC 3	_	_	CANORC 2	CAN ORC 5	—	—	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	-	—	_	UNKWN	—	—	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN		UNKWN	—	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	—	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	—	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_		_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Check data link connector circuit. Refer to LAN-416, "Data Link Connector Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	Lindoreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	—	UNKWN	—	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	CAN CIRC 2	CAN CIRC 5	—	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	_	—	UNKWN	—		UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	—	1	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	—	_	—	UNKWN	—	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
-											

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CAN SYSTEM (TYPE 12)

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Case 8

Check BCM circuit. Refer to LAN-416, "BCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Tronomit				Receive of	diagnosis			
OLLEON ONOT	LWSGCCH	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—		UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	_	UNKWN	-	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		_	CANORC 2	CAN CIRC 5	-	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN		_	_	UNKWN	_	—	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN		_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	Ι	UNKWN	_		UNKWN	_	_	—
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN		_	_	UNKWN	-	UNKWN	—
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_		_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_		_	_	_	



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Check unified meter and A/C amp. circuit. Refer to LAN-417, "Unified Meter and A/C Amp. Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Trancmit				Receive of	diagnosis			
	Lin corcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	UNKWN	UNK	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	—		—	UNKWN	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	_	CAN CIRC 2	CANORC 5	—		CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	_	—		—		UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	UNKWN	UNK	—		_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	_	—	UNKWN	—	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	—	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
-											

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CAN SYSTEM (TYPE 12)

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Case 10

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Check driver seat control unit circuit. Refer to LAN-417, "Driver Seat Control Unit Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tranomit				Receive of	diagnosis			
OLLEOT OTOT	Lin borcon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	_	UNKWN	—	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_		CAN CIRC 2	CAN CIRC 5	—	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	_	_	UNKWN	—	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	-	UNKWN	UNKWN	—	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	—	—	UNKWN	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Check AWD control unit circuit. Refer to LAN-418, "AWD Control Unit Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Tronomit				Receive of	diagnosis			
	Lin boroon	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN		UNKWN	UNKWN			UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_		UNKWN	—	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_		CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	_		UNKWN	-		UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	UNKWN	UNKWN	-		_
ALL MODE AWD/4WD	-	NG			—	-			-		_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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Case 12

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-418</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

					CA	N DIAG SU	PPORT M	ITR			
SELECT SYST	EM screen	Initial	Trancmit				Receive (diagnosis			
0111010101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	-		-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	-	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN		-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	-	UNKWN	-		-
ABS	_	v ∕s	UNKWN	UNK	_	_	_	_	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Check IPDM E/R circuit. Refer to LAN-419, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR								
SELECT SYST	FM screen	Initial	Tranomit				Receive of	diagnosis			
	Liniboreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	—	UNKWN	-	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	_	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	—	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	_	_	—	_	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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Case 14

Check CAN communication circuit. Refer to LAN-419, "CAN Communication Circuit Check" .

		1									
			CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	ECM TCM DISPLAY BCM METER AWD/4WD VDC/TCS /ABS						IPDM E/R
ENGINE	_	NG		_	UNK	_					UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	UNKWN	_
Display control unit	_	CAN COMM	CAN CRC 1	CAN CRC 3	—	-	CAN CRC 2	CANORC 5	—	-	CAN CRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	—	_	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNK	UNKWN	_	-	_	UNKWN	-		_
ABS	_	NZ	UNKWN	UNK	_	_	_	_	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

Case 15

Н Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-424, "IPDM E/R Ignition Relay Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Tranomit				Receive of	diagnosis					
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	—	NG	UNKWN	_		—	UNKWN	UNKWN	UNKWN	—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	—	UNKWN	-	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	—	CAN CIRC 7		
ВСМ	No indication	NG	UNKWN	UNKWN		_	—	UNKWN	-	—	UNKWN		
METER A/C AMP	No indication	—	UNKWN	UNKWN		UNKWN	UNKWN		UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	Ι		_	UNKWN	UNKWN		—	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN		—	—	UNKWN	-		_		
ABS	—	NG	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-424</u>, "IPDM E/R Ignition Relay <u>Circuit Check</u>".

			CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Tranamit		Receive diagnosis								
	Lindoreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	—	UNKWN		
TRANSMISSION	No indication	NG	UNKWN		_	_	-	UNK	-	UNKWN	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7		
всм	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	_	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	UNKWN	-		
ABS	_	NG	UNKWN		-	_	_	_	-	_	-		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_		

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-394, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector 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 M9
- Harness connector B2

OK or NG

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

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2 Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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

BAT Data link connector Harness connector 14 1 6 10 6,14 1.10 Ω SKIA5015E

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

- OK or NG
 - OK >> Connect all the connectors and diagnose again. Refer to LAN-394, "Work Flow" .
 - NG >> Repair harness.

SKIA5016 **Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)** AKSODAST

- 1. CHECK CONNECTOR
 - 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 B4
- Harness connector E105

OK or NG

1.

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

Harness connector Harness connector 3 1 10 10 Н 1,10 3,10 Ω



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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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



Harness connector

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3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) har-

ness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L)

10 (Y) - 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-394, "Work Flow" . NG

>> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 termi-2. nals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.





SKIA5017E

ABS actuator and electric unit

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(control unit) connector

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CAN SYSTEM (TYPE 12)

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$OK \rightarrow GO TO 2.$	
NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
1. Disconnect TCM connector.	
 Check resistance between TCM harness connector F103 termi- nals 5 (L) and 6 (Y). 	
5 (L) - 6 (Y) : Approx. 54 - 66Ω	
OK or NG	TCM connector
OK >> Replace TCM.	
NG >> Repair namess between TOW and EOW.	
Display Control Unit Circuit Check 1. CHECK CONNECTOR	AKS00A5W
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
OK or NG	
OK >> GO TO 2.	
NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
1. Disconnect display control unit connector.	
 Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y). 	
25 (L) - 26 (Y) : Approx. 54 - 66Ω	Display control unit connector
OK or NG OK >> Replace display control unit. NG >> Repair harness between display control unit and data link connector.	

1. CHECK CONNECTOR

TCM Circuit Check

1.	Turn ignition switch OFF.
2.	Disconnect the negative battery terminal.
2	Charle fallouting to main all and as manators for

- Check following terminals and connectors for damage, bend and loose connection (control module side 3. and harness side).
- TCM connector
- Harness connector F102 _
- Harness connector M82



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to <u>LAN-394</u>, "Work Flow".
- NG >> Repair harness between data link connector and BCM.



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 M34 terminals 39 (L) and 40 (Y).
 - 39 (L) 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "Removal and Installation of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.



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[CAN]	
Unified Meter and A/C Amp. Circuit Check AKS00A52 1. CHECK CONNECTOR	А
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side) 	В
OK >> GO TO 2. NG >> Repair terminal or connector.	С
2. CHECK HARNESS FOR OPEN CIRCUIT	D
 Disconnect unified meter and A/C amp. connector. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y). 1 (L) - 11 (Y) Approx. 54 - 66Ω 	E
OK or NG OK >> Replace unified meter and A/C amp. NG >> Repair harness between unified meter and A/C amp. and data link connector.	G
SKIA6871E	Н

Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W)

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.

: Approx. 54 - 66Ω



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AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD 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 AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

8 (L) - 16 (Y)

OK or NG

- OK >> Replace AWD control unit.
- NG >> Repair harness between AWD control unit and IPDM E/ R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

: Approx. 54 - 66Ω

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.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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CAN SYSTEM (TYPE 12)



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IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3. NG >> Check the

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9





4. CHECK HARNESS FOR SHORT CIRCUIT

Revision: 2004 November

- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5 (L) 6 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9





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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

: Continuity should not exist. 3 (L/Y) - 19 (BR/W)

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.



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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

- 3 (L/Y) Ground
- 19 (BR/W) Ground : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.





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10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground
- : Continuity should not exist. : Continuity should not exist.

49 (Y) - Ground

OK or NG

OK >> GO TO 12.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit
- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-424</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-394, "Work Flow" .

NG >> Replace ECM and/or IPDM E/R.





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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 <u>PG-27, "IPDM E/R Power/Ground Circuit Inspection"</u>.
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

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CAN SYSTEM (TYPE 13)

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 SYSTEM (TYPE 13)

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TKWB0054E

LAN-CAN-38



TKWB0056E

CAN SYSTEM (TYPE 13)

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TKWB0057E

Work Flow

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", 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)		
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD", "ABS", and "IPDM E/R" displayed on CON-SULT-II.

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

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "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-432</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-432</u>, "CHECK SHEET".

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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-101</u>, "CAN Communication <u>Line Check"</u>.

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7.	Attach the CAN DIAG MONITOR check sheet onto the check sheet	. Refer to	LAN-432,	"CHECK SHEET"

 Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-432</u>, <u>"CHECK SHEET"</u>.
 NOTE: If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to <u>AV-101, "CAN Communication Line Check"</u>.

 According to the check sheet results (example), start inspection. Refer to <u>LAN-434</u>, <u>"CHECK SHEET</u> C <u>RESULTS (EXAMPLE)"</u>.

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CHECK SHEET

NOTE:

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If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit. ٦

	_		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen dia		Initial	Transmit diagnosis											
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	/SEC	/M&A	STRG	/4WD	/ABS	E/R	
INGINE	-	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN	
RANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	_	UNKWN	-	-	UNKWN	_	
IR PRESSURE MONITO	No indication	NG	UNKWN	-	_	-	-	_	UNKWN	_	-	_	_	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7	
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	-	-	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	
LL MODE AWD/4W	-	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	-	UNKWN	-	
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	_	_	UNKWN	UNKWN	_	_	
PDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-	_	
		s	Attach c ELECT S	opy of SYSTEM			SE	Attach cop	by of STEM					
				CAN	Atta dis DIAG MC	ch copy o play unit NITOR c	f heck shee	et						
CAN SYSTEM (TYPE 13)



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 data link connector. Refer to <u>LAN-448</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN	DIAG SU	PPORT N	/INTR				
	EM screen	Initial	Tranamit					Receive	diagnosis	3			
	LINISCICCI	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_		UNKWN	-	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		—	_	—	UNKWN	1	Ι	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	Ι	-	-
Display unit	_	CAN COMM	CAN 1	С 📢 З	-	CAN 6	-	CAN 2	CAN 5	-		-	CAN 7
ВСМ	No indication	NG	UNKWN		-	-	-	-	UNKWN	-	Ι	-	UNKWN
METER A/C AMP	No indication	-	UNKWN				UNKWN	UNKWN	1	-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN		-	-	-	-	UNKWN	-		UNKWN	-
ABS	—	NG	UNKWN			—	-	-	-	UNKWN	UNKWN	Ι	-
IPDM E/R	No indication	-	UNKWN		_	_	-	UNKWN	-	_	_	-	-
					-								DIVINOS



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Case 2

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Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>449, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

						CAN	DIAG SU	PPORT N	MNTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	3			
011101 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	-	-	UNKWN	UNKWN	1		UNKWN	UNION
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-		Ι
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	Ι
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	-	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN		_	_	_	-	UNKWN	_	-	UNKWN	1
ABS	_	NG	UNKWN		UNKWN	_	_	_	-	UNKWN	UNKWN	-	I
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	-	_	_



Check ECM circuit. Refer to LAN-450, "ECM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit		-		-	Receive	diagnosi	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG		-	UNK	—	_			—			UNI
TRANSMISSION	No indication	NG	UNKWN		—	_	_	—	UNKWN	—	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	_	-	-	-
Display unit	_	CAN COMM	CAN 1	С	-	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7
ВСМ	No indication	NG	UNKWN		-	-	_	_	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN		_	-	_	_	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN		UNKWN	_	_	_	_	UNKWN	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN		_	_	_	UNKWN	_	_	_	_	-



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Case 4

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Check TCM circuit. Refer to LAN-450, "TCM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	S			
022201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-		_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	-	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN	1
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	—	-	—	-	UNKWN	-	-	UNKWN	
ABS	_	NG	UNKWN	UNKWN		—	_	-	—	UNKWN	UNKWN	-	1
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	-	UNKWN	—	-	-	—	-



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Check low tire pressure warning control unit circuit. Refer to <u>LAN-451</u>, "Low <u>Tire Pressure Warning Control</u> <u>Unit Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	S			
011101 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	-	_	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	—	_	-	_	UNKWN	—	_	—	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	—	_	-	—	UNKWN	—	-	—	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	-	—	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	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 display unit circuit. Refer to LAN-451, "Display Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	S			
022201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	_	-	-	-
Display unit	_	CAN COMM		Сай з	-	CAN 6	-	C 📢 2	CAN 5	_	—	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	—	UNKWN	UNKWN	_	_	_	UNKWN	-	_	-	-	-



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Check data link connector circuit. Refer to LAN-452, "Data Link Connector Circuit Check" .

						CAN	DIAG SU		/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
	Lin corcon	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	_	-	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	_	-	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	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-452, "BCM Circuit Check" .

						CAN	DIAG SU	PPORT N	/ NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	8			
022201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	—	_		UNKWN	Ι	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN		-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	_	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		-	-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	—	-	UNKWN	-	-	UNKWN	-
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	_	—	—	UNKWN	UNKWN	-	-
IPDM E/B	No indication	-	UNKWN	UNKWN	_	—	-		—	-	-	-	—



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Check unified meter and A/C amp. circuit. Refer to LAN-453, "Unified Meter and A/C Amp. Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Tranemit					Receive	diagnosi	5			
	Lin corcon	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	—	-	UNKWN		-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	-	_		Ι	-	UNKWN	—
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-		-	-	-	-
Display unit	—	CAN COMM	CAN 1	CAN 3	—	CAN 6	-	CAN 2	C 4 5	-	—	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	—
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	-	-	UNKWN	-	-	UNKWN	-
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	-	-	—	UNKWN	UNKWN	Ι	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-	-	-
													PKIA8552E



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Check steering angle sensor circuit. Refer to LAN-453, "Steering Angle Sensor Circuit Check" .

						CAN	DIAG SU	PPORT N	<i>I</i> NTR				
SELECT SYST	FM screen	Initial	Transmit				-	Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	1	UNKWN	-	-	UNKWN	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	_	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	Ι		UNKWN	UNKWN	I
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	-	-	UNKWN	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_				UNKWN		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	-	_



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Check AWD control unit circuit. Refer to LAN-454, "AWD Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit				-	Receive	diagnosi	3			-
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	_	I	UNKWN		I	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	Ι	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	Ι	Ι		CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	Ι	UNKWN	-	Ι	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNK	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNK	UNKWN	_	-	-	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	_	UNKWN	_	-	-	-	-



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Case 12

А Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-454, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

						CAN	DIAG SU	PPORT N	MNTR				
SELECT SYST	FM screen	Initial	Transmit				_	Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	-		-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN		I
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	-	-	UNKWN	-	-		Ι
ABS	_	N	UNKWN	UNKWN	UNKWN	_	_	_	-		UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	_	_	-	_	-



Check IPDM E/R circuit. Refer to LAN-455, "IPDM E/R Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
	EM screen	Initial	Tranamit					Receive	diagnosis	3			
	LIVISCICCI	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	-	-	-	_	UNKWN	-	-	-	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	-	-	UNKWN	—
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	-	-	_	—



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Case 14

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Check CAN communication circuit. Refer to LAN-456, "CAN Communication Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR					
SELECT SYST	EM screen	Initial	Tronomit		Receive diagnosis									
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG		-		_	-		UNKWN	1	UNKWN		UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	-	_	UNKWN	-	-	UNKWN	—	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-	
Display unit	_	CAN COMM		Салз	-	CAN 6	-	CA 2	CAN 5	_	-	_	CAN 7	
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	_	UNKWN	_	-	_	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	
ALL MODE AWD/4WD	_	NG		UNKWN	_	-	-	-	UNK	-	-		-	
ABS	_	N	UNK			_	-	_	-		UNKWN	_	-	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	_	-	-	_	_	

Case 15

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Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-459, "IPDM E/R Ignition Relay Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	5			
0111010101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNK	_	-	UNKWN	UNKWN	_	UNKWN	UNKIWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	_	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	UNK	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	-	-
	·												
													PK148558E

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Case 23: Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-459, "IPDM E/R Ignition Relay Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Tranomit					Receive	diagnosi	S			
	Livi Sereen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN		—	_	-	_	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	—	_	-	_	UNKWN	—	-		-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	—	_	-	—	UNKWN	—	—	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN	-
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	—	-	-	-	UNKWN	-	-	UNKWN	—
ABS	_	NG	UNKWN		UNKWN	—	-	—	_			Ι	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	-	-
													DIVINANTE
													PRIA0059E

Circuit Check Between TCM and Data Link Connector

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1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect ECM connector and harness connector M82. 3.
- Check continuity between harness connector M82 terminals 8 4. (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L)
 - 9 (Y) 14 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-430, "Work Flow" .
- NG >> Repair harness.







- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)
 - 10 (Y) 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-430, "Work Flow".
- NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).
 - 94 (L) 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

LAN-450





[CAN]

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OK or NG

1.

2.

3.

OK or NG OK

NG

1.

2.

OK or NG

OK

NG

OK >> Replace TCM.

1. CHECK CONNECTOR

Turn ignition switch OFF.

>> GO TO 2.

>> Repair terminal or connector.

NG >> Repair harness between TCM and low tire pressure warning control unit.





Display Unit Circuit Check

trol unit and TCM.

1. CHECK CONNECTOR

9 (L) - 21 (Y)

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

OK or NG

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

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- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66Ω

OK or NG

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



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-430, "Work Flow" .
- NG >> Repair harness between data link connector and BCM.



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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.

- 1. Disconnect BCM connector.
- 2 Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).
 - 39 (L) 40 (Y)

: Approx. 54 - 66 Ω

OK or NG

- OK >> Replace BCM. Refer to BCS-14, "Removal and Installation of BCM" .
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection 3 G (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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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.

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Unified meter and A/C amp.connector	LAN
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- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

: **Approx. 54 - 66**Ω

OK or NG

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



AWD Control Unit 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 AWD 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 AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).
 - 8 (L) 16 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace AWD control unit.
- NG >> Repair harness between AWD control unit and IPDM E/ R.



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.

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- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit). NG >> Repair harness between ABS actuator and electric unit
 - (control unit) and IPDM E/R.



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 G 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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN Communication 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, control unit side, unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9

6 (L) - 14 (Y)

 Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9



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Data link connector

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6	(L),	Г
14 (Y) and ground.	. ,	

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

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9

4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect TCM connector. 1.
- Check continuity between TCM harness connector F103 termi-2. nals 5 (L) and 6 (Y).

5 (L) - 6 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

- 5 (L) Ground
- : Continuity should not exist.
- 6 (Y) Ground
- : Continuity should not exist.
- OK or NG
- OK >> GO TO 6
- NG >> Repair harness between TCM and harness connector F102.



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6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 7.
- NG >> Repair harness between harness connector B4 and harness connector B2.



Harness connector

10

3.10

7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- : Continuity should not exist.
- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Repair harness between harness connector B4 and harness connector B2.

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105



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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

- 48 (L) Ground 49 (Y) - Ground
- : Continuity should not exist.
- : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-459</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to LAN-430, "Work Flow" .
- NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	109 122
IPDM E/R	48 - 49	106 - 132





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CAN SYSTEM (TYPE 14)

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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AKS00A6T

CAN SYSTEM (TYPE 14)



AKS00A6V

LAN-CAN-40

DATA LINE



TKWB0059E

CAN SYSTEM (TYPE 14)

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LAN-CAN-42



TKWB0061E

Work Flow

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", 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)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD", "ABS", and "IPDM E/R" displayed on CON-SULT-II.

· · · · · · · · · · · · · · · · · · ·				- E
(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS		1
	WORK SUPPORT	DTC RESULTS TIME	-	
	SELF-DIAG RESULTS			
	DATA MONITOR		_	G
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			1
		F.F.DAT	A	
	Scroll Down	ERASE PRINT		
	BACK LIGHT COPY	MODE BACK LIGHT COP	Y PKIA8260E	

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "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 LAN-467, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-467, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line</u> <u>Check"</u>.

LAN-465

- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-467</u>, <u>"CHECK SHEET"</u>.
- 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 <u>LAN-467</u>, "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 <u>AV-175</u>, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-469</u>, "CHECK SHEET <u>RESULTS (EXAMPLE)"</u>.

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	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			1	1	Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	_	UNKWN	_
IR PRESSURE MONITOP	No indication	NG	UNKWN	_	_	-	-	-	UNKWN	-	-	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	-	CAN CIRC 7
ЗСМ	No indication	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	-	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	—	-	-	—	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	UNKWN	-	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	-	-	UNKWN	-	_	_	-	_
		s	Attach c ELECT S	opy of YSTEM		Attach copy of SELECT SYSTEM							
					Atta	ch copy o	f						
			0.		307707			K Sheet					

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CAN SYSTEM (TYPE 14)


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 data link connector. Refer to <u>LAN-483</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Tronomit					Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	_		UNKWN	-			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	1	-	_	UNKWN	-	-	UNKWN	I
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	I	-	_	UNKWN	1	-	Ι	1
Display control unit	—	CAN COMM	CAN CIRC 1	CAN ORC 3	-	CANLORC 6	-	CAN CIRC 2	CAN CIRC 5	-	—	-	CAN CIRC 7
BCM	No indication	NG	UNKWN		_	-	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN		UNKWN		UNKWN	UNKWN	Ι	1	UNKWN	UNKWN	Ι
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	I	-	_	UNKWN	-	_	UNKWN	Ι
ABS	—	NG	UNKWN	UNKWN		-	-	—	-	UNKWN	UNKWN	-	I
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_
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Case 2

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Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>484, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	-	-	UNKWN	UNKWN	1			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	_	—	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	-	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	—	-	-	UNKWN	-	-	—	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	Ι		UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	-	—	UNKWN	-	-	UNKWN	-
ABS	—	NG	UNKWN	UNKWN	UNKWN	-	-	_	_		UNKWN	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	_	-	-	-	-
													PKIA8562E



CAN SYSTEM (TYPE 14)

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Case 3

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Check ECM circuit. Refer to LAN-485, "ECM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	<u>s</u>			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG		—		—	-			_			UNK
TRANSMISSION	No indication	NG	UNKWN		-	_	_	_	UNKWN	_	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-
Display control unit	—	CAN COMM	CAN CIRC 1	CAN ORC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	—	—	-	CAN CIRC 7
BCM	No indication	NG	UNKWN		-	-	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	—	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN			-	-	-	UNKWN	-	-	UNKWN	-
ABS	—	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNK	-	—	-	UNKWN	-	_	—	-	_



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Case 4

Check TCM circuit. Refer to LAN-485, "TCM Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3	-		
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	-	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	-	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	_	UNKWN	_	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	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

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Check low tire pressure warning control unit circuit. Refer to <u>LAN-486</u>, "Low Tire Pressure Warning Control <u>A</u> <u>Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	MNTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	S			
0111010101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	-	UNKWN	_	_	_	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CANCRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	-	—	UNKWN	UNKWN	—
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	—	-	_	—	UNKWN	_	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	—
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-	-	-
				•				•	•				
													PKIA8565E



Case 6

Check display control unit circuit. Refer to LAN-486, "Display Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit				-	Receive	diagnosis	3	-		
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	-	UNKWN	-	-	-	_
Display control unit	_	CAN COMM	CANCRC 1	CANORC 3	-	CAN CRC 6	_	CANORC 2	CANORC 5	_	-	-	CANCRO
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	-	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	-	-	UNKWN	—
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-	—	_



CAN SYSTEM (TYPE 14)

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Case 7

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Check data link connector circuit. Refer to LAN-487, "Data Link Connector Circuit Check" .

						CAN	DIAG SU	PPORT N	<u>/INTR</u>				
SELECT SYST	EM screen	Initial	Transmit			1		Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	—	—	UNKWN	UNKWN	Ι	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	Ι	-	-	-
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	—	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	Ι	-	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN		-	—	-	UNKWN	Ι	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	_	-	Ι	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	—	—	—	UNKWN	_	_	-	_	—



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Case 8

Check BCM circuit. Refer to LAN-487, "BCM Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNK	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	-	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CANLORC 2	CAN CIRC 5	_	-	-	CAN CIRC :
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_		_	_	-	_	-



CAN SYSTEM (TYPE 14)

Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-488, "Unified Meter and A/C Amp. Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Tranemit					Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	_	UNKWN		-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-		-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	_	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CANORC 5	_	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	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-488, "Steering Angle Sensor Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3	-		
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	—	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	-	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-		UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	-	UNKWN	_	_	-	-	-



CAN SYSTEM (TYPE 14)

Case 11

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Check AWD control unit circuit. Refer to LAN-489, "AWD Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	—	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	—		UNKWN	I
ALL MODE AWD/4WD	_	NG			-	-	-	-	UNKWN	-	-		
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	-	-	—	UNKWN	UNKWN	-	1
IPDM E/R	No indication	-	UNKWN	UNKWN	-	—	-	UNKWN	—	-	-	-	-



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Case 12

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-489</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN	DIAG SU	PPORT N	/ NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	6			
0111010101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_	UNKWN	_
ABS	_	N	UNKWN			_	_	_	-	UNK	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	_	-	-	-	_



CAN SYSTEM (TYPE 14)

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Case 13

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Check IPDM E/R circuit. Refer to LAN-490, "IPDM E/R Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN		UNKWN	—	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	_	-	UNKWN	_	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	Ι	-	-	-	Ι	UNKWN	-	-	-	Ι
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	-	-	CANCRET
BCM	No indication	NG	UNKWN	UNKWN	Ι	—	_	I	UNKWN		-	-	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	-	UNKWN	UNKWN	١
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN		-	_	-	UNKWN	-	-	UNKWN	Ι
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_



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Case 14

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Check CAN communication circuit. Refer to LAN-491, "CAN Communication Circuit Check" .

						CAN	DIAG SU		INTR				
SELECT SYST	FM screen	Initial	Tronomit					Receive	diagnosis	3			
	LW Sorcen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG		Ι		—	-		UNKWN	1	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	-	1	UNKWN	-	_	UNKWN	Ι
AIR PRESSURE MONITOR	No indication	NG	UNKWN	Ι	-	-	-	Ι	UNKWN	-	-	-	Ι
Display control unit	—	CAN COMM	CANORC 1	CANORC 3	-	CAN ORC 6	-	CANCRC 2	CAN ORC 5	-	_	-	CAN ORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	—	—	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		I	UNKWN	UNKWN	I
ALL MODE AWD/4WD	_	NG		UNKWN	_	-	-	I		-	-	UNKWN	Ι
ABS	_	N		UNKWN	UNKWN	_	-		-		UNKWN	1	I
IPDM E/R	No indication	_	UNKWN	UNKWN	_	—	_	UNKWN	_	_	_	_	_
													PKIA8574E

Case 15

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Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-494</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit				-	Receive	diagnosis	3	-		
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-			—	UNKWN	UNKWN	-	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		1	_	_	UNKWN	Ι	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	-	_	_	UNKWN	-	-	_	-
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	Ι	-	_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	1		UNKWN		-
ALL MODE AWD/4WD	ļ	NG	UNKWN	UNKWN	I	1	—	_	UNKWN	1	-		—
ABS	_	NG	UNKWN	UNKWN	UNKWN		_	-	1	UNKWN	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-	_	_
-													
													PKIA8575E

Case 16

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А Case 23: Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-494, "IPDM E/R Ignition Relay Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	_	UNKWN	_	-	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	-	-	—	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_	-
IPDM E/R	No indication	—	UNKWN	UNKWN	_	_	_	UNKWN	—	-	-	—	-

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect ECM connector and harness connector M82. 3.
- Check continuity between harness connector M82 terminals 8 4. (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-465, "Work Flow" .

NG >> Repair harness.



- Н AKSODA6X
 - - J

Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) AKS00A6Y

1. CHECK CONNECTOR

[CAN]

- Turn ignition switch OFF. 1.
- 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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 2. (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6(L) 1(L) 14 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).
 - 3 (L) 11 (L)
 - 10 (Y) 15 (Y)
- : Continuity should exist.
- : Continuity should exist.

- OK or NG
- OK >> Connect all the connectors and diagnose again. Refer to LAN-465, "Work Flow".

NG >> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and $_{\rm G}$ harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).
 - 94 (L) 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

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

	J
ECM connector	LA
	L
SKIA6865E	M

AKS00A70

ABS actuator and electric unit

11,15

O CONNECTOR

SKIA5017E

AKS00A6Z

(control unit) connector

C/UNIT

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Harness connector

3,10

3

10

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- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check 1. CHECK CONNECTOR

AKS00A71

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of low tire pressure warning 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 low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace low tire pressure warning control unit.
- NG >> Repair harness between low tire pressure warning control unit and TCM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

AKS00A72

$\overline{2. \text{ check}}$ harness for open circuit

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit 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 data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2. NG >> Repair term

>> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

OK >> Diagnose again. Refer to <u>LAN-465, "Work Flow"</u>.

NG >> Repair harness between data link connector and BCM.



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.

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AKS00A74

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- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "<u>Removal and Installa-</u> tion of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

AKS00A75

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



AKS00A76

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.

- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

: **Approx. 54 - 66**Ω

OK or NG

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



AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit $_{\rm G}$ side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).
 - 8 (L) 16 (Y)

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace AWD control unit.
- NG >> Repair harness between AWD control unit and IPDM E/ R.



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.

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- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



IPDM E/R Circuit Check

AKS00A79

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.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN SYSTEM (TYPE 14)

	[CAN	I]
CA 1.	AN Communication Circuit Check AKSOOL CHECK CONNECTOR	47A
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 sid control unit side, meter side, sensor side and harness side).	e,
-	ECM	
-	TCM	
-	Low tire pressure warning control unit	
-	BCM	
-	Display control unit	
-	Unified meter and A/C amp.	
_	Steering angle sensor	
_	AWD control unit	
-	ABS actuator and electric unit (control unit)	
-	IPDM E/R	
-	Between ECM and IPDM E/R	
-	Between ECM and TCM	
OK	<u>Cor NG</u>	
0	K >> GO TO 2.	
N	G >> Repair terminal or connector.	

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2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector _
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

- OK or NG
- OK >> GO TO 3.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 4.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM
 - Harness between data link connector and low tire pressure warning control unit
 - Harness between data link connector and harness connector M82
 - Harness between data link connector and display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M9



LAN-492



[CAN]



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground. 3 (L) - Ground : Continuity should not exist.

10 (Y) - Ground

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground

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

49 (Y) - Ground

OK or NG

OK >> GO TO 10.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit
- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-495, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-465, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <u>AND/OR "START"</u>.

Revision: 2004 November



[CAN]



AKS00A7B

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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132





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[CAN]

CAN SYSTEM (TYPE 15)

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



AKS00A7D

CAN SYSTEM (TYPE 15)



AKS00A7G

LAN-CAN-43

DATA LINE



TKWB0063E

CAN SYSTEM (TYPE 15)

[CAN]

LAN-CAN-44 A



TKWB0064E

LAN-CAN-45



TKWB0065E

Work Flow

[CAN]

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD", "ABS", and "IPDM E/ R" displayed on CONSULT-II.



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD", "ABS", and "IPDM E/R" displayed on CONSULT-II.

			_						
(Example)	SELECT D	IAG MODE		CAN	DIAG SU	PPORT N	INTR		
(Example)					ENG	iINE			LAN
	WORK S	UPPORT				PRS	INT		
	SELE-DIAC	3 BESULTS		INITIAL I	DIAG	0	к		
	OLEI DI/(r	TRANSM	IIT DIAG	0	к		
	DATA M	ONITOR	r	тсм		0	к		
			l⊾ Iv	VDC/TC	S/ABS	0	к		L
	DATA MON	non (ar Eo)		METER/	M&A	0	к		
	CAN DIAG SU	PPORT MNTR		ICC		UNK	WN		
			E E	BCM/SE	С	0	к		
	ACTIV	ETEST		IPDM E/	R	0	к		
			را	AWD/4W	D/e4WD	UN	KWN		M
		Scroll Down	1 F	PR	INT		Scroll		
	PACK		1 F.	MODE	BACK	ПСЫТ	COPV		
	BACK		J Ľ		DAOK	СЮПІ	OUFT	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-503</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-</u> <u>503, "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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-101, "CAN Communication</u> <u>Line Check"</u>.

LAN-501

- 7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-503, "CHECK SHEET"
- Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-503</u>, "CHECK SHEET".
 NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to <u>AV-101, "CAN Communication Line Check"</u>.

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-506, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

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

SELECT SYST ENGINE TRANSMISSION AIR PRESSURE MONITOF Display unit BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	EM screen No indication	Initial diagnosis NG NG CAN COMM NG NG NG NG -	Transmit diagnosis UNKWN UNKWN CAN 1 UNKWN UNKWN UNKWN UNKWN UNKWN	ECM - UNKWN CAN 3 UNKWN UNKWN UNKWN UNKWN UNKWN	TCM UNKWN — — UNKWN UNKWN — UNKWN —	CAN TIRE-P — CAN 6 — UNKWN — — — —	DIAG SU DISPLAY UNKWN	PPORT M Receive BCM /SEC UNKWN - CAN 2 - UNKWN UNKWN -	INTR diagnosis METER /M&A UNKWN UNKWN CAN 5 UNKWN - UNKWN	STRG 	AWD /4WD UNKWN 	VDC/TCS /ABS UNKWN UNKWN - - UNKWN	IPDM E/R UNKWN – CAN 7 UNKWN
SELECT SYST ENGINE TRANSMISSION AIR PRESSURE MONITOF Display unit BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	EM screen No indication	Initial diagnosis NG NG CAN COMM NG NG NG NG 	Transmit diagnosis UNKWN UNKWN CAN 1 UNKWN UNKWN UNKWN UNKWN UNKWN	ECM UNKWN CAN 3 UNKWN UNKWN UNKWN UNKWN UNKWN	TCM UNKWN — — UNKWN UNKWN — UNKWN —	TIRE-P CAN 6 UNKWN	DISPLAY	BCM /SEC UNKWN - CAN 2 - UNKWN UNKWN -	METER /M&A UNKWN UNKWN UNKWN CAN 5 UNKWN UNKWN	STRG	AWD /4WD UNKWN — — — — UNKWN	VDC/TCS /ABS UNKWN UNKWN - - - UNKWN	IPDM E/R UNKWN – CAN 7 UNKWN
ENGINE TRANSMISSION AIR PRESSURE MONITOF Display unit BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WC ABS IPDM E/R Symptoms :	No indication	NG NG CAN COMM NG NG NG 	UNKWN UNKWN CAN 1 UNKWN UNKWN UNKWN UNKWN UNKWN	- UNKWN CAN 3 UNKWN UNKWN UNKWN UNKWN	UNKWN UNKWN UNKWN _ UNKWN _		 UNKWN 	UNKWN - CAN 2 - UNKWN UNKWN	UNKWN UNKWN CAN 5 UNKWN – UNKWN	- - - - -	UNKWN UNKWN	UNKWN UNKWN - - UNKWN	UNKWN - CAN 7 UNKWN
TRANSMISSION AIR PRESSURE MONITOF Display unit BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	No indication	NG NG CAN COMM NG NG NG -	UNKWN UNKWN CAN 1 UNKWN UNKWN UNKWN UNKWN UNKWN	UNKWN CAN 3 UNKWN UNKWN UNKWN UNKWN				CAN 2 CAN 2 UNKWN UNKWN	UNKWN UNKWN CAN 5 UNKWN UNKWN	- - - -		UNKWN - - UNKWN	CAN 7
AIR PRESSURE MONITOF Display unit BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WC ABS IPDM E/R Symptoms :	No indication	NG CAN COMM NG NG NG 	UNKWN CAN 1 UNKWN UNKWN UNKWN UNKWN UNKWN	- CAN 3 UNKWN UNKWN UNKWN UNKWN		 CAN 6 UNKWN 	 UNKWN 	- CAN 2 - UNKWN UNKWN -	UNKWN CAN 5 UNKWN – UNKWN	-	 UNKWN	- - UNKWN	CAN 7 UNKWN
Display unit BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	 No indication No indication No indication	CAN COMM NG NG NG -	CAN 1 UNKWN UNKWN UNKWN UNKWN UNKWN	CAN 3 UNKWN UNKWN UNKWN UNKWN	- UNKWN UNKWN - UNKWN -	CAN 6 — UNKWN — — — —		CAN 2 — UNKWN UNKWN	CAN 5 UNKWN — UNKWN	-	– – UNKWN	- - UNKWN	CAN 7 UNKWN
BCM METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WC ABS IPDM E/R Symptoms :	No indication No indication — — No indication	NG NG NG 	UNKWN UNKWN UNKWN UNKWN UNKWN	UNKWN UNKWN UNKWN UNKWN	- UNKWN UNKWN - UNKWN -		— UNKWN — — —	- UNKWN UNKWN -	UNKWN — UNKWN	-	– UNKWN	– UNKWN	UNKWN
METER A/C AMP AUTO DRIVE POS ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	No indication No indication — — No indication	 NG NG -	UNKWN UNKWN UNKWN UNKWN	UNKWN — UNKWN UNKWN UNKWN	UNKWN UNKWN — UNKWN —	UNKWN 	UNKWN — — —	UNKWN UNKWN —	– UNKWN	-	UNKWN	UNKWN	
AUTO DRIVE POS ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	No indication No indication No indication	NG NG NG	UNKWN UNKWN UNKWN UNKWN	– UNKWN UNKWN UNKWN	UNKWN — UNKWN —	_ 	_ _	UNKWN	UNKWN				
ALL MODE AWD/4WD ABS IPDM E/R Symptoms :	— — No indication	NG NG —	UNKWN UNKWN UNKWN	UNKWN UNKWN UNKWN	– UNKWN –	_ _	-	_			_	-	-
ABS IPDM E/R Symptoms :	- No indication	NG —	UNKWN UNKWN	UNKWN UNKWN	UNKWN —	-	-		UNKWN	I	-	UNKWN	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_				_	UNKWN	UNKWN	_	_
Symptoms :					•		-	UNKWN	-	-	_	-	_
		S	Attach c SELECT S	opy of SYSTEM			SE	Attach cop LECT SY	by of STEM				
				CAN	Atta dis DIAG MC	ch copy o play unit NITOR c	f heck shee	et					

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CAN SYSTEM (TYPE 15)

Attach copy of Attach copy of Attach copy of AIR PRESSURE ENGINÉ TRANSMISSION MONITOR SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of AUTO DRIVE POS. METER A/C AMP всм SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of ALL MODE AWD/4WD IPDM E/R ABS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS PKIA6230E
CAN SYSTEM (TYPE 15)

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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

Check harness between TCM and data link connector. Refer to <u>LAN-522</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	5			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	-		UNKWN	-			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No increation	NG	UNKWN	_	—	—	—	-	UNKWN	—	-	-	—
Display unit	_	CAN COMM	CAN 1	Сайз	—		-	CAN 2	CAN 5	-	—	-	CAN 7
ВСМ	No indication	NG	UNKWN		-	_	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN				UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-	—	-	—
ALL MODE AWD/4WD	—	NG	UNKWN		-	—	_	-	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	-	UNKWN		_	_	_	UNKWN	-	-	_	-	—
													DKIA 05705



Check harness between data link connector and driver seat control unit. Refer to <u>LAN-522</u>, "Circuit Check <u>A</u><u>Between Data Link Connector and Driver Seat Control Unit</u>".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Tranamit					Receive	diagnosi	s			
SELECT STOT	LWSGREEN	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	_	_	UNK	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	C 4 17
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	_	_	-	
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_			_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	—	—	-	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	-	_	UNKWN	—
ABS	_	NG	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 driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-523</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit		_			Receive	diagnosi	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	_			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	-		UNKWN	—	_	UNK	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	—	—	_		UNKWN	—	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	-	C 4 17
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	—	—	-	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNK	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	—	-	_
ALL MODE AWD/4WD	-	NG	UNKWN		_	-	-	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN		UNKWN	_	-	-	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	-	UNKWN	-	—	_	_	—
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CAN SYSTEM (TYPE 15)

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Case 4

Check ECM circuit. Refer to LAN-524, "ECM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	5			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG		I		—	_			_			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	_
Display unit	_	CAN COMM	CAN 1	С 📢 З	_	CAN 6	-	CAN 2	CAN 5	_	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	_	-	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN		UNKWN	_	_	-	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN		_	_	_	UNKWN	_	_	_	_	_



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Check TCM circuit. Refer to LAN-525, "TCM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit		_			Receive	diagnosis	s	-		-
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	—	1	UNKWN	_	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	—	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-		—	-	UNKWN	UNKWN	—	-	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	-	-	Ι	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN		_	-	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	—	_	UNKWN	-	-	-	-	_
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Case 6

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Check low tire pressure warning control unit circuit. Refer to <u>LAN-525</u>, "Low Tire Pressure Warning Control <u>A</u> <u>Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Tranemit				-	Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	I	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	-	UNKWN	-	1	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	-	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	—	UNKWN	UNKWN	-		-	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	—	_	_	_



Check display unit circuit. Refer to LAN-526, "Display Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit		-			Receive	diagnosis	6			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	Ι	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	-	_	UNKWN	Ι	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	-	-	-	-
Display unit	_	CAN COMM		С 📢 З	_	CAN 6	-	C 📢 2	C 📢 5	-	_	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	Ι	—	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	Ι	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	-	UNKWN	UNKWN	-	_	-	_
ALL MODE AWD/4WD	—	NG	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 data link connector circuit. Refer to LAN-526, "Data Link Connector Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	—	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	—	-	-	UNKWN	—	-	-	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	—	-	UNKWN	UNKWN	_	_	-	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	—	-	-	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_	_



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Check BCM circuit. Refer to LAN-527, "BCM Circuit Check" .

		1											
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_		UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	—	—	UNKWN	-	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	_	—	-	-	UNKWN	-	-	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	-	C 📢 2	CAN 5	-	-	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	—		UNKWN		_	-	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	—	-	—	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-		-	_	_	-	_



Check unified meter and A/C amp. circuit. Refer to LAN-527, "Unified Meter and A/C Amp. Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Tronomit					Receive	diagnosis	6			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	-	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	C A 5	_	_	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	-	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN		_	_	-	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_		_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_	_



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Check steering angle sensor circuit. Refer to LAN-528, "Steering Angle Sensor Circuit Check" .

													
				1		CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosi	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	-	1	UNKWN	-	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	-	-	UNKWN	-	-	-	-
Display unit	—	CAN COMM	CAN 1	CAN 3	—	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	-	1	UNKWN		—	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	_	-	-
ALL MODE AWD/4WD	-	NG	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 driver seat control unit circuit. Refer to LAN-528, "Driver Seat Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	5			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	I	_	-	-	-	UNKWN	-	-	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	-	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	-	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_



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Check AWD control unit circuit. Refer to LAN-529, "AWD Control Unit Circuit Check" .

		1													
						CAN	DIAG SU	PPORT N	INTR						
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis											
		diagnosis	agnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_		UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	—	-	UNKWN	-	-	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	-	-	UNKWN	-	-	-	-		
Display unit	_	CAN COMM	CAN 1	CAN 3	—	CAN 6	-	CAN 2	CAN 5	_	-	-	CAN 7		
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	-	Ι	UNKWN	-	-	-	UNKWN		
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN	UNKWN	—		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	—	UNKWN	UNKWN	-	_	-	_		
ALL MODE AWD/4WD	-	NG			_	_	-	I		-	-		_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN		_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	-	_	-	-	-		



[CAN]

Case 14

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-529</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN	DIAG SU	PPORT N	INTR							
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis											
		diagnosis	liagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE		NG	UNKWN	-	UNKWN		-	UNKWN	UNKWN	-	UNKWN		UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	—	-	UNKWN		1		_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	—	-	—	-	UNKWN	-	1	_	—			
Display unit	Ι	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	-		-	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	-	1	—	-	UNKWN	1		-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ι	UNKWN	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	1	—	UNKWN	UNKWN		Ι	-	_			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_		_	_	UNKWN	_	_		_			
ABS	_	N				_	_	-	_			-	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_			



Check IPDM E/R circuit. Refer to LAN-530, "IPDM E/R Circuit Check" .

		1													
			1			CAN	DIAG SU	PPORT N	INTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis											
		diagnosis	iagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	—	-	-	-	UNKWN	-	-	-	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	—	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7		
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	-			
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN	UNKWN	—		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	_	-	—		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-		UNKWN	-	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	-	_		



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Case 16

Check CAN communication circuit. Refer to LAN-530, "CAN Communication Circuit Check" .

				CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis												
	diagnos		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG		_	UNKWN	_	_		UNKWN	-		UNKWN	UNK			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	—	-	-	UNKWN	-	-	-	-			
Display unit	_	CAN COMM		САЛЗ	_	CAN 6	-	CAN 2	CAN 5	-	-	_	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	-	UNKWN			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	Ι	UNKWN	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-		-	_			
ALL MODE AWD/4WD	-	NG			-	_	-	-	UNKWN	-	-	UNKWN	-			
ABS	_	N				_	-	-	_			-	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_			

Case 17

Н Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-534, "IPDM E/R Ignition Relay Circuit Check" .

			CAN DIAG SUPPORT MNTR															
SELECT SYST	EM screen	Initial	Initial Transmit		Receive diagnosis													
	dia		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R					
ENGINE	-	NG	UNKWN	—		-	_	UNKWN	UNKWN	_	UNKWN		UNKWN					
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	—	_	_	UNKWN	_	_	UNKWN	_					
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	Ι	_	UNKWN	-	-	-	_					
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	_	CAN 7					
BCM	No indication	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	-	_	_	UNKWN					
METER A/C AMP	No indication	_	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_					
AUTO DRIVE POS.	No indication	NG	UNKWN	_		_	_	UNKWN	UNKWN	-	_	_	_					
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	—	—	UNKWN	_	_		—					
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-534</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR													
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis											
	Livisoreen	diagnosis	diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	-	UNKWN	—	-	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN		—	-	—	-		—	-	UNKWN	-			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	—	—	—	-	UNKWN	-	—	_	-			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	-	-	CAN 7			
BCM	No indication	NG	UNKWN	UNKWN	-	—	—	-	UNKWN	—	—	-	UNKWN			
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	—	UNKWN	UNKWN	١			
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	_	—	UNKWN	UNKWN	—	_	-				
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	_	_	—	—	UNKWN	-	—	UNKWN				
ABS	—	NG	UNKWN		UNKWN	—	_	-	_			-	-			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	-	-			

Circuit Check Between TCM and Data Link Connector

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1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-501, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector 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 M9
- Harness connector B2

OK or NG

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



2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- 2 Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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

BAT Data link connector Harness connector 14 1 10 6 6,14 1.10 Ω SKIA5015E

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

- OK or NG
 - OK >> Connect all the connectors and diagnose again. Refer to LAN-501, "Work Flow" .
 - NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) 4KS0047K

- 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 (connector side and 3. harness side).
- Harness connector B4
- Harness connector E105

OK or NG

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

Harness connector Harness connector 3 1 10 10 Н 1,10 3,10 Ω SKIA5016



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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)
- : Continuity should exist.
 - : Continuity should exist.

OK or NG

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



Harness connector

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3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) har-

ness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) 10 (Y) - 15 (Y)

: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-501, "Work Flow" . NG



ECM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 termi-2. nals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.





ABS actuator and electric unit

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O CONNECTOR

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(control unit) connector

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CAN SYSTEM (TYPE 15)



Disconnect the negative battery terminal. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side). TCM connector Harness connector F102 Harness connector M82 OK or NG OK >> GO TO 2. NG >> Repair terminal or connector.

TCM Circuit Check

1.

2.

3.

1. CHECK CONNECTOR

Turn ignition switch OFF.

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Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display unit 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 display unit connector.
- Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit 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 data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to <u>LAN-501, "Work Flow"</u>.
- NG >> Repair harness between data link connector and BCM.



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CAN SYSTEM (TYPE 15)

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 M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "Removal and Installation of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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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.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

: Approx. 54 - 66Ω

OK or NG

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



Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.



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CAN SYSTEM (TYPE 15)

AWD Control Unit Circuit Check 1. CHECK CONNECTOR	AKS00A7U
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of AWD control unit for damage, bend and loose connection (c side and harness side). OK or NG 	ontrol unit
OK >> GO TO 2. NG >> Repair terminal or connector.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect AWD control unit connector. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y). 	
8 (L) - 16 (Y): Approx. 54 - 66Ω AWD control unit connectorOK or NG \square \square	
OK >> Replace AWD control unit. NG >> Repair harness between AWD control unit and IPDM E/ R.	
	SKIA6889E
ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CHECK CONNECTOR	AKS00A7V
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend connection (control unit side and harness side). 	and loose
OK >> GO TO 2.	
CHECK HARNESS FOR OPEN CIRCUIT	
Disconnect ABS actuator and electric unit (control unit) connector.	
 Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y). 11 (L) = 15 (X) Approx 54 - 660 	
OK or NG ABS actuator and electric un	it
OK >> Replace ABS actuator and electric unit (control unit).	_

[CAN]

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.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication 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, control unit side, unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit
- OK or NG
- OK >> GO TO 2.
- NG >> Repair terminal or connector.

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CAN SYSTEM (TYPE 15)



- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M9

4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect TCM connector. 1.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).
 - 5(L) 6(Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

- 5 (L) Ground
- : Continuity should not exist.
- 6 (Y) Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) 2. and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9





7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.



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Harness connector 3 🗖

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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

3 (L/Y) - Ground

- : Continuity should not exist. : Continuity should not exist.
- 19 (BR/W) Ground

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.



: Continuity should not exist.

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10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground

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

49 (Y) - Ground

OK or NG

OK >> GO TO 12.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit
- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-535, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-501, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <u>AND/OR "START"</u>.





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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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132





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CAN SYSTEM (TYPE 16)

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



AKS00A80

CAN SYSTEM (TYPE 16)



AKS00A83

LAN-CAN-46

DATA LINE



TKWB0067E

CAN SYSTEM (TYPE 16)

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TKWB0068E

LAN-CAN-48



TKWB0069E
Work Flow

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1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", 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)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	BI/(4.2002 E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD", "ABS", and "IPDM E/ R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE		SELF-DIAG F	RESULTS		
、 I <i>)</i>	WORK SUPPORT		DTC RESULTS	S TIME		
	SELF-DIAG RESULTS		CAN COMM CIR			
	DATA MONITOR					
	DATA MONITOR (SPEC					
	CAN DIAG SUPPORT MN	R				
	ACTIVE TEST					
				F.F.DATA		
	Scroll Do	'n	ERASE	PRINT		1
	BACK LIGHT CO	PΥ	MODE BACK L		PKIA8260E	

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD", "ABS", and "IPDM E/R" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE		CAN DIAG SU	PPORT M	NTR		
()			ENG	AINE			LAN
	WORK SUPPORT			PRS	ΝT		
] ["	INITIAL DIAG	Ok	(
	SELF-DIAG RESULTS	- т	TRANSMIT DIAG	OK	.		
	DATA MONITOR	Т	тсм	OK			
		┨ ⊾ \\	VDC/TCS/ABS	OK			
	DATA MONITOR (SPEC)		METER/M&A	OK			
	CAN DIAG SUPPORT MNTR		ICC		WNI		
	CAN BIAG SOTT OTT MINIT		ROMARCO				
			DUN/SEC	Ur	`		
	ACTIVE TEST		IPDM E/R	OK	(
		A	AWD/4WD/e4WD	UNK	WN		M
	Scroll Down	1 –	PRINT		Scroll		
	Scioli Dowii	┥ –			Down		
	BACK LIGHT COPY	/ N	MODE BACK	LIGHT	СОРУ		
	ACTIVE TEST Scroll Down BACK LIGHT COPY		IPDM E/R AWD/4WD/e4WD PRINT MODE BACK		WN Scroll Down COPY	PKIA8343F	Μ

- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-543, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-543</u>, "CHECK SHEET".

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 "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-175, "CAN Communication Line Check"</u>.

LAN-541

- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-543</u>, <u>"CHECK SHEET"</u>.
- 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 <u>LAN-543</u>, "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 <u>AV-175</u>, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-546, "CHECK SHEET</u> <u>RESULTS (EXAMPLE)"</u>.

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	1												
						CAN	DIAG SU	PPORT N	/NTR diagnosi	<u> </u>				
SELECT SYSTI	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
INGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN	
RANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-	
IR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	_	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	-	CAN CIRC 7	
зсм	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	_	-	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_	_	-	-	
LL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	—	_	UNKWN	—	—	UNKWN	-	
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	-	_	UNKWN	UNKWN	-	—	
PDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	_	-	—	
		S	Attach c	opy of SYSTEM			SE	Attach cop LECT SY	oy of STEM					
			c	AN DIAG	Atta display SUPPOF	ch copy o v control t RT MONI [–]	f ınit rOR chec	k sheet						

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Attach copy of Attach copy of Attach copy of AIR PRESSURE ENGINÉ TRANSMISSION MONITOR SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of AUTO DRIVE POS. METER A/C AMP всм SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of ALL MODE AWD/4WD IPDM E/R ABS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS PKIA6230E

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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

Check harness between TCM and data link connector. Refer to <u>LAN-562</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	6			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	—	-			-			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	-	-	UNKWN	-	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	—	—	-	-	UNKWN	-	_	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	—	CANORC 6	-	CAN CIRC 2	CAN CIRC 5	-	—	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	_	_	-	UNKWN	-	—	-	UNKWN
METER A/C AMP	No indication	-	UNKWN		UNKWN		UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-		_	_	UNKWN	UNKWN	-	—	-	-
ALL MODE AWD/4WD	—	NG	UNKWN		_	—	_	-	UNKWN	-	-	UNKWN	_
ABS	_	NG	UNKWN		UNKWN	_	-	-	_	UNKWN	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN			-	_	UNKWN	_	_	-	_	_



А Check harness between data link connector and driver seat control unit. Refer to LAN-562, "Circuit Check Between Data Link Connector and Driver Seat Control Unit" .

						CAN	DIAG SU	PPORT N	/INTR				
	EM screen	Initial	Tronomit					Receive	diagnosis	3			
SELECT STOT	LINISCIECT	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	-		-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	_	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	—	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_			_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	_	-	-	-
ALL MODE AWD/4WD	-	NG	UNKWN		-	-	—	-	UNKWN	_	-	UNKWN	—
ABS	_	NG	UNKWN			_	_	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_



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Case 3

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Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-563</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	-	UNKWN	UNKWN	_			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	—	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	—	-	-	UNKWN	_	-	—	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CIRC 6	—	CAN CIRC 2	CAN CIRC 5		_	_	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	—	1	UNKWN	-	-	_	UNK
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1			_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	—	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	-	-	_	١		-	-	UNKWN	_
ABS	_	NG	UNKWN			_	_	_	_		UNKWN	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	_	-	-	_	_

///////: Malfunctioning part Low tire ABS Unified Steering pressure actuator and meter and angle warning control unit electric unit A/C amp. sensor (control unit) CAN H CAN L AWD Driver seat Display Data link ECM TCM BCM IPDM E/R control unit control unit control unit connector SKIA5531E

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Case 4

Check ECM circuit. Refer to LAN-564, "ECM Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Tranamit					Receive	diagnosis	6			
OLLEON ONON		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG			UNKWN	_	_			-			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	_	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN ORC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	_	_	CAN CIRC
BCM	No indication	NG	UNKWN		_	_	-	-	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	—	-	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	-	UNKWN	-
ABS	_	NG	UNKWN		UNKWN	_	-	_	_	UNKWN	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN		_	_	_	UNKWN	_	_	_	_	_



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Check TCM circuit. Refer to LAN-565, "TCM Circuit Check" .

			1			CAN	DIAG SU	PPORT	NNIR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	s			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	—	-	-	UNKWN	-	—	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	-	-	UNKWN	—	_	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	-	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	—	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	_	-	-
ALL MODE AWD/4WD	—	NG	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 low tire pressure warning control unit circuit. Refer to <u>LAN-565</u>, "Low Tire Pressure Warning Control <u>A</u> <u>Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
012201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	I	UNKWN	_	_	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	—	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	Ι	-	-	-	-	UNKWN	-	1	-	-
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CANORC 6	-	CAN CIRC 2	CAN CIRC 5	-		_	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	1	-	-	—	UNKWN	Ι	Ι	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ι	UNKWN	UNKWN	١
AUTO DRIVE POS.	No indication	NG	UNKWN	١	UNKWN	_	-	UNKWN	UNKWN	-	I	Ι	
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	-	—	-	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	—	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	—	_	—	_



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Check display control unit circuit. Refer to LAN-566, "Display Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	5			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	-	_	UNKWN	-	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	—	-	-	-	UNKWN	-	_	_	-
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	—	CANORC 6	-	CANORC 2	CANORC 5		—	-	CANLORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	-	—	_	-
ALL MODE AWD/4WD	—	NG	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 data link connector circuit. Refer to LAN-566, "Data Link Connector Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
OLLEON ONOT	LW Sereen	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	—		UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	Ι	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	١	UNKWN	_	I	UNKWN	UNKWN	-	Ι	1	—
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	_	_



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Check BCM circuit. Refer to LAN-567, "BCM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-		UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	-	-	UNKWN	—	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CANORC 2	CAN CIRC 5	-	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_		UNKWN	—	_	-	-
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	—	-	_	-	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	_	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-		_	_	-	-	-
			-										PKIA8606E



Check unified meter and A/C amp. circuit. Refer to LAN-567, "Unified Meter and A/C Amp. Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN		_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-		-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-		-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CANORC 5	-	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	—	-	-		-	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	١	UNKWN	_	Ι	UNKWN		-	Ι	1	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	-	—	Ι	Ι		-	-	UNKWN	—
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	_	UNKWN	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	—	-	_	_



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Check steering angle sensor circuit. Refer to LAN-568, "Steering Angle Sensor Circuit Check" .

SELECT SYSTEM	1 screen	Initial				-							-
SELECT SYSTEM	1 screen	Initial				CAN	DIAG SU	PPORT N	1NTR				
			Transmit				-	Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN		-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION No	o indication	NG	UNKWN	UNKWN	-		_	_	UNKWN	-	Ι	UNKWN	—
AIR PRESSURE MONITOR No	o indication	NG	UNKWN	-	-		_	-	UNKWN	Ι	Ι	-	—
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	Ι	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	Ι	Ι	-	CAN CIRC 7
BCM No	o indication	NG	UNKWN	UNKWN		Ι	_	-	UNKWN	Ι	Ι	-	UNKWN
METER A/C AMP No	o indication	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	Ι	UNKWN	UNKWN	—
AUTO DRIVE POS. No	o indication	NG	UNKWN	-	UNKWN	Ι	_	UNKWN	UNKWN	-	Ι	Ι	—
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	-	-	UNKWN	—
ABS	-	NG	UNKWN	UNKWN	UNKWN	—	_	_	-		UNKWN	—	-
IPDM E/R No	o indication	-	UNKWN	UNKWN	—	_	-	UNKWN	-	-	-	_	—



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Case 12

Check driver seat control unit circuit. Refer to LAN-568, "Driver Seat Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
022201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	Ι	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	—	-	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_



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Check AWD control unit circuit. Refer to LAN-569, "AWD Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_		UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	_	-	—	UNKWN	—	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	—	_	-	-	UNKWN	—	_	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	-	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	—	—	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	—	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	—	—	_	-
ALL MODE AWD/4WD	—	NG		UNKWN	_	-	_	_	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-	-	-
			-										



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Case 14

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Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-569</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) <u>Circuit Check</u>".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Tranemit					Receive	diagnosis	S			
012201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	—	-	-	UNKWN	-	-		-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	1	-	-
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_		-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	1	-	-	-	UNKWN	-	Ι	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-		UNKWN		١
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-		-	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_		_
ABS	_	V				_	_	_	_			-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	—	UNKWN	_	—	_	-	_



Check IPDM E/R circuit. Refer to LAN-570, "IPDM E/R Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYSTE	M screen	Initial	Transmit			_		Receive	diagnosis	3			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	—	—	Ι	UNKWN	_	—	UNKWN	—
	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	-	CANORC
BCM N	No indication	NG	UNKWN	UNKWN	_	_	—	Ι	UNKWN	-	—	-	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	-	—
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	—	-	-	Ι	UNKWN	_	-	UNKWN	—
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	-	_	-	—	—



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Case 16

Check CAN communication circuit. Refer to LAN-570, "CAN Communication Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	S			
	LWSGCCH	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG		_		-	_			—			UNK
TRANSMISSION	No indication	NG	UNKWN	UNKWN	—	-	—	-	UNKWN	—	I	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	-	-	-	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CANORC 1	CAN ORC 3	_	CANORC 6	-	CANORC 2	CANORC 5	_	_	-	CANORC 7
BCM	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	—	UNKWN	UNKWN	-	-	-	-
ALL MODE AWD/4WD	-	NG		UNKWN	_	-	_	_		-	_	UNKWN	-
ABS	_	V			UNKWN	-	_	-	_			-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_

Case 17

Н Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-574, "IPDM E/R Ignition Relay Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_		—	_	UNKWN	UNKWN	-	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	—	-	-	UNKWN	-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	_	UNKWN	-	-	-	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	-	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	_	—	-	_	UNKWN	-	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN		-
AUTO DRIVE POS.	No indication	NG	UNKWN	_		_	-	UNKWN	UNKWN	-	-	-	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	-
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-574</u>, "IPDM E/R Ignition Relay <u>Circuit Check</u>".

			-			CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	5			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN		_	_	_	-		-	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	—	—	-	UNKWN	-	-	Ι	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	—	CAN CIRC 2	CAN CIRC 5	-	_	-	CAN CIRC 7
ВСМ	No indication	NG	UNKWN	UNKWN	1	-	—	Ι	UNKWN	Ι	—	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ι	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	—	UNKWN	UNKWN	-	_	Ι	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	—	-	UNKWN	-	-	UNKWN	-
ABS	_	NG	UNKWN		UNKWN	_	_	_	_			_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	—	—	—	UNKWN	_	-	-	_	-

Circuit Check Between TCM and Data Link Connector 1. CHECK HARNESS FOR OPEN CIRCUIT

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AKS00A86

PKIA8615E

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).
 - 8 (L) 6 (L) 9 (Y) - 14 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-541, "Work Flow"</u>. NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit 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 (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

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



- 1. Disconnect harness connector M9.
- 2 Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).
 - 6 (L) 1 (L) 14 (Y) - 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

OK or NG

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

BAT Data link connector Harness connector 14 1 6 10 6,14 1.10 Ω SKIA5015E

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L)
 - 10 (Y) 10 (Y)
- : Continuity should exist.
- : Continuity should exist.

- OK or NG
 - OK >> Connect all the connectors and diagnose again. Refer to LAN-541, "Work Flow" .
 - NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and ABS Actuator Unit (Control Unit)

- 1. CHECK CONNECTOR
 - 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 B4
- Harness connector E105

OK or NG

1.

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

Harness connector Harness connector 3 1 10 10 Н 1,10 3,10 Ω SKIA5016

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).
 - 1 (L) 3 (L) 10 (Y) - 10 (Y)
 - : Continuity should exist.
 - : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector. 1.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) har-

ness connector E24 terminals 11 (L), 15 (Y).

- 3 (L) 11 (L) 10 (Y) - 15 (Y)
- : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-541, "Work Flow" . NG

>> Repair harness.

ECM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM 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 ECM connector.
- Check resistance between ECM harness connector M80 termi-2. nals 94 (L) and 86 (Y).

94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM and TCM.



Harness connector	ABS actuator and electric unit (control unit) connector C/UNIT O CONNECTOR 11,15
	Ω SKIA5017E

AKS00A88

TCM Circuit Check	AKS00A89
1. CHECK CONNECTOR	
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check following terminals and connectors for damage, bend and lo and harness side). TCM connector Harness connector F102 Harness connector M82 OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	ose connection (control module side
 Disconnect TCM connector. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y). 5 (L) - 6 (Y) : Approx. 54 - 66Ω 	
OK or NG OK >> Replace TCM. NG >> Repair harness between TCM and low tire pressure warning control unit.	TCM connector
Low Tire Pressure Warning Control Unit Circuit Chec	PKIA0817E k AKSOOABA
1. CHECK CONNECTOR	
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of low tire pressure warning control unction (control unit side and harness side). OK or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	unit for damage, bend and loose con-
2. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect low tire pressure warning control unit connector. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y). 9 (L) - 21 (Y) : Approx. 54 - 66Ω OK or NG OK >> Replace low tire pressure warning control unit. NG >> Repair harness between low tire pressure warning control unit and TCM. 	DISCONNECT WITH DESSAURATION AND A CONTROL OF A CONTROL

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 M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y)

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit 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 data link connector and terminals 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 M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to LAN-541, "Work Flow".
- NG >> Repair harness between data link connector and BCM.



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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 M34 terminals 39 (L) and 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to <u>BCS-14</u>, "Removal and Installation of <u>BCM</u>".
- NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. 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 unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. and data link connector.



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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.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

: Approx. 54 - 66Ω

OK or NG

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



Driver Seat Control Unit 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 unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

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.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit and harness connector B4.



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	[CAN]
WD Control Unit Circuit Check . CHECK CONNECTOR	AKS00A8H
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of AWD control unit for damage, bend and loose conside and harness side). K or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	nection (control unit
. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect AWD control unit connector. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y). 	
8 (L) - 16 (Y) : Approx. 54 - 6622 K or NG	it connector
NG >> Repair harness between AWD control unit and IPDM E/	2 SKIA6889E
BS Actuator and Electric Unit (Control Unit) Circuit Check . CHECK CONNECTOR	AKSOOABI
 Turn ignition switch OFF. Disconnect the negative battery terminal. Check terminals and connector of ABS actuator and electric unit (control unit) for dama connection (control unit side and harness side). K or NG OK >> GO TO 2. NG >> Repair terminal or connector. 	age, bend and loose
. CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect ABS actuator and electric unit (control unit) connector. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y). 11 (L) - 15 (Y) : Approx. 54 - 66Ω 	
DK or NG OK >> Replace ABS actuator and electric unit (control unit). ABS actuator and (control unit). NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R. 11	nd electric unit onnector CONNECTOR 15 SKIA5019E

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.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication 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, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit
- OK or NG
- OK >> GO TO 2.
- NG >> Repair terminal or connector.

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[CAN]

2.	CHECK HARNESS FOR SHORT CIRCUIT	А	
1.	Disconnect following connectors.	2.5	
-	ECM connector	D	
-	Low tire pressure warning control unit connector		
-	Harness connector M82		
-	Display control unit connector		
-	BCM connector		
-	Unified meter and A/C amp. connector		
-	Steering angle sensor connector		
-	Harness connector M9		
2.	(L) and 14 (Y).	F	
	6 (L) - 14 (Y) : Continuity should not exist. Data link connector		
<u>0K</u> 0	$\frac{\text{or NG}}{\text{K}} >> \text{ GO TO 3.}$	F	
N	G >> Check the following harnesses. If any harness is dam- aged, repair the harness.	0	
	 Harness between data link connector and ECM Harness between data link connector and low tire 	G	
	pressure warning control unit	Н	
	Harness between data link connector and harness connector M82		
	Harness between data link connector and display control unit		
	Harness between data link connector and BCM		
	 Harness between data link connector and unified meter and A/C amp. Herness between data link connector and steering angle concert. 		
	Harness between data link connector and steering angle sensor		
~		J	
3.	CHECK HARNESS FOR SHORT CIRCUIT		
Che	eck continuity between data link connector M24 terminals 6 (L),	LAN	
14	(Y) and ground.		
	6 (L) - Ground : Continuity should not exist. Data link connector		
	14 (Y) - Ground : Continuity should not exist.	L	
OK			
0	K >> GO TO 4.	M	
N	G >> Check the following harnesses. If any harness is dam-		
	aged, repair the harness.		
	Harness between data link connector and ECM		
	 Harness between data link connector and low tire pressure warning control unit 		
	 Harness between data link connector and harness connector M82 		
	 Harness between data link connector and display control unit 		
	 Harness between data link connector and BCM 		
	 Harness between data link connector and unified meter and A/C amp. 		

- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M9

2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between TCM and harness connector F102.



H.S.

тсм

TCM connector

5,6

O CONNECTOR

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5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

- 5 (L) Ground : C
- 6 (Y) Ground :
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between TCM and harness connector F102.

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9



SKIA5020E

7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

- 3 (L) Ground 10 (Y) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector B4 and harness connector B2
 - Harness between harness connector B4 and harness connector B9

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
- NG >> Repair harness between driver seat control unit and harness connector B301.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

3 (L/Y) - Ground

: Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
- NG >> Repair harness between driver seat control unit and harness connector B301.





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10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 11.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E105

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground

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

49 (Y) - Ground

OK or NG

OK >> GO TO 12.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit
- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E105

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-575, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-541, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

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-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> <u>AND/OR "START"</u>.





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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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	





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