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PRECAUTIONS PFP:00001

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

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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 for Battery Service

AKS003TZ

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Precautions When Using CONSULT-II

AKS003M4

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

CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

CHECK POINTS FOR USING CONSULT-II

- 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.
- 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-5, "TROUBLE DIAGNOSES WORK FLOW".

Precautions For Trouble Diagnosis CAN SYSTEM

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- 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 the battery cable from the negative terminal before checking the circuit.

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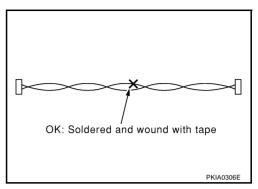
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Revision: 2004 December LAN-3 2005 350Z

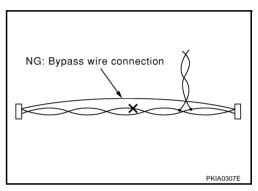
Precautions For Harness Repair CAN SYSTEM

AKS000ZE

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



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



[CAN]

TROUBLE DIAGNOSES WORK FLOW

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When Displaying CAN Communication System Errors WHEN A MALFUNCTION IS DETECTED BY CAN COMMUNICATION SYSTEM

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- CAN communication line is open. (CAN H, CAN L, or both)
- CAN communication line is shorted. (Ground, between CAN lines, or other harnesses)
- The areas related to CAN communication of unit is malfunctioning.

WHEN A MALFUNCTION IS DETECTED EXCEPT CAN COMMUNICATION SYSTEM

- Removal and installation of parts: When the units that perform CAN communication or the sensors related to CAN communication are removed and installed, malfunction may be detected (or DTC other than CAN communication may be detected).
- Fuse blown out (removed): CAN communication of the unit may be stopped at such time.
- Low voltage: If the voltage decreases because of battery discharge when IGN is ON, malfunction may be detected by self-diagnosis according to the units.

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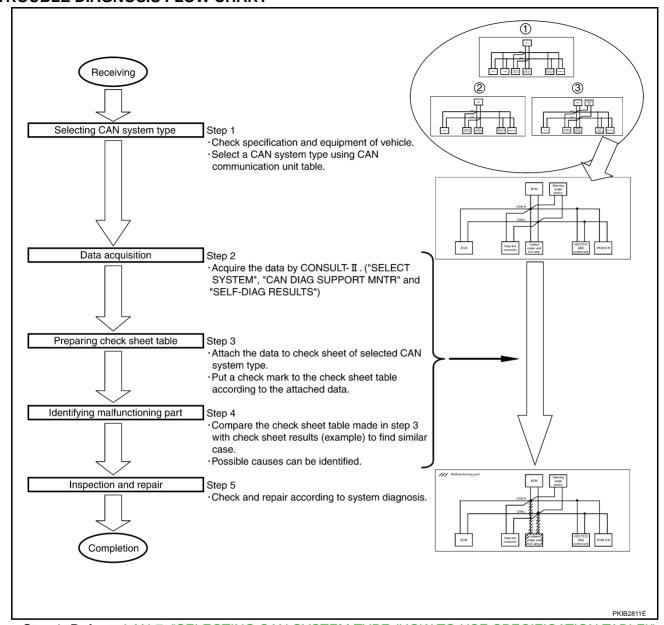
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TROUBLE DIAGNOSIS FLOW CHART



- Step 1: Refer to <u>LAN-7</u>, "<u>SELECTING CAN SYSTEM TYPE (HOW TO USE SPECIFICATION TABLE)</u>".
- Step 2: Refer to LAN-8, "ACQUISITION OF DATA BY CONSULT-II".
- Step 3: Refer to LAN-9, "HOW TO USE CHECK SHEET TABLE".
- Step 4: Refer to LAN-10, "Example of Filling in Check Sheet When Initial Conditions Are Reproduced" .
- Step 5: Check and repair according to system diagnosis.

[CAN]

Diagnosis Procedure SELECTING CAN SYSTEM TYPE (HOW TO USE SPECIFICATION TABLE)

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Determine CAN system type from the equipment of the vehicle to select applicable check sheet.

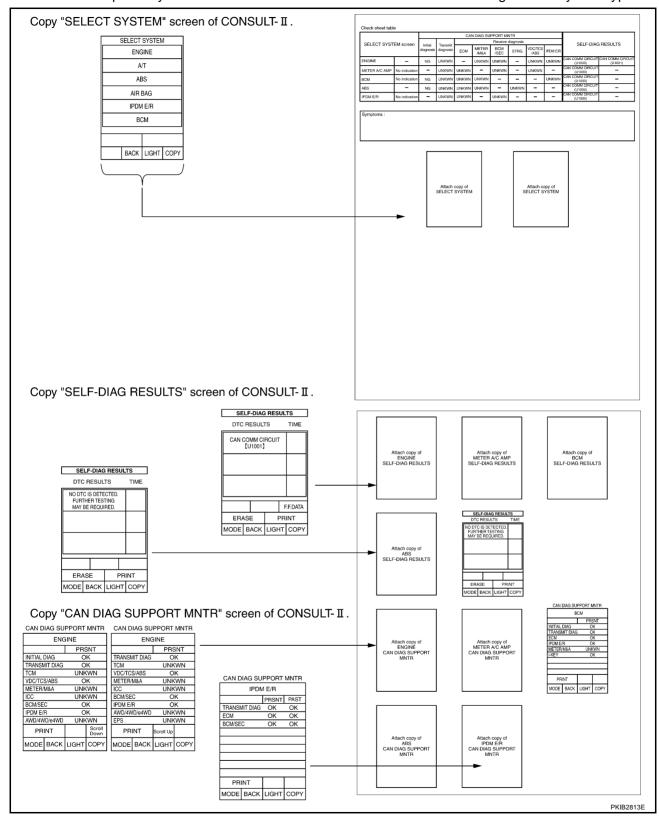
Body type			Coupe				Roadste	r)
Axle				2\	V D				
Engine				VQ	35DE				Check basic specification of the vehicle
Transmission	А	/T		M/T		A/T	N	1/T	
Brake control	TCS	VDC	ABS	TCS	VDC	TCS	TCS	VDC	J
CAN system type	1	5	2	3	4	1	3	4	Which number is selected when
CAN system trouble diagnosis	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	sequentially selecting from the top of the specification table? The number is "CAN system type" of the applicable vehicle. In the case of this example: It corresponds to type 4.
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ACQUISITION OF DATA BY CONSULT-II

Attach the data acquired by CONSULT-II on the check sheet determined according to CAN system type.

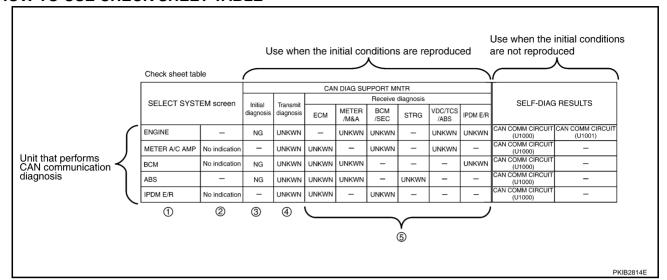


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HOW TO USE CHECK SHEET TABLE



- Unit names displayed on CONSULT-II
- 2. "No indication": Put a check mark to it if the unit name described in step 1 is not displayed on "SELECT SYSTEM" screen of CONSULT-II. (Unit communicating with CONSULT-II via CAN communication line) "—": Column not used (Unit communicating with CONSULT-II excluding CAN communication line)
- 3. "NG": Display "NG" when malfunction is detected in the initial diagnosis of the diagnosed unit. Replace the unit if "NG" is displayed.
 - "-": Column not used (Initial diagnosis is not performed.)
- 4. "UNKWN": Display "UNKWN" when the diagnosed unit does not transmit the data normally. Put a check mark to it if "UNKWN" is displayed on CONSULT-II.
 - "-": Column not used (Transmit diagnosis is not performed.)
- 5. "UNKWN": Display "UNKWN" when the diagnosed unit does not receive the data normally. Put a check mark to it if "UNKWN" is displayed on CONSULT-II.
 - "-": Column not used (It is not necessary for CAN communication trouble diagnosis.)

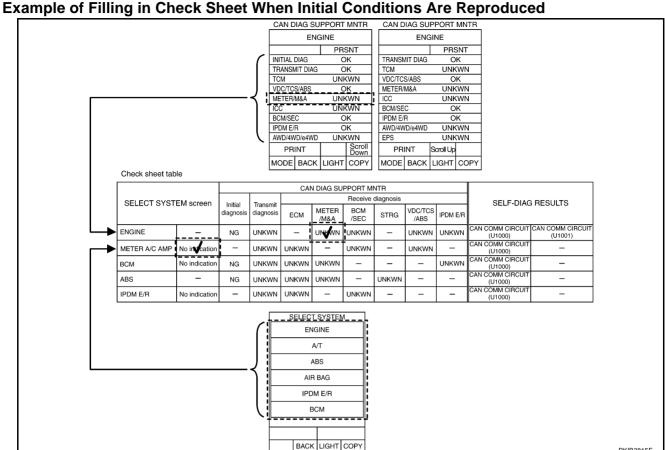
NOTE

CAN communication diagnosis checks if CAN communication works normally. (Contents of data are not diagnosed.)

- When the initial conditions are reproduced. Refer to <u>LAN-10</u>, "Example of Filling in Check Sheet When Initial Conditions Are Reproduced".
- When the initial conditions are not reproduced. Refer to <u>LAN-13</u>, "Example of Filling in <u>Check Sheet When Initial Conditions Are Not Reproduced"</u>.

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Put a check mark to "No indication" if some of unit names listed on the column of diagnosis system selection screen of a check sheet table are not displayed on "SELECT SYSTEM" screen attached to the check sheet.

NOTE:

Put a check mark to "No indication" of METER A/C AMP because METER A/C AMP is not displayed on "SELECT SYSTEM" screen.

Confirm the unit name that "UNKWN" is displayed from the copy of "CAN DIAG SUPPORT MNTR" screen of "ENGINE" attached to the check sheet, and then put a check mark to the check sheet table.

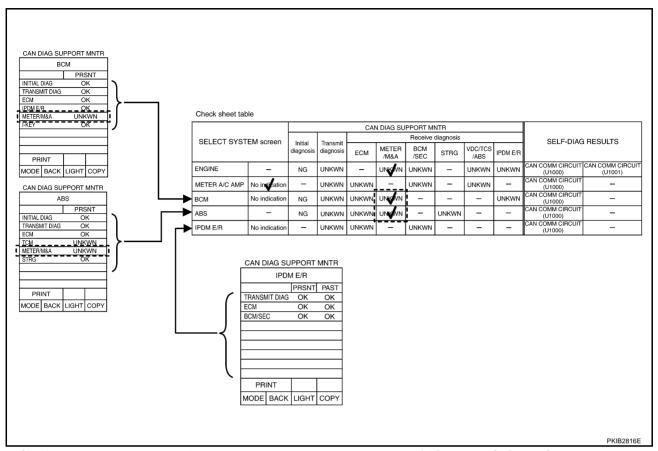
NOTE:

In "CAN DIAG SUPPORT MNTR" screen, "UNKWN" is displayed on "TCM", "METER/M&A", "ICC", "AWD/ 4WD/e4WD" and "EPS". But put a check mark to "METER/M&A" because "UNKWN" is listed on the column of reception diagnosis of the check sheet table.

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Confirm the unit name that "UNKWN" is displayed on the copy of "CAN DIAG SUPPORT MNTR" screen
of "BCM", "ABS" and "IPDM E/R" as well as "ENGINE". And then, put a check mark to the check sheet
table.

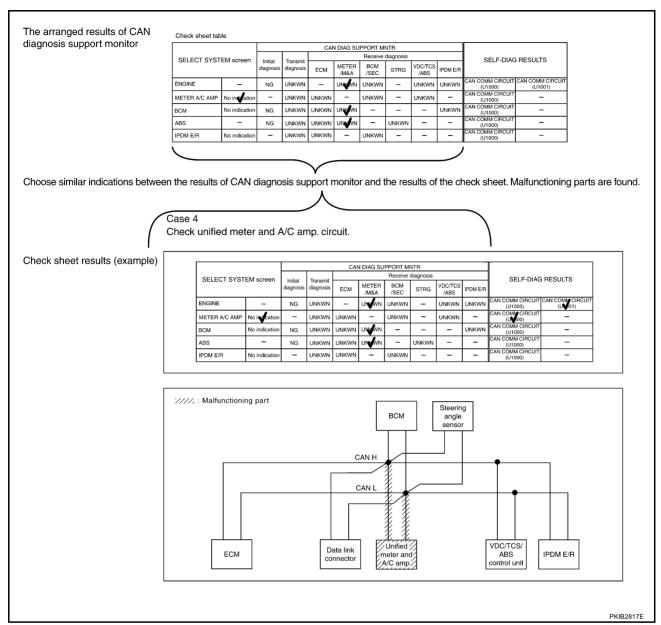
NOTE:

- For "BCM", "UNKWN" is displayed on "METER/M&A". Put a check mark to it.
- For "ABS", "UNKWN" is displayed on "TCM" and "METER/M&A". But a put a check mark to "METER/M&A" because "UNKWN" is listed on the column of reception diagnosis on the check sheet.
- For "IPDM E/R", "UNKWN" is not displayed. Do not put a check to it.

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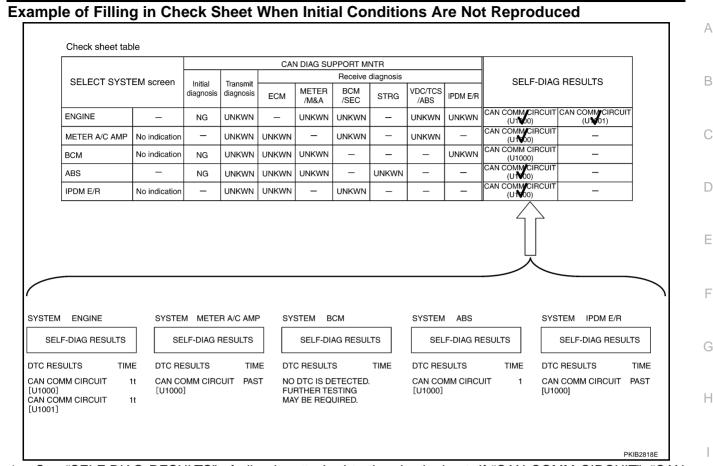
NOTE:

There is a case that some of "CAN DIAG SUPPORT MNTR" and "SELF-DIAG RESULTS" are not needed for diagnosis. In the case, "UNKWN" and "CAN COMM CIRCUIT(U1000)" in "Check sheet results (example)" change to "–". Then, ignore check marks on the check sheet table.

- Perform system diagnosis for possible causes identified.
- Perform diagnosis again after inspection and repair. Make sure that repair is completely performed, and then end the procedure.

Start CAN system trouble diagnosis if this procedure can be confirmed. Refer to <u>LAN-21, "CAN Communication Unit"</u>.

[CAN]



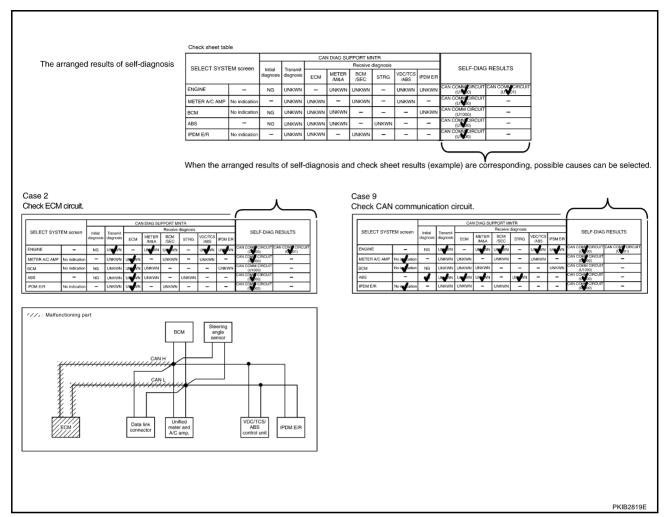
 See "SELF-DIAG RESULTS" of all units attached to the check sheet. If "CAN COMM CIRCUIT", "CAN COMM CIRCUIT (U1000)" or "CAN COMM CIRCUIT (U1001)" is displayed, put a check mark to the applicable column of self-diagnostic results of the check sheet table.

NOTF:

- For "ENGINE", "CAN COMM CIRCUIT (U1000)" and "CAN COMM CIRCUIT (U1001)" are displayed. Put a check mark to it.
- For "METER/M&A", "CAN COMM CIRCUIT (U1000)" is displayed. Put a check mark to it.
- For "BCM", "NO DTC IS DETECTED" is displayed. Do not put a check mark to it.
- For "ABS", "CAN COMM CIRCUIT (U1000)" is displayed. Put a check mark to it.
- For "IPDM E/R", "CAN COMM CIRCUIT (U1000)" is displayed. Put a check mark to it.

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NOTE:

There is a case that some of "CAN DIAG SUPPORT MNTR" and "SELF-DIAG RESULTS" are not needed for diagnosis. In the case, "UNKWN" and "CAN COMM CIRCUIT(U1000)" in "Check sheet results (example)" change to "-". Then, ignore check marks on the check sheet table.

2. For the selected possible causes, it is expected that malfunctions have been found in the past.

[CAN]

CAN Diagnostic Support Monitor DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR ECM

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(Example)	CAN DIAG SUPPORT MNTR	CAN DIAG SUPPORT MNTR
	ENGINE	ENGINE
	PRSNT	PRSNT
	INITIAL DIAG OK	TRANSMIT DIAG OK
	TRANSMIT DIAG OK	тсм ок
	TCM OK	VDC/TCS/ABS OK
	VDC/TCS/ABS OK	METER/M&A OK
	METER/M&A OK	ICC UNKWN
	ICC UNKWN	BCM/SEC OK
	BCM/SEC OK	IPDM E/R OK
	IPDM E/R OK	AWD/4WD/e4WD UNKWN
	AWD/4WD/e4WD UNKWN	EPS UNKWN
	PRINT Scroll Down	PRINT Scroll Up
	MODE BACK LIGHT COPY	MODE BACK LIGHT COPY SKIB0591E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	TCM	Make sure of normal reception from TCM.	OK/UNKWN
		Make sure of normal reception from VDC/TCS/ABS control unit.	OK/UNKWN
	VDC/TCS/ABS	Make sure of normal reception from ABS actuator and electric unit (control unit).	OK/UNKWN
ENGINE	METER/M&A	Make sure of normal reception from unified meter and A/C amp.	OK/UNKWN
	ICC	ICC is not diagnosed.	UNKWN
	BCM/SEC	Make sure of normal reception from BCM.	OK/UNKWN
	IPDM E/R	Make sure of normal reception from IPDM E/R.	OK/UNKWN
	AWD/4WD/e4WD	AWD/4WD/e4WD is not diagnosed.	UNKWN
	EPS	EPS is not diagnosed.	UNKWN

Display Results (Present)

OK: Normal

NG: Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

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[CAN]

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR TCM

(Example)	CAN D	IAG SU			
` ′		Α			
	INITIAL	DIAG	С	K	
	TRANS	/IT DIAG	С	K	
	ECM		С	K	
	VDC/TC	S/ABS	С	ιK	
	METER/	M&A	О	ιK	
	ICC/e4W	/D	UNF	(WN	
	AWD/4WD UNKWN			(WN	
	PR	INT			
	MODE	BACK	LIGHT	COPY	SKIB1623E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description			
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG		
A/T	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN		
	ECM	Make sure of normal reception from ECM.	OK/UNKWN		
	VDC/TCS/ABS	Make sure of normal reception from ABS actuator and electric unit (control unit).	OK/UNKWN		
	METER/M&A	Make sure of normal reception from unified meter and A/C amp.	OK/UNKWN		
	ICC/e4WD	ICC/4WD is not diagnosed.	UNKWN		
	AWD/4WD	AWD/4WD is not diagnosed.	UNKWN		

Display Results (Present)

OK: Normal

• NG: Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

[CAN]

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR UNIFIED METER AND A/C AMP.

(Example)	CAN DIAG SUPPORT MNTR CAN DIAG SUPPORT MNTR	
,	METER A/C AMP	
	PRSNT PAST PAST	
	TRANSMIT DIAG OK OK PPDM E/R	
	ECM OK OK DISPLAY	
	TCM OK OK I-KEY	
	BCM/SEC OK OK EPS	
	VDC/TCS/ABS OK OK AWD/4WD	
	IPDM E/R e4WD	
	DISPLAY	
	I-KEY LANE KEEP	
	EPS TIRE-P OK OK	
	PRINT Scroll Down PRINT Scroll Up	
	MODE BACK LIGHT COPY MODE BACK LIGHT COPY	
	sk	(IB1624

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present	Past
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN/-	
	ECM	Make sure of normal reception from ECM.	OK/UNKWN/-	
	TCM	Make sure of normal reception from TCM.	OK/UNKWN/-	
	BCM/SEC	Make sure of normal reception from BCM.	OK/UNKWN/-	
	VDC/TCS/ABS	Make sure of normal reception from VDC/TCS/ABS control unit.	OK/UNKWN/-	
METER A/C AMP	VDC/TCS/ABS	Make sure of normal reception from ABS actuator and electric unit (control unit).	OK/UNKWN/-	
	IPDM E/R	IPDM E/R is not diagnosed.	_	OK/0/1~39/-
	DISPLAY	DISPLAY is not diagnosed.	-	0.407. 007
	I-KEY	I-KEY is not diagnosed.	_	
	EPS	EPS is not diagnosed.	-	
	AWD/4WD	AWD/4WD is not diagnosed.	-	
	e4WD	e4WD is not diagnosed.	-	
	ICC	ICC is not diagnosed.	_	
	LANE KEEP	LANE KEEP is not diagnosed.	_	
	TIRE-P	Not available for CAN system diagnosis.	OK/UNKWN	

Display Results (Present)

- OK: Normal
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.
- -: There is no received unit or the unit is not in the condition that reception diagnosis is performed

Display Results (Past)

- OK: Normal
- 0: There is malfunction now.
- 1 ~ 39: Displays when it is normal at present and finds malfunction in the past. It increases like 0 \to 1 \to 2...38 \to 39 after returning to the normal condition whenever IGN OFF→ON. If it is over 39, it is fixed to 39 until the self-diagnostic results are erased. It returns to 0 when malfunction is detected again in the process.
- -: Undiagnosed

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[CAN]

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR BCM

(Example)	CANI	DIAG SU	PPORT	MNTR	
		В			
	INITIAL	DIAG	0	K	
	TRANSI	MIT DIA	G 0	K	
	ECM		0	K	
	IPDM E	/R			
	METER/M&A OK				
	I-KEY		0	K	
	PRINT				
	MODE	BACK	LIGHT	COPY	
					SKIB1625E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN
DCIVI	IPDM E/R	Make sure of normal reception from IPDM E/R.	OK/UNKWN
	METER/M&A	Make sure of normal reception from unified meter and A/C amp.	OK/UNKWN
	I-KEY	I-KEY is not diagnosed.	ОК

Display Results (Present)

OK: Normal

NG: Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

ABS models

(Example)	CAN DIA	AG SU	PPORT	MNTR	
		AE	3S		
			PRS	SNT	
	INITIAL DI	AG	С	ΙK	
	TRANSMIT	DIAG	С	K	
	ECM		C	K	
	PRIN	Т			
	MODE E	BACK	LIGHT	COPY	PKIA8949E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
ABS	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN

Display Results (Present)

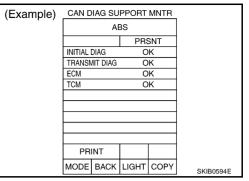
OK: Normal

NG: Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

[CAN]

TCS models



"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
ABS	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
ADS	ECM	Make sure of normal reception from ECM.	OK/UNKWN
	TCM	Make sure of normal reception from TCM.	OK/UNKWN

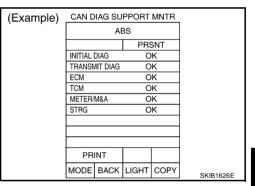
Display Results (Present)

OK: Normal

NG: Malfunction

UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR VDC/TCS/ABS CONTROL UNIT



"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
ABS	ECM	Make sure of normal reception from ECM.	OK/UNKWN
ADS	TCM	Make sure of normal reception from TCM.	OK/UNKWN
	METER/M&A	Make sure of normal reception from unified meter and A/C amp.	OK/UNKWN
	STRG	Make sure of normal reception from steering angle sensor.	OK/UNKWN

Display Results (Present)

OK: Normal

NG: Malfunction

UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

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[CAN]

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR IPDM E/R

(Example)	CAN E	IAG SU	PPORT	MNTR	
		IPDN	I E/R		
			PRSNT	PAST	
	TRANS	/IT DIAG	OK	ОК	
	ECM		OK	OK	
	BCM/SE	С	OK	OK	
			1		
	PR	INT			
	MODE	BACK	LIGHT	COPY	SKIB0595E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present	Past
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN/-	
IPDM E/R	ECM	Make sure of normal reception from ECM.	OK/UNKWN/-	OK/0/1~39/-
	BCM/SEC	Make sure of normal reception from BCM.	OK/UNKWN/-	

Display Results (Present)

- OK: Normal
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.
- -: There is no received unit or the unit is not in the condition that reception diagnosis is performed

Display Results (Past)

- OK: Normal
- 0: There is malfunction now.
- 1 ~ 39: Displays when it is normal at present and finds malfunction in the past. It increases like 0→1→2...38→39 after returning to the normal condition whenever IGN OFF→ON. If it is over 39, it is fixed to 39 until the self-diagnostic results are erased. It returns to 0 when malfunction is detected again in the process.
- -: Undiagnosed

CAN COMMUNICATION

[CAN]

CAN COMMUNICATION

PFP:23710

System Description

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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

AKS00AVB

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

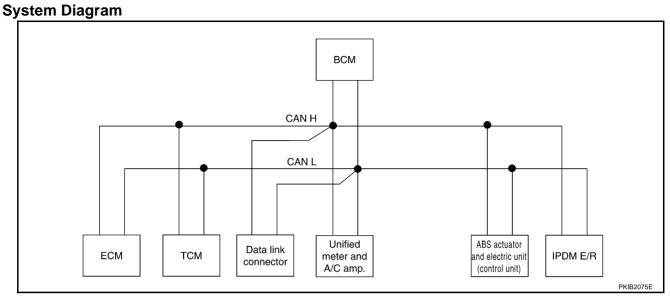
Body type	Coupe Roadster							
Axle		2WD						
Engine		VQ35DE						
Transmission	А	A/T M/T			A/T	N	1/T	
Brake control	TCS	VDC	ABS	TCS	VDC	TCS	TCS	VDC
CAN system type	1	5	2	3	4	1	3	4
CAN system trouble diagnosis	LAN-30	LAN-118	LAN-54	LAN-75	LAN-96	LAN-30	LAN-75	LAN-96

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TYPE 1



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	ТСМ	Unified meter and A/C amp.	всм	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R	R		R	
Engine coolant temperature signal	Т		R			
Accelerator pedal position signal	Т	R			R	
Closed throttle position signal	Т	R				
Wide open throttle position signal	Т	R				
Battery voltage signal	Т	R				
Stop lamp switch signal		R	Т			
Fuel consumption monitor signal	T		R			
A/T self-diagnosis signal	R	Т				
A/T CHECK indicator lamp signal		Т	R			
A/T position indicator signal		Т	R		R	
Manual mode gear position signal		Т	R			
ABS operation signal		R			Т	
A/T shift schedule change demand signal		R			Т	
A/C switch signal	R			Т		
A/C compressor request signal	Т					R
A/C compressor feedback signal	T		R			
Blower fan motor switch signal	R			Т		
Cooling fan speed request signal	Т					R
Position lights request signal			R	Т		R
Low beam request signal				Т		R
Low beam status signal	R					Т
High beam request signal			R	Т		R
High beam status signal	R					Т
Day time running light request signal				Т		R

CAN COMMUNICATION

[CAN]

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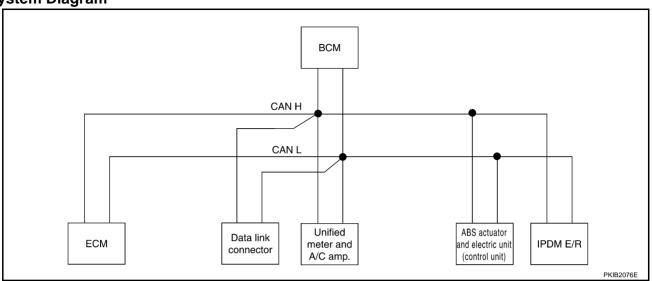
						[CAN
Signals	ECM	ТСМ	Unified meter and A/C amp.	ВСМ	ABS actuator and electric unit (control unit)	IPDM E/R
With a second second			R		Т	
Vehicle speed signal	R	R	Т	R		
Sleep request 1 signal			R	Т		
Sleep request 2 signal				Т		R
Wake up request 1 signal			R	Т		
Door switch signal			R	Т		R
Turn indicator signal			R	Т		
Seat belt buckle switch signal			Т	R		
Buzzer output signal			R	Т		
Fuel level sensor signal	R		Т			
Malfunction indicator lamp signal	Т		R			
ASCD SET lamp signal	Т		R			
ASCD operation signal	Т	R				
ASCD CRUISE lamp signal	Т		R			
ASCD OD cancel request signal	Т	R				
Output shaft revolution signal	R	Т				
Turbine revolution signal	R	Т				
Front wiper request signal				Т		R
Front wiper stop position signal				R		T
Rear window defogger switch signal				Т		R
Rear window defogger control signal	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			
Theft warning horn request signal				Т		R
Horn chirp signal				Т		R
Ignition switch signal				Т		R
ABS warning lamp signal			R		Т	
TCS OFF indicator lamp signal			R		Т	
SLIP indicator lamp signal			R		Т	
Brake warning lamp signal			R		Т	

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TYPE 2 System Diagram



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	ВСМ	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R		R	
Engine coolant temperature signal	Т	R			
Accelerator pedal position signal	Т			R	
Fuel consumption monitor signal	Т	R			
A/C switch signal	R		Т		
A/C compressor request signal	Т				R
A/C compressor feedback signal	Т	R			
Blower fan motor switch signal	R		T		
Cooling fan speed request signal	Т				R
Position lights request signal		R	Т		R
Low beam request signal			Т		R
Low beam status signal	R				Т
High beam request signal		R	Т		R
High beam status signal	R				Т
Day time running light request signal			Т		R
Vahiala anaad aignal		R		Т	
Vehicle speed signal	R	Т	R		
Sleep request 1 signal		R	Т		
Sleep request 2 signal			Т		R
Wake up request 1 signal		R	Т		
Door switch signal		R	Т		R
Turn indicator signal		R	T		
Seat belt buckle switch signal		Т	R		
Buzzer output signal		R	Т		
Fuel level sensor signal	R	Т			
Malfunction indicator lamp signal	Т	R			

CAN COMMUNICATION

[CAN]

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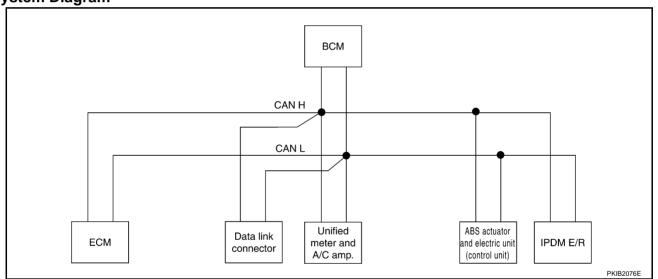
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Signals	ECM	Unified meter and A/C amp.	ВСМ	ABS actuator and electric unit (control unit)	IPDM E/R
ASCD SET lamp signal	Т	R			
ASCD CRUISE lamp signal	Т	R			
Front wiper request signal			Т		R
Front wiper stop position signal			R		Т
Rear window defogger switch signal			Т		R
Rear window defogger control signal	R				Т
Theft warning horn request signal			Т		R
Horn chirp signal			Т		R
Ignition switch signal			Т		R
ABS warning lamp signal		R		Т	
Brake warning lamp signal		R		Т	

TYPE 3

System Diagram



Input/output Signal Chart

T: Transmit R: Receive

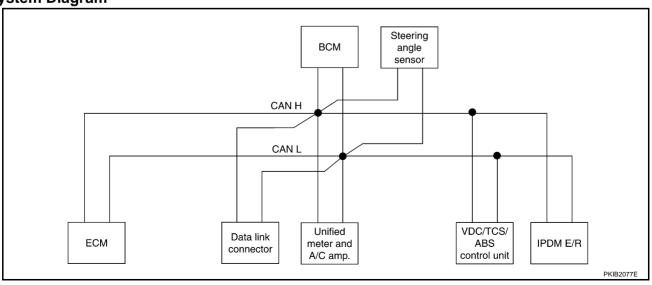
Signals	ECM	Unified meter and A/C amp.	ВСМ	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R		R	
Engine coolant temperature signal	Т	R			
Accelerator pedal position signal	Т			R	
Fuel consumption monitor signal	Т	R			
A/C switch signal	R		Т		
A/C compressor request signal	Т				R
A/C compressor feedback signal	Т	R			
Blower fan motor switch signal	R		Т		
Cooling fan speed request signal	Т				R
Position lights request signal		R	Т		R
Low beam request signal			Т		R
Low beam status signal	R				Т

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Signals	ECM	Unified meter and A/C amp.	ВСМ	ABS actuator and electric unit (control unit)	IPDM E/R
High beam request signal		R	Т		R
High beam status signal	R				Т
Day time running light request signal			Т		R
Vahiala and dismal		R		Т	
Vehicle speed signal	R	Т	R		
Sleep request 1 signal		R	Т		
Sleep request 2 signal			Т		R
Wake up request 1 signal		R	Т		
Door switch signal		R	Т		R
Turn indicator signal		R	Т		
Seat belt buckle switch signal		Т	R		
Buzzer output signal		R	Т		
Fuel level sensor signal	R	Т			
Malfunction indicator lamp 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				Т
Theft warning horn request signal			Т		R
Horn chirp signal			Т		R
Ignition switch signal			Т		R
ABS warning lamp signal		R		Т	
TCS OFF indicator lamp signal		R		Т	
SLIP indicator lamp signal		R		Т	
Brake warning lamp signal		R		Т	

TYPE 4
System Diagram



CAN COMMUNICATION

[CAN]

T: Transmit R: Receive

Input/output Signal Chart

		Unified		Steering	VDC/TCS/	
Signals	ECM	meter and A/ C amp.	BCM	angle sensor	ABS control unit	IPDM E/R
Engine speed signal	Т	R R		3011301	R	
Engine coolant temperature signal	Т	R				
Accelerator pedal position signal	Т	- 1			R	
Fuel consumption monitor signal	T	R			11	
A/C switch signal	R		T			
A/C compressor request signal	Т		· · · · · · · · · · · · · · · · · · ·			R
A/C compressor feedback signal	T	R				
Blower fan motor switch signal	R	- 1	T			
Cooling fan speed request signal	Т		•			R
Position lights request signal	1	R	T			R
Low beam request signal		T T	' 			R
Low beam status signal	R		<u>'</u>			T
High beam request signal	IX.	R	T			R
High beam status signal	R	IX .	<u>'</u>			T
Day time running light request signal	IX.		T			R
Day time running light request signal		R	<u>'</u>		Т	IX
Vehicle speed signal	R	T	R		Į.	
Sleep request 1 signal	K	R	T			
		K	' 			R
Sleep request 2 signal		R	T T			ĸ
Wake up request 1 signal						
Door switch signal		R	T			R
Turn indicator signal		R	T			
Seat belt buckle switch signal		T	R			
Buzzer output signal	D.	R	Т			
Fuel level sensor signal	R	T				
Malfunction indicator signal	T	R				
ASCD SET lamp signal	T	R				
ASCD CRUISE lamp signal	Т	R				
Front wiper request signal			T			R
Front wiper stop position signal			R			T
Rear window defogger switch signal	-		Т			R
Rear window defogger control signal	R					T
Theft warning horn request signal			T			R
Horn chirp signal			T			R
Ignition switch signal			Т	_	_	R
Steering angle sensor signal		_		Т	R	
Tire pressure signal		R	Т		_	
ABS warning lamp signal		R			T	
VDC OFF indicator lamp signal		R			Т	
SLIP indicator lamp signal		R			Т	
Brake warning lamp signal		R			Т	

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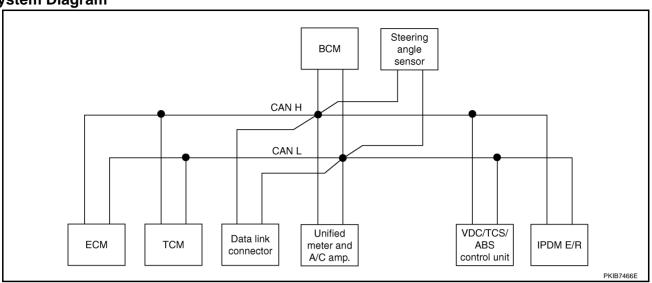
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TYPE 5
System Diagram



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	Steering angle sensor	VDC/TCS/ ABS control unit	IPDM E/R
Engine speed signal	Т	R	R			R	
Engine coolant temperature signal	Т		R				
Accelerator pedal position signal	Т	R				R	
Closed throttle position signal	Т	R					
Wide open throttle position signal	Т	R					
Battery voltage signal	Т	R					
Stop lamp switch signal		R	Т				
Fuel consumption monitor signal	Т		R				
A/T self-diagnosis signal	R	Т					
A/T CHECK indicator lamp signal		Т	R				
A/T position indicator signal		Т	R			R	
Manual mode gear position signal		Т	R				
ABS operation signal		R				Т	
A/T shift schedule change demand signal		R				Т	
A/C switch signal	R			Т			
A/C compressor request signal	Т						R
A/C compressor feedback signal	Т		R				
Blower fan motor switch signal	R			Т			
Cooling fan speed request signal	Т						R
Position lights request signal			R	Т			R
Low beam request signal				Т			R
Low beam status signal	R						Т
High beam request signal			R	Т			R
High beam status signal	R						Т
Day time running light request signal				Т			R

CAN COMMUNICATION

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Signals	ECM	TCM	Unified meter and A/C amp.	BCM	Steering angle sensor	VDC/TCS/ ABS control unit	IPDM E/R
Valida and advisord			R			Т	
Vehicle speed signal	R	R	Т	R			
Sleep request 1 signal			R	Т			
Sleep request 2 signal				Т			R
Wake up request 1 signal			R	Т			
Door switch signal			R	Т			R
Turn indicator signal			R	Т			
Seat belt buckle switch signal			Т	R			
Buzzer output signal			R	Т			
Fuel level sensor signal	R		Т				
Malfunction indicator lamp signal	Т		R				
ASCD SET lamp signal	Т		R				
ASCD operation signal	Т	R					
ASCD CRUISE lamp signal	Т		R				
ASCD OD cancel request signal	Т	R					
Output shaft revolution signal	R	Т					
Turbine 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						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				
Theft warning horn request signal				Т			R
Horn chirp signal				Т			R
Ignition switch signal				Т			R
Steering angle sensor signal					Т	R	
ABS warning lamp signal			R			T	
TCS OFF indicator lamp signal			R			Т	
SLIP indicator lamp signal			R			Т	
Brake warning lamp signal			R			T	

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[CAN]

CAN SYSTEM (TYPE 1)

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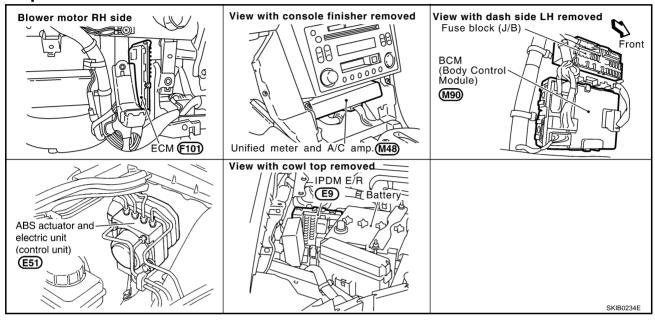
System Description

AKS00A8P

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

AKS00A8Q



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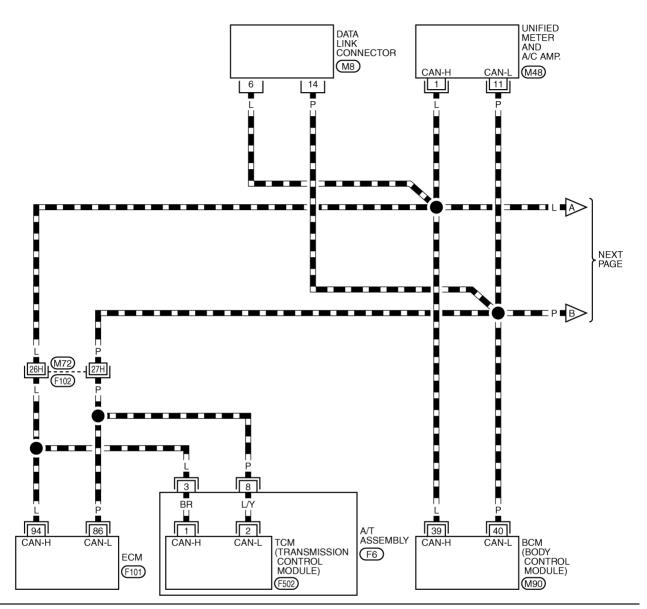
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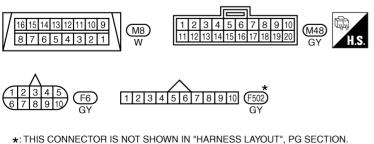
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LAN-CAN-01

: DATA LINE



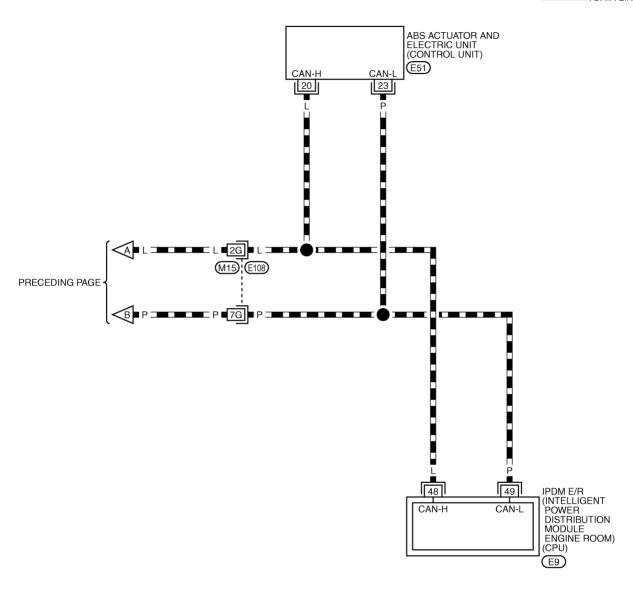


REFER TO THE FOLLOWING. (F102) -SUPER MULTIPLE JUNCTION (SMJ) M90, F101 -ELECTRICAL

TKWT2517E

LAN-CAN-02

: DATA LINE





REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE
JUNCTION (SMJ)

(E51) -ELECTRICAL UNITS

TKWT1554E

CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET AKS00A8S

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit

check sheet table	-									П	
			CAN DIAG SUPPORT MNTR Receive diagnosis								
SELECT SYSTI	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	SELF-DIAG	RESULTS
NGINE	_	NG	UNKWN	_	UNKWN			UNKWN		CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
IETER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
CM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
BS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_
		Attach copy of SELECT SYSTEM					S	Attach co	opy of YSTEM		

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

CHECK SHEET RESULTS (EXAMPLE)

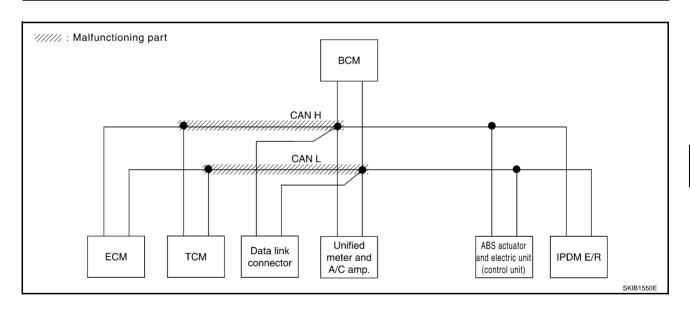
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-45</u>, "<u>Inspection Between TCM and Data Link Connector Circuit</u>".

				CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTEM screen		11111	T	Receive diagnosis						SELF-DIAG RESULTS		
SELECT STST	EIVI SCIEEII	Initial diagnosis	Transmit diagnosis		тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	ΠΝΚ ₩Ν	UNK W N	Π ИΚ ΜИ	Π ИΚ ΜИ	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)	
A/T	_	NG	UNKWN	UNKWN	_	∩ NK WN	_	Π ИΚ (ΜИ	_	CAN COMM CIRCUIT (UN00)	_	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNI WN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UX)00)	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UV00)	_	
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	CAN COMM CIRCUIT (UN00)	_	



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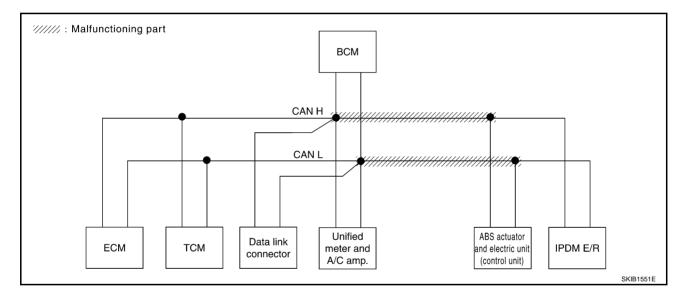
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-45</u>, <u>"Inspection Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) Circuit"</u>.

				CAN	DIAG SU	PPORT N	INTR							
SELECT SYSTEM screen		M screen Initial		Initial Transmit		Receive diagnosis						SELF-DIAG RESULTS		
0222010101	LIN COICOII		diagnosis	ECM	ТСМ	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	CEE BING NEGGETO				
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	Π ΛΚ ΜΝ	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)			
A/T	_	NG	UNKWN	UNKWN	1	UNKWN	_	Π ИΚ ΜИ	1	CAN COMM CIRCUIT (U V 000)	_			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	-	CAN COMM CIRCUIT (UN00)	_			
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	UNKWN	CAN COMM CIRCUIT (U1000)	_			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U V 00)	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	CAN COMM CIRCUIT (UN00)	_			



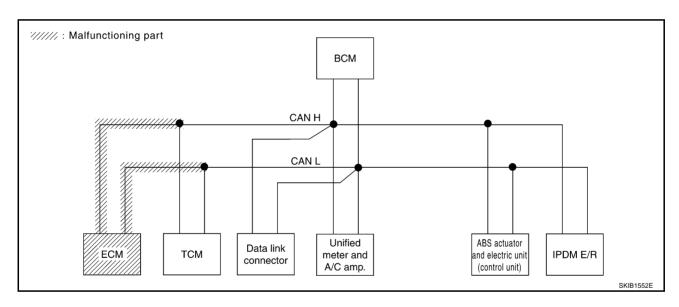
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Case 3
Check ECM circuit. Refer to <u>LAN-46</u>, "ECM Circuit Inspection" .

				CAN	DIAG SU	PPORT M	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive of				SELF-DIAG	RESULTS
OLLLO1 0101	LIVI SCICCII	diagnosis		ECM	тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI DIAC	TILOGLIG
ENGINE	_	NG	Ω ΝΚ ⁄ΜΝ	1	UNKWN	UNI W N	NN WN	Π ИΚ (ΜИ	UNKWN	CAN COMIN CIRCUIT (UV)00)	CAN COMM CIRCUI (UN01)
A/T	_	NG	UNKWN	Ω ΝΚ (ΜΝ	-	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (UN00)	-
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	-	CAN COMM CIRCUIT (UN000)	-
ВСМ	No indication	NG	UNKWN	UNIVN	-	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNIONN	UNKWN	-	_	_	_	CAN COMM CIRCUIT (UX)00)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	CAN COMM CIRCUIT (UX)00)	_



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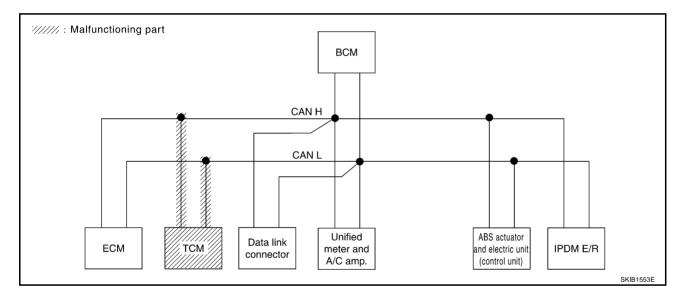
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Case 4
Check TCM circuit. Refer to <u>LAN-47</u>, "TCM Circuit Inspection" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive (SELF-DIAG	RESULTS
OLLLOT OTOT			diagnosis		тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI DINC	THEODERO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (UV)00)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	Ω ΝΚ ⁄ΜΝ	_	UNI X WN	_	UNI W N	-	CAN COMM CIRCUIT (UN000)	-
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	ı	CAN COMM CIRCUIT (UX00)	ı
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	-	1	CAN COMM CIRCUIT (U1000)	_



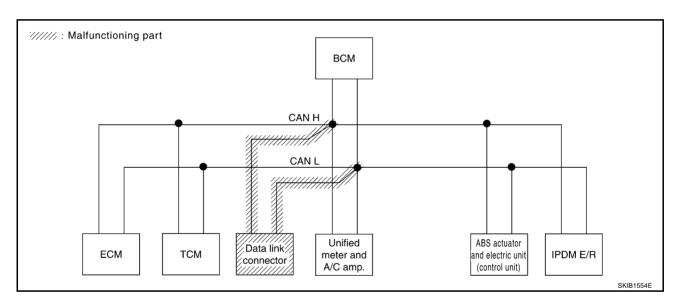
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Case 5
Check data link connector circuit. Refer to LAN-47, "Data Link Connector Circuit Inspection".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive (SELF-DIAG	RESULTS
0222010101	LIVI GOTGOTI		diagnosis		тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI BINC	TILOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	-	UNKWN	ı	CAN COMM CIRCUIT (U1000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	ı	CAN COMM CIRCUIT (U1000)	_
ВСМ	No invocation	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	1	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_

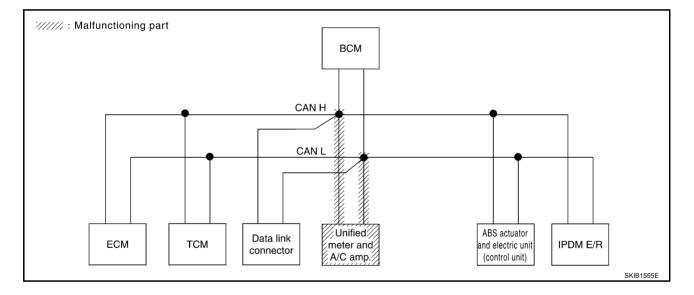


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Case 6
Check unified meter and A/C amp. circuit. Refer to <u>LAN-48</u>, "<u>Unified Meter and A/C Amp. Circuit Inspection</u>" .

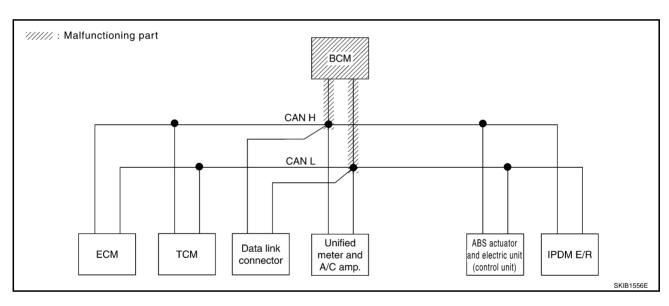
				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive (diagnosis			SELE-DIAG	RESULTS
OLLLO1 STST		diagnosis	Transmit diagnosis	ECM	тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	JELI-DIAC	TILOULIO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
A/T	_	NG	UNKWN	UNKWN	_	NNK WN	_	UNKWN	_	CAN COMM CIRCUIT (UN)00)	_
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	ı	UNKWN	UNKWN	_	_	UNKWN	1	1	CAN COMM CIRCUIT (U1000)	_



Case 7

Check BCM circuit. Refer to LAN-48, "BCM Circuit Inspection" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
0222010101	LIVI GOICGII	diagnosis			тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI DINC	TILOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNIXWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNK/WN	UNKWN	-	CAN COMM CIRCUIT (UV)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	ı	UNKWN	CAN COMM CIRCUIT (U1000)	1
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	ı	_	CAN COMM CIRCUIT (U1000)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	U NK WN	_	_	CAN COMM CIRCUIT (UV)00)	-



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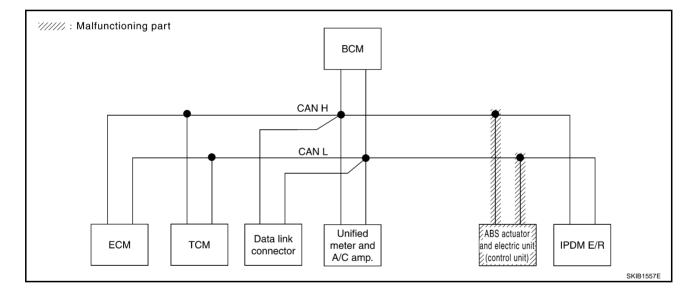
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Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-49</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive (SELF-DIAG	RESULTS
OLLLO1 OTOT		diagnosis			тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI DINC	TILOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNI W N	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	UNI WN	_	CAN COMM CIRCUIT (UN)00)	_
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	_	UNKWN	UNK/WN	_	CAN COMM CIRCUIT (UN)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNIONN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UV)00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

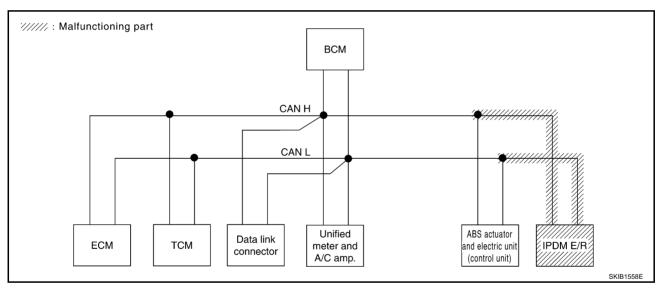


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Case 9
Check IPDM E/R circuit. Refer to LAN-49, "IPDM E/R Circuit Inspection".

				CAN	DIAG SUI	PPORT M	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive of				SELE-DIAG	RESULTS
0222010101			diagnosis	ECM	тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	3221 31110	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNIV	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
A/T	ı	NG	UNKWN	UNKWN	-	UNKWN	İ	UNKWN		CAN COMM CIRCUIT (U1000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	1	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	ı	_	∩ M WN	CAN COMM CIRCUIT (U1000)	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	CAN COMM CIRCUIT (UX)00)	_



Case 10
Check CAN communication circuit. Refer to <u>LAN-50</u>, "CAN Communication Circuit Inspection".

				CAN		PPORT N					
SELECT SYST	EM screen	Initial	Transmit			Receive of METER				SELF-DIAG	RESULTS
		diagnosis	diagnosis	ECM	ТСМ	/M&A	/SEC	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNI WN	_	UNI W N	Π ΛΙλ (ΜΝ	UNI W N	UNIV	UNIONN	CAN COMM CIRCUIT (UN)000)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN	_	∩ NR WN	_	UN W WN	_	CAN COMM CIRCUIT (UN000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNI	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	_	CAN COMM CIRCUIT (UN00)	_

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Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-53</u>, "IPDM E/R Ignition Relay <u>Circuit Inspection"</u>.

				CAN	DIAG SU	PPORT M	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive				SELF-DIAG	RESULTS
0222010101		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	3221 31/10	
ENGINE	_	NG	UNKWN	_	UN W WN	UNKWN	UNKWN	UNI WN	UNKWN	CAN COMM CIRCUIT (UN)000)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	ı	UNKWN	ı	CAN COMM CIRCUIT (U1000)	-
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	1	CAN COMM CIRCUIT (UN)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	1	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	-	-	CAN COMM CIRCUIT (U1000)	_

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to $\underline{\text{LAN-53}}$, "IPDM E/R Ignition Relay Circuit Inspection".

				CAN	DIAG SU						
SELECT SYST	FM screen	Initial	Transmit			Receive				SELF-DIAG	RESULTS
		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	_	NG	UNKWN	_	_	_	1	UNKWN	-	CAN COMM CIRCUIT (UV00)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	_	UNKWN	_	-	_	-	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	1	CAN COMM CIRCUIT (U1000)	-

Inspection Between TCM and Data Link Connector Circuit

1. CHECK CONNECTOR

AKS00A8T

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F102
- Harness connector M72

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector and harness connector F102.
- Check continuity between A/T assembly harness connector F6 terminals 3 (L), 8 (P) and harness connector F102 terminals 26H (L), 27H (P).

3(L) - 26H(L)

: Continuity should exist.

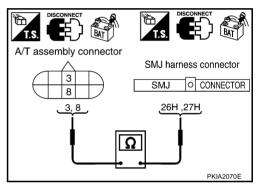
8(P) - 27H(P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M72 terminals 26H (L), 27H (P) and data link connector M8 terminals 6 (L), 14 (P).

26H (L) – 6 (L)

: Continuity should exist.

27H (P) - 14 (P)

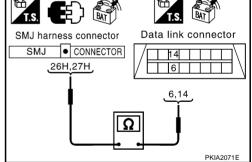
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M15
- Harness connector E108

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

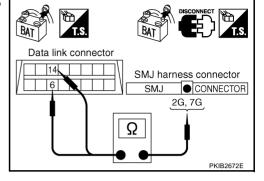
- Disconnect harness connector M15.
- 2. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and harness connector M15 terminals 2G (L), 7G (P).

6 (L) – 2G (L) 14 (P) – 7G (P) : Continuity should exist.

: Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E108 terminals 2G (L), 7G (P) and ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L), 23 (P).

2G (L) - 20 (L)

: Continuity should exist.

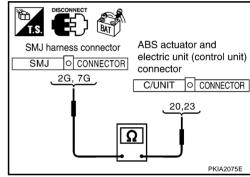
7G (P) - 23 (P)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



AKS00A8X

ECM Circuit Inspection

1. CHECK CONNECTOR

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

- Disconnect ECM connector.
- Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

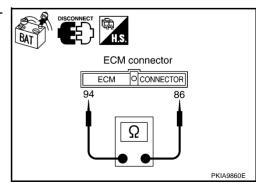
94 (L) - 86 (P)

: Approx. 108 – 132 Ω

OK or NG

OK >> Replace ECM.

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



TCM Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F6 terminals 3 (L) and 8 (P).

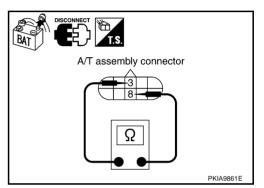
3 (L) – 8 (P) : Approx.
$$54 - 66 \Omega$$

OK or NG

NG

OK >> Replace control valve with TCM.

>> Repair harness between A/T assembly and harness connector F102.



AKS00A8Z

Data Link Connector Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

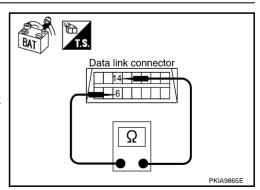
6 (L) – 14 (P) : Approx.
$$54 - 66 \Omega$$

OK or NG

NG

OK >> Diagnose again. Refer to <u>LAN-5</u>, "TROUBLE DIAGNOSES WORK FLOW".

>> Repair harness between data link connector and unified meter and A/C amp.



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Unified Meter and A/C Amp. Circuit Inspection

1. CHECK CONNECTOR

AKS00A90

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative 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 M48 terminals 1 (L) and 11 (P).

: Approx. 54 – 66 Ω

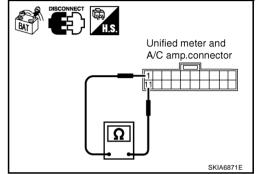
OK or NG

OK

>> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS00A91

BCM Circuit Inspection

1. CHECK CONNECTOR

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

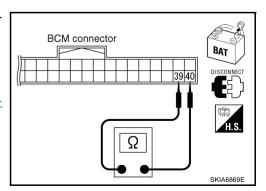
- Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M90 terminals 39 (L) and 40 (P).

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-18</u>, "Removal and Installation of <u>BCM"</u>.

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



[CAN]

ABS Actuator and Electric Unit (Control Unit) Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L) and 23 (P).

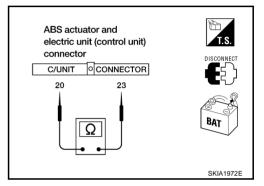
: Approx. 54 – 66
$$\Omega$$

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.



AKS00A93

IPDM E/R Circuit Inspection

1. CHECK CONNECTOR

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

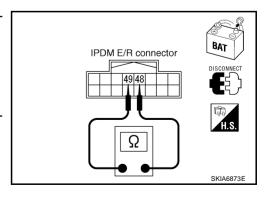
- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

: Approx.
$$108 - 132 \Omega$$

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and harness connector E108.



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[CAN]

AKS00A94

CAN Communication Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
- ECM
- A/T assembly
- Unified meter and A/C amp.
- BCM
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
- ECM connector
- A/T assembly connector
- Harness connector F102
- 2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: 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 ECM and A/T assembly
 - Harness between ECM and harness connector F102

ECM CONNECTOR 94 86 PKIA9860E

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – Ground : Continuity should not exist.

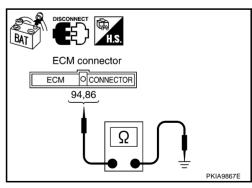
86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and A/T assembly
 - Harness between ECM and harness connector F102



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4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Unified meter and A/C amp. connector
- BCM connector
- Harness connector M15
- Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15



Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

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

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15

6. CHECK HARNESS FOR SHORT CIRCUIT

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

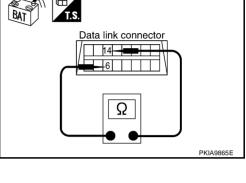
48 (L) - 49 (P) : Continuity should not exist.

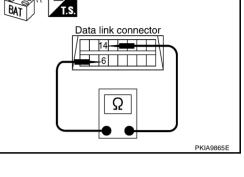
OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108





Data link connector -14 6

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7. CHECK HARNESS FOR SHORT CIRCUIT

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

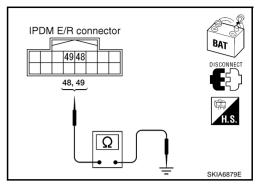
48 (L) – Ground : Continuity should not exist. 49 (P) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108



8. CHECK ECM AND IPDM E/R INTERNAL CIRCUIT

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

94 – 86 : Approx. 108 – 132 Ω

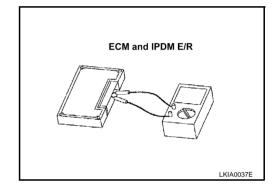
3. Check resistance between IPDM E/R terminals 48 and 49.

48 – 49 : Approx. $108 - 132 \Omega$

OK or NG

OK >> GO TO 9.

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



9. CHECK SYMPTOM

- 1. Fill in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all the connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-13, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

CAN SYSTEM (TYPE 1)

[CAN]

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Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect the battery cable to the negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- A/T assembly
- Unified meter and A/C amp.
- BCM
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Check results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Inspection

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-11, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

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Revision: 2004 December LAN-53 2005 350Z

[CAN]

CAN SYSTEM (TYPE 2)

PFP:23710

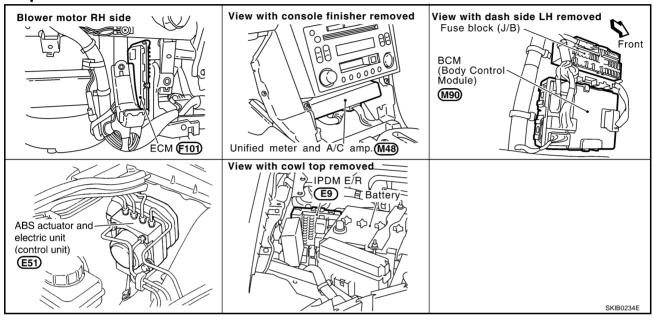
System Description

AKS009DC

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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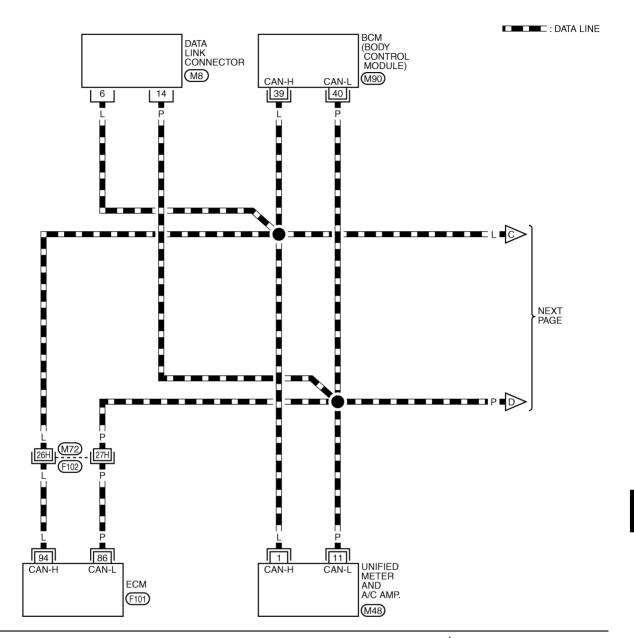
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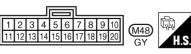
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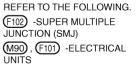
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LAN-CAN-03





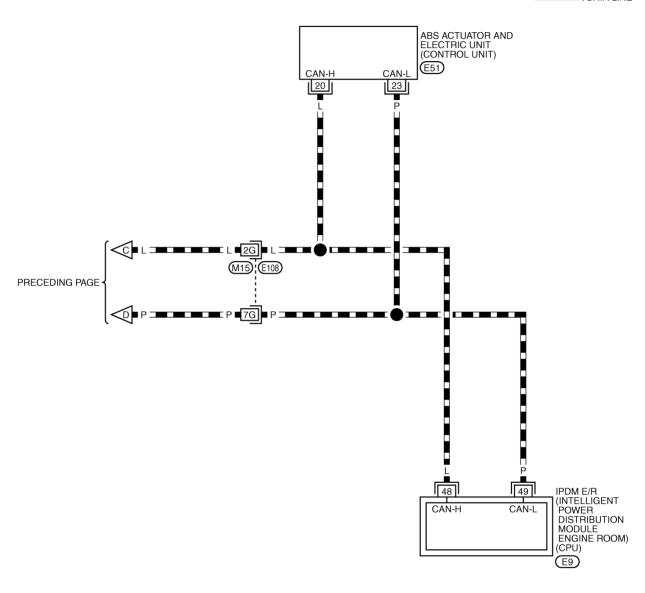




TKWT2518E

LAN-CAN-04

: DATA LINE





REFER TO THE FOLLOWING. (£108) -SUPER MULTIPLE JUNCTION (SMJ)

(E51) -ELECTRICAL UNITS

TKWT1555E

CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET AKS00A9N

NOTE:

	€			CAN DIA	G SUPPOR	OT MNITO				
CELECT CVCT	EM coroon			CAN DIA		eive diagn	osis		SELE DIAC	DECLUTE
SELECT SYST	EIVI SCreen	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		
NGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ETER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	-
СМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
BS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
DM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
ymptoms :										
		S	Attach copy of SELECT SYSTEM				Attach (SELECT	copy of SYSTEM		

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Attach copy of Attach copy of Attach copy of ENGINÉ METER A/C AMP всм SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of ABS IPDM E/R **SELF-DIAG RESULTS** SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of ENGINE METER A/C AMP всм CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR **MNTR** Attach copy of Attach copy of ABS IPDM E/R CAN DIAG SUPPORT **CAN DIAG SUPPORT** MNTR MNTR PKIA8229E

CHECK SHEET RESULTS (EXAMPLE)

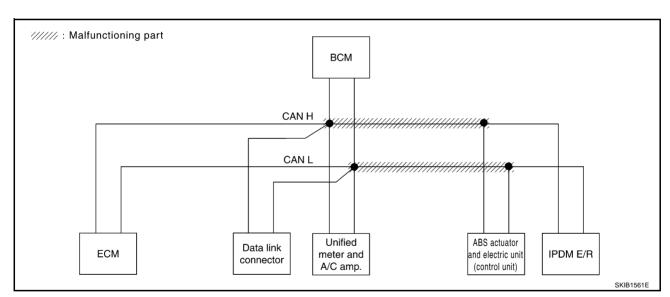
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-66</u>, "Inspection Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) Circuit".

				CAN DIA	G SUPPOF					
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
322231 3131	2 55/00/1	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	_	OINE	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UN K ₩N	_	CAN COMM CIRCUIT (U N 00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNIKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	CAN COMM CIRCUIT (U V 000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	-	_	CAN COMM CIRCUIT (UX000)	_



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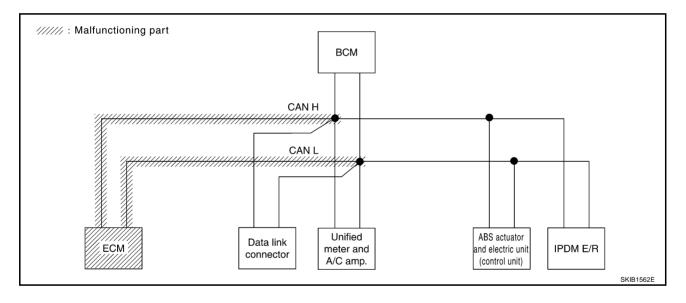
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Case 2
Check ECM circuit. Refer to <u>LAN-67</u>, "ECM Circuit Inspection" .

				CAN DIA	3 SUPPOF					
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
0222010101	Z.W 0010011	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	022. 2	
ENGINE	_	NG	UNKWN	-	UNIKWN	UNKWN	_	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
METER A/C AMP	No indication	_	UNKWN	UNIX WN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U 100)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNKWN	1	-	_	_	CAN COMM CIRCUIT (UV)00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UX000)	_



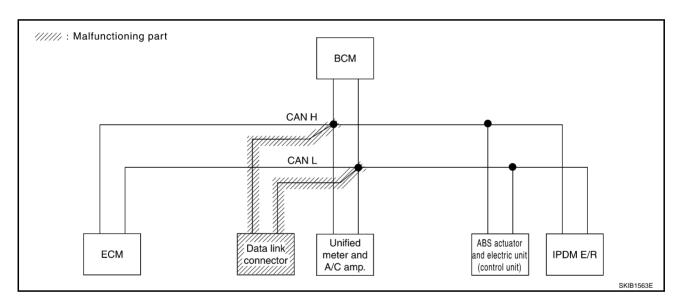
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Case 3
Check data link connector circuit. Refer to LAN-68, "Data Link Connector Circuit Inspection".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
02220101011	2111 0010011	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	3221 31716	
ENGINE	-	NG	UNKWN	ı	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	(U1001)
METER A/C AMP	No indication	ı	UNKWN	UNKWN	ı	UNKWN	UNKWN	1	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	ı	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	ĺ	NG	UNKWN	UNKWN	1	ı	_	1	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_

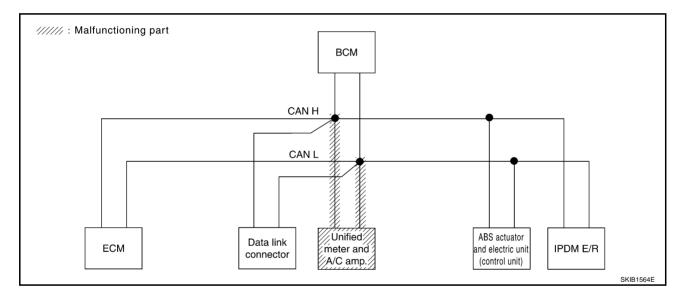


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Case 4
Check unified meter and A/C amp. circuit. Refer to <u>LAN-68</u>, "<u>Unified Meter and A/C Amp. Circuit Inspection</u>" .

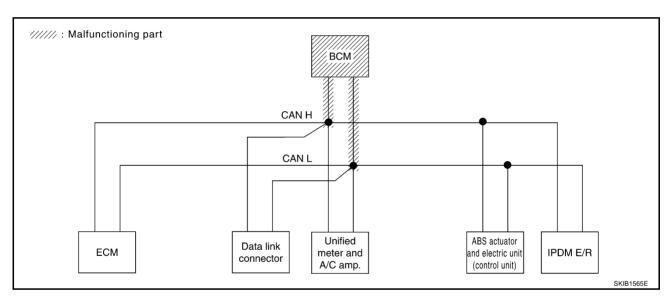
				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
52225, 5101	2 50/00//	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UX000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	1	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	1	1	_		CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_



Case 5

Check BCM circuit. Refer to LAN-69, "BCM Circuit Inspection" .

				CAN DIA	G SUPPOF					
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
322231 31311	2 55/00/1	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	3221 31/10	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNIAWN	_	-	CAN COMM CIRCUIT (UX)00)	_



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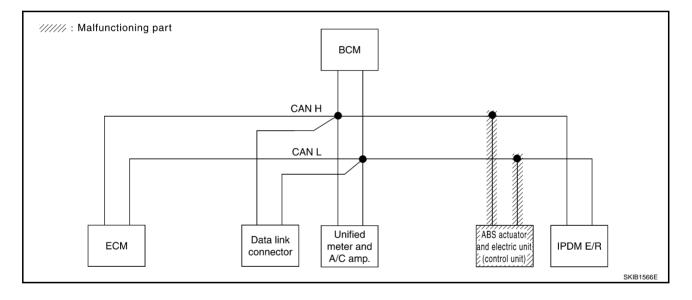
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Case 6

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-69</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection".

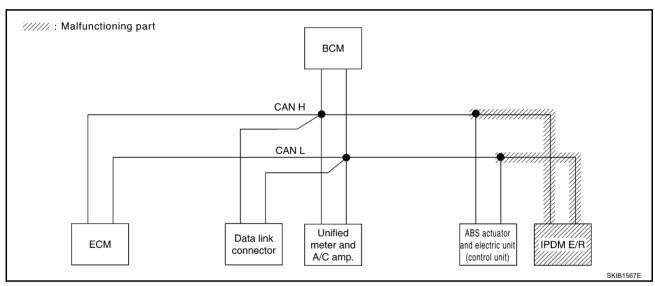
				CAN DIA	G SUPPOF					
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
0222010101	2111 0010011	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		. 1123213
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UX000)	_
BCM	No indication	NG	UNKWN	UNKWN	UNKWN	I	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	-	NG	UNIKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_



Case 7

Check IPDM E/R circuit. Refer to LAN-70, "IPDM E/R Circuit Inspection".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
OLLLO1 0101	LIVI SCICCII	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		THEODEIG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	-	UNKWN	UNKWN		UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	ı	_	UNIV	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN		-	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U V 000)	_



Case 8

Check CAN communication circuit. Refer to LAN-71, "CAN Communication Circuit Inspection" .

				CAN DIA	G SUPPOR		ooio			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	eive diagn BCM /SEC	VDC/TCS /ABS	IPDM E/R	SELF-DIAG	RESULTS
ENGINE	_	NG	UNK WN	_	UNIMN	UNKWN	_	UNIWN	CAN COMM CIRCUIT (UV00)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UX)00)	_

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Case 9

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-74</u>, "IPDM E/R Ignition Relay Circuit Inspection".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
OLLEGI GIGI	LIVI SOICCII	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		THEODETO
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	-	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	1	NG	UNKWN	UNKWN		_	_	-	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_

Case 10

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-74, "IPDM E/R Ignition Relay Circuit Inspection"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTI	=M screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
02220101011	LIVI GOICCIT	diagnosis		ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		11120210
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	ı	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
METER A/C AMP	No indication	ı	UNKWN	UNKWN	1	UNKWN	UNKWN		CAN COMM CIRCUIT (U1000)	ı
всм	No indication	NG	UNKWN	UNKWN	UNKWN	-	1	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	-	NG	UNKWN	_	1	_	1	_	CAN COMM CIRCUIT (UN00)	ı
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	-	_	CAN COMM CIRCUIT (U1000)	

PKIB2233E

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

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M15
- Harness connector E108

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 M15.
- 2. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and harness connector M15 terminals 2G (L), 7G (P).

6 (L) – 2G (L)

: Continuity should exist.

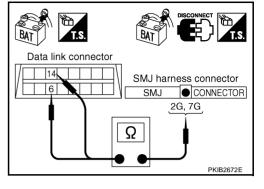
14 (P) - 7G (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E108 terminals 2G (L), 7G (P) and ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L), 23 (P).

2G (L) - 20 (L)

: Continuity should exist.

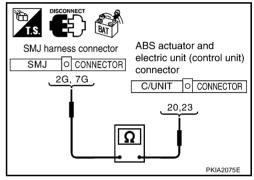
7G (P) - 23 (P)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



AKS00A9R

ECM Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F102
- Harness connector M72

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

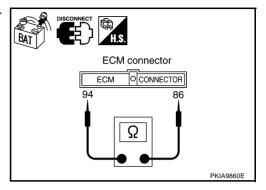
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L)
$$-$$
 86 (P) : Approx. 108 $-$ 132 Ω

OK or NG

OK >> Replace ECM.

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



AKS00A9S

Data Link Connector Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

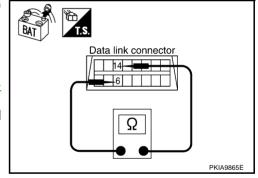
Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – 14 (P) : Approx. 54 – 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-5</u>, "TROUBLE DIAG-NOSES WORK FLOW".

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



AKS00A9T

Unified Meter and A/C Amp. Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative 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.

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$\overline{2}$. 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 M48 terminals 1 (L) and 11 (P).

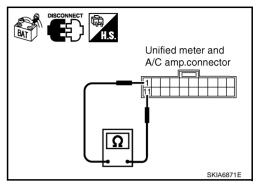
: Approx. 54 – 66 Ω

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.



AKS00A9U

BCM Circuit Inspection

1. CHECK CONNECTOR

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

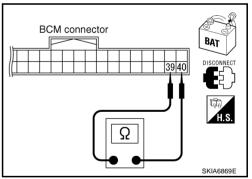
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M90 terminals 39 (L) and 40 (P).

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-18, "Removal and Installation of BCM".

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



ABS Actuator and Electric Unit (Control Unit) Circuit Inspection

AKS00A9V

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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. M

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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 E51 terminals 20 (L) and 23 (P).

: Approx. 54 – 66 Ω

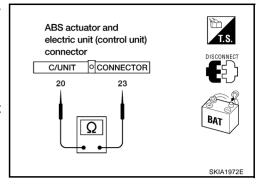
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG >>

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



AKS00A9W

2005 350Z

IPDM E/R Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative 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 (P).

: Approx. 108 – 132 Ω

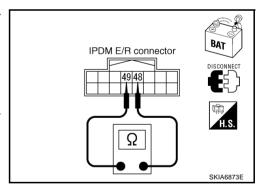
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector E108.



CAN SYSTEM (TYPE 2)

[CAN]

CAN Communication Circuit Inspection

1. CHECK CONNECTOR

AKS00A9X

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
- **ECM**
- Unified meter and A/C amp.
- **BCM**
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

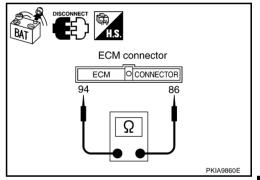
2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ECM connector and harness connector F102.
- Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

OK or NG

OK >> GO TO 3.

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



3. CHECK HARNESS FOR SHORT CIRCUIT

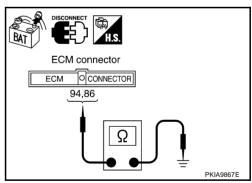
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

> 94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

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



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4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Unified meter and A/C amp. connector
- BCM connector
- Harness connector M15
- Check continuity between data link connector M8 terminals 6 (L) 2. and 14 (P).

OK or NG

OK

>> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15

5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

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

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15

6. CHECK HARNESS FOR SHORT CIRCUIT

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

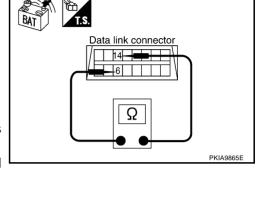
48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

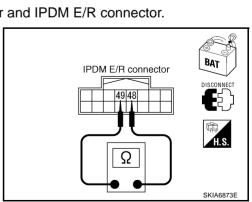
NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108



Data link connector

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7. CHECK HARNESS FOR SHORT CIRCUIT

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

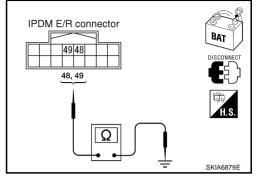
48 (L) – Ground : Continuity should not exist. 49 (P) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108



8. CHECK ECM AND IPDM E/R INTERNAL CIRCUIT

1. Remove ECM and IPDM E/R from vehicle.

2. Check resistance between ECM terminals 94 and 86.

94 – 86 : Approx. $108 - 132 \Omega$

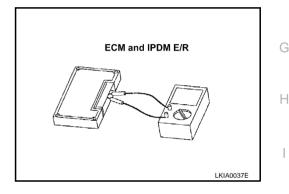
3. Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω

OK or NG

OK >> GO TO 9.

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



9. CHECK SYMPTOM

- Fill in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all the connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-13, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

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10. CHECK UNIT REPRODUCIBILITY

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect the battery cable to the negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- Unified meter and A/C amp.
- BCM
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Check results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Inspection

AKS00C6S

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-11, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

[CAN]

CAN SYSTEM (TYPE 3)

PFP:23710

System Description

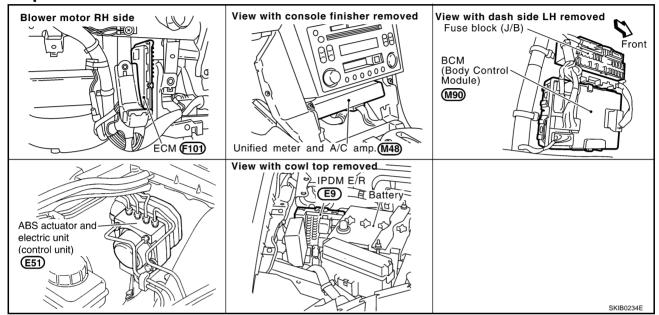
KS00A97

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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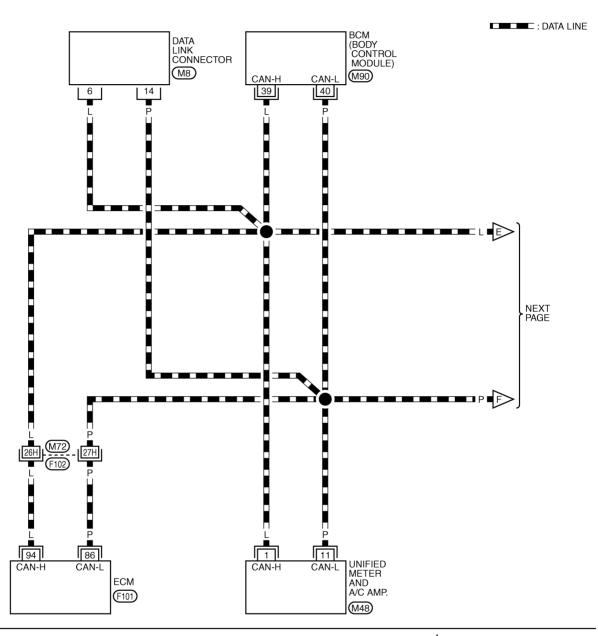
LAN

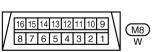
L

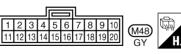
Wiring Diagram — CAN —

AKS00A99

LAN-CAN-05







REFER TO THE FOLLOWING.

(F102) -SUPER MULTIPLE
JUNCTION (SMJ)

(M90) , (F101) -ELECTRICAL
UNITS

TKWT3324E

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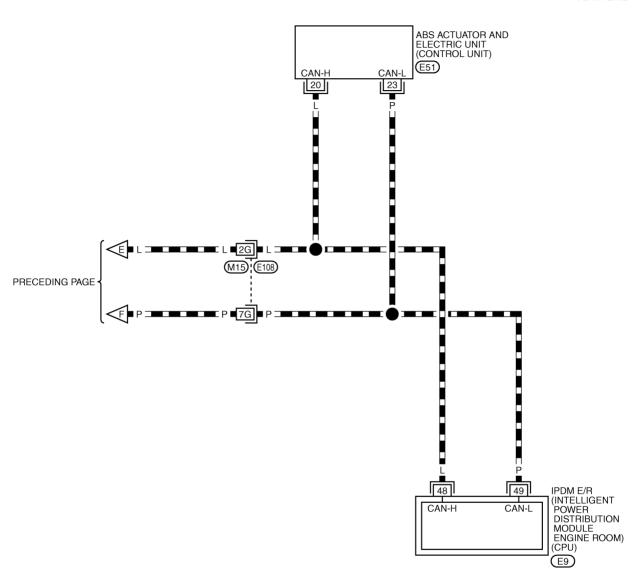
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LAN-CAN-06

: DATA LINE





REFER TO THE FOLLOWING. E108) -SUPER MULTIPLE JUNCTION (SMJ)

(E51) -ELECTRICAL UNITS

TKWT3325E

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CAN SYSTEM (TYPE 3)

[CAN]

PKIB2234E

CHECK SHEET

NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

				CAN DIA	G SUPPOR	ST MNTR				
CELECT OVET	EM coroon	1 22 1	-	0,114 21,71		ceive diagn	osis		SELEDIAG	DECLUTO
SELECT SYST	Eivi screen	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		RESULTS
NGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
IETER A/C AMP	No indication	1	UNKWN	UNKWN	_	UNKWN	UNKWN		CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
NBS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	-	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
Symptoms :										
			Attach cop	oy of			Attach o	copy of		
			ELECT 31	STEIN			SELECT	STSTEM		
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Attach copy of Attach copy of Attach copy of ENGINÉ METER A/C AMP всм SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of IPDM E/R ABS SELF-DIAG RESULTS **SELF-DIAG RESULTS** Attach copy of Attach copy of Attach copy of ENGINÉ METER A/C AMP всм CAN DIAG SUPPORT CAN DIAG SUPPORT **CAN DIAG SUPPORT** MNTR MNTR MNTR Attach copy of Attach copy of ABS IPDM E/R CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR

Revision: 2004 December LAN-79 2005 350Z

CHECK SHEET RESULTS (EXAMPLE)

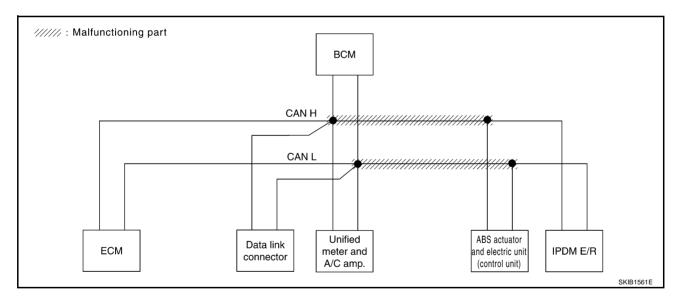
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-87</u>, "Inspection Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) Circuit".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
OLLLO1 OTOT	LIVI SCICCII	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI DINC	TILOULIU
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNI W N	UNI WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNIXWN	_	CAN COMM CIRCUIT (UN00)	_
BCM	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNIVWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNI W N	_	_	_	_	CAN COMM CIRCUIT (U N 00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UN00)	_



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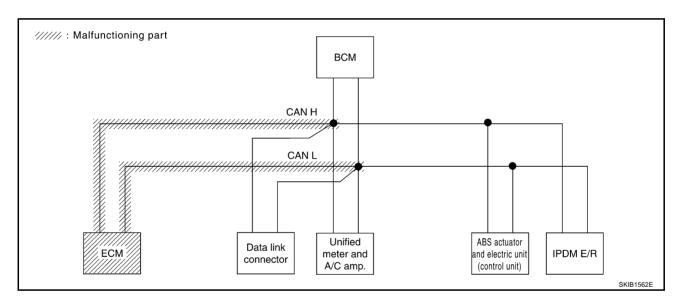
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Case 2
Check ECM circuit. Refer to <u>LAN-88</u>, "ECM Circuit Inspection" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAC	RESULTS
2223, 2101	55/55//	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNIKWN	_	UNKWN	UNIXWN	UNI X WN	UNKWN	CAN COMM CIRCUIT (UN000)	CAN COMM CIRCUIT (UN01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	-	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U\)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	-	NG	UNKWN	UNKWN	1	_	_		CAN COMM CIRCUIT (U N 00)	_
IPDM E/R	No indication	_	UNKWN	UNK WN	-	UNKWN	_	-	CAN COMM CIRCUIT (UN000)	_

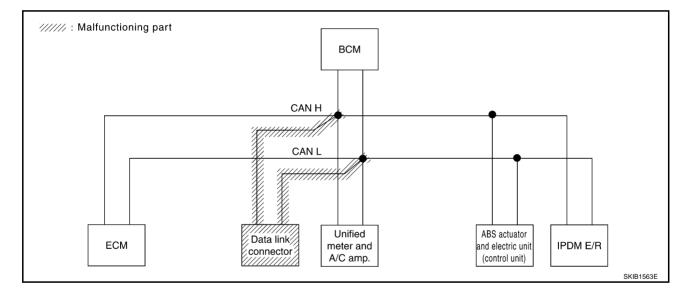


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Case 3
Check data link connector circuit. Refer to <u>LAN-89</u>, "<u>Data Link Connector Circuit Inspection</u>" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Red	eive diagn	osis		SELF-DIAG	RESULTS
OLLLO1 0101	LIW SCIECTI	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		TILOULIO
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
METER A/C AMP	No indication	-	UNKWN	UNKWN	-	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_



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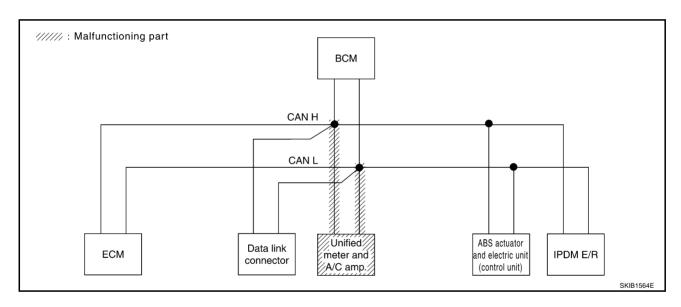
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Case 4

Check unified meter and A/C amp. circuit. Refer to LAN-89, "Unified Meter and A/C Amp. Circuit Inspection" .

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM scroon	la itia l	Tue mentia		Red	eive diagn	osis		SELF-DIAG	PESITE
SEELOT STST	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	THEODEIG
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	=
ВСМ	No indication	NG	UNKWN	UNKWN	UNIVON	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_



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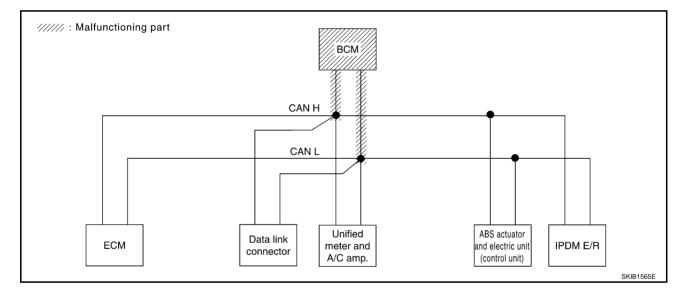
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Case 5
Check BCM circuit. Refer to <u>LAN-90</u>, "BCM Circuit Inspection" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
OLLLO1 OTOT	LIW SOICCIT	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		TILOULIU
ENGINE	_	NG	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	-	UNKWN	UNKWN	-	UNIWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UV00)	_



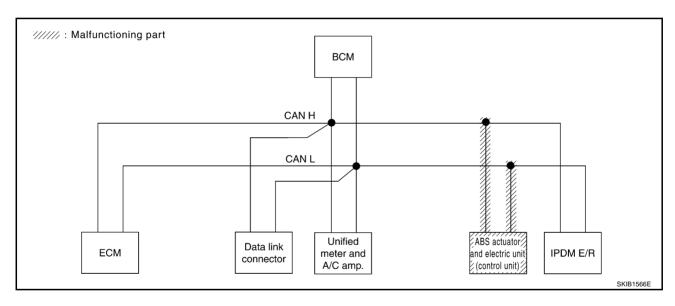
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Case 6

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-90</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Red	eive diagn	osis		SELE-DIAG	RESULTS
OLLLO1 0101	LIWI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI -DIAC	THEODEIG
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	(U V 001)
METER A/C AMP	No indication	-	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U V 000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	1	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNIONN	UNKWN	_	_	_		CAN COMM CIRCUIT (UX)00)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_



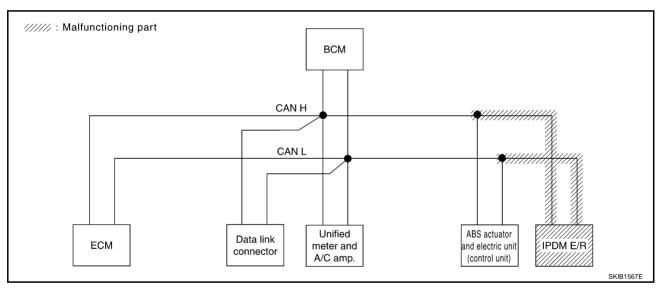
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Case 7
Check IPDM E/R circuit. Refer to <u>LAN-91</u>, "IPDM E/R Circuit Inspection" .

				CAN DIA	G SUPPOF	RT MNTR	·			
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
OLLLO1 0101	LIW SCIECT	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		TILOGETO
ENGINE	_	NG	UNKWN		UNKWN	UNKWN	UNKWN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	-	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	1	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	CAN COMM CIRCUIT (UN000)	_



Case 8
Check CAN communication circuit. Refer to <u>LAN-92, "CAN Communication Circuit Inspection"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Red	eive diagn	osis		SELE-DIAG	RESULTS
OLLLO1 0101	LIVI SCIECTI	diagnosis		ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI DIAC	TILOULIO
ENGINE	_	NG	UN Y WN	ı	UNION	UNKWN	UNKWN	∩ NK WN	CAN COMM CIRCUIT (UN000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	-	UNKWN	UNKWN	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UMMAN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UV)00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UX000)	_

Case 9

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-95</u>, "IPDM E/R Ignition Relay Circuit Inspection".

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Red	eive diagn	osis		SELF-DIAG	RESULTS
SEEEOI STOT	LIWI SCIECTI	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R	OLLI -DIAC	TILOGLIO
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNIKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	UNIXWN	_	CAN COMM CIRCUIT (UN000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

Case 10

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-95</u>, "IPDM E/R Ignition Relay <u>Circuit Inspection"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Red	eive diagn	osis		SELF-DIAG	RESULTS
OLLEGI GIGI	LIVI SCIECTI	diagnosis		ECM	METER /M&A	BCM /SEC	VDC/TCS /ABS	IPDM E/R		THEODEIG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
METER A/C AMP	No indication	1	UNKWN	UNKWN	-	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	-	NG	UNKWN	_	1			_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

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

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M15
- Harness connector E108

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

Revision: 2004 December LAN-87 2005 350Z

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

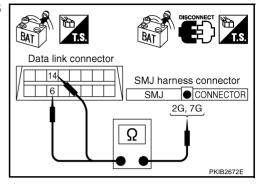
- Disconnect harness connector M15.
- 2. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and harness connector M15 terminals 2G (L), 7G (P).

6 (L) – 2G (L) 14 (P) – 7G (P) : Continuity should exist.

: Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E108 terminals 2G (L), 7G (P) and ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L), 23 (P).

2G (L) – 20 (L)

: Continuity should exist.

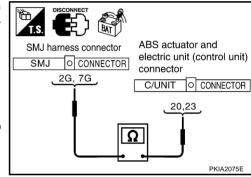
7G (P) - 23 (P)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



AKS00A9E

ECM Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F102
- Harness connector M72

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

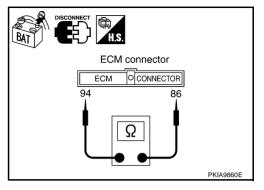
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L)
$$-$$
 86 (P) : Approx. 108 $-$ 132 Ω

OK or NG

OK >> Replace ECM.

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



Data Link Connector Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

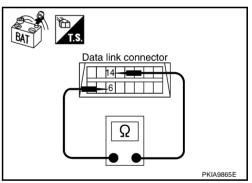
Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – **14 (P)** : Approx. **54** – **66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-5, "TROUBLE DIAG-NOSES WORK FLOW".

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



Unified Meter and A/C Amp. Circuit Inspection

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the battery cable from the negative 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.

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$\overline{2}$. 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 M48 terminals 1 (L) and 11 (P).

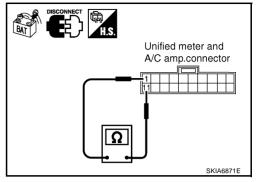
: Approx. 54 – 66 Ω

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.



AKS00A9H

BCM Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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 M90 terminals 39 (L) and 40 (P).

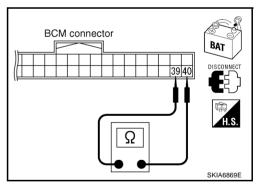
$$39(L) - 40(P)$$

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-18</u>, "Removal and Installation of BCM".

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



ABS Actuator and Electric Unit (Control Unit) Circuit Inspection

AKS00A9I

1. CHECK CONNECTOR

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

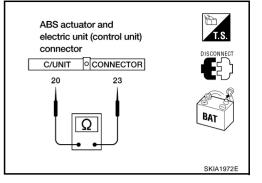
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L) and 23 (P).

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

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



AKS00A9.I

IPDM E/R Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative 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 (P).

: Approx. $108 - 132 \Omega$

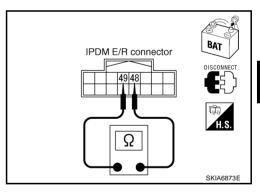
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector E108.



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CAN Communication Circuit Inspection

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, control unit side and harness side).
- ECM
- Unified meter and A/C amp.
- BCM
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

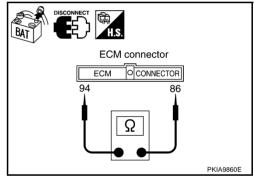
2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ECM connector and harness connector F102.
- 2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

OK or NG

OK >> GO TO 3.

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



3. CHECK HARNESS FOR SHORT CIRCUIT

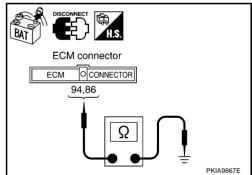
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – Ground : Continuity should not exist. 86 (P) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

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



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4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Unified meter and A/C amp. connector
- BCM connector
- Harness connector M15
- Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15



Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

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

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15

6. CHECK HARNESS FOR SHORT CIRCUIT

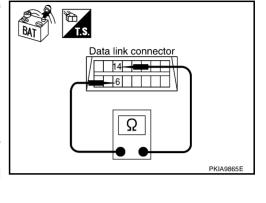
- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector. 1.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

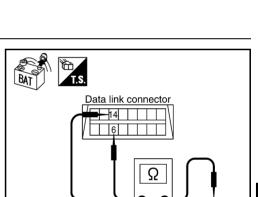
OK or NG

OK >> GO TO 7.

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 E108





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7. CHECK HARNESS FOR SHORT CIRCUIT

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

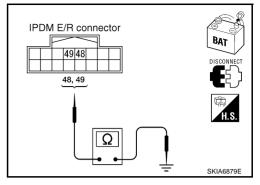
48 (L) – Ground : Continuity should not exist. 49 (P) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108



8. CHECK ECM AND IPDM E/R INTERNAL CIRCUIT

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

94 – 86 : Approx. 108 – 132 Ω

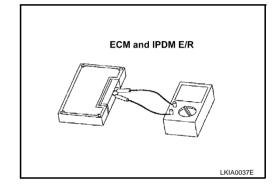
3. Check resistance between IPDM E/R terminals 48 and 49.

48 – 49 : Approx. $108 - 132 \Omega$

OK or NG

OK >> GO TO 9.

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



9. CHECK SYMPTOM

- 1. Fill in described symptoms on the column "Symptom" in the check sheet.
- Connect all the connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-13, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

CAN SYSTEM (TYPE 3)

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10. CHECK UNIT REPRODUCIBILITY

Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect the battery cable to the negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- Unified meter and A/C amp.
- BCM
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Check results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Inspection

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-11, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

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CAN SYSTEM (TYPE 4)

PFP:23710

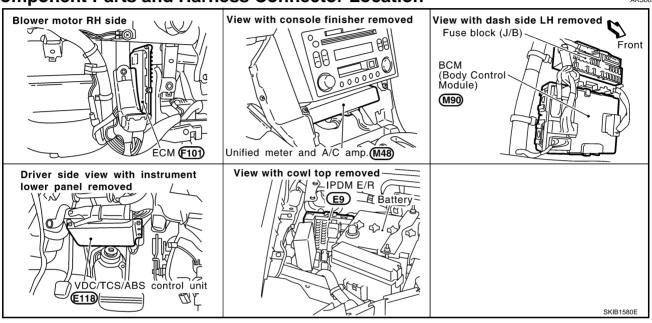
System Description

AKS009DT

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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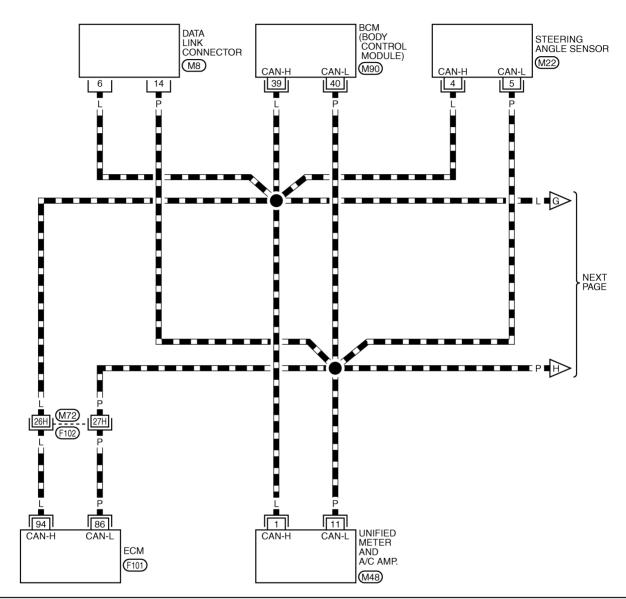
J

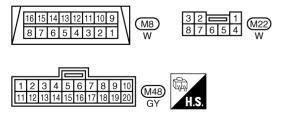
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LAN-CAN-07

: DATA LINE





REFER TO THE FOLLOWING.

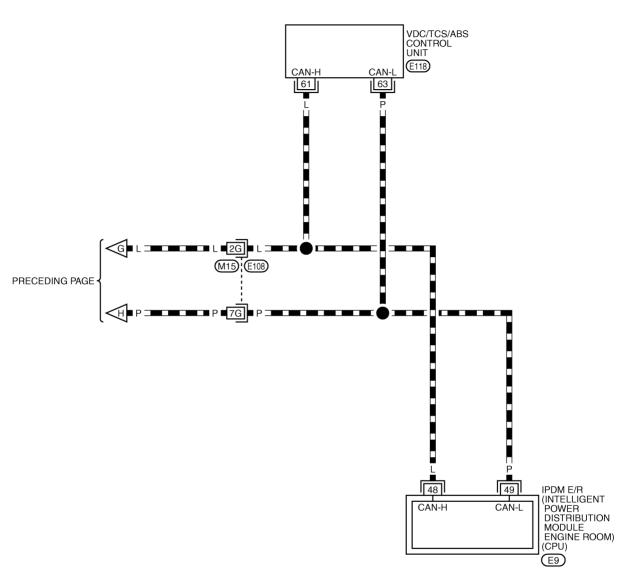
(F102) -SUPER MULTIPLE
JUNCTION (SMJ)

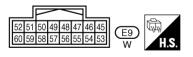
(M99) , (F101) -ELECTRICAL
UNITS

TKWT3326E

LAN-CAN-08

: DATA LINE





REFER TO THE FOLLOWING. E108 -SUPER MULTIPLE JUNCTION (SMJ)

E118 -ELECTRICAL UNITS

TKWT3327E

CAN SYSTEM (TYPE 4)

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CHECK SHEET AKS00AA0

				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
		diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	(U1001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN		UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
Symptoms :											
			Attach SELECT	copy of SYSTEM			S	Attach co	opy of YSTEM		

PKIB2245E

Attach copy of METER A/C AMP Attach copy of Attach copy of ENGINÉ всм SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of IPDM E/R ABS **SELF-DIAG RESULTS SELF-DIAG RESULTS** Attach copy of Attach copy of Attach copy of ENGINÉ METER A/C AMP всм CAN DIAG SUPPORT CAN DIAG SUPPORT **CAN DIAG SUPPORT** MNTR MNTR **MNTR** Attach copy of Attach copy of ABS IPDM E/R CAN DIAG SUPPORT **CAN DIAG SUPPORT** MNTR MNTR PKIA8215E

CHECK SHEET RESULTS (EXAMPLE)

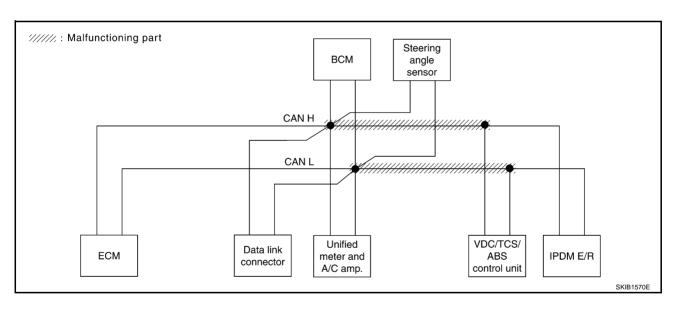
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between data link connector and VDC/TCS/ABS control unit. Refer to <u>LAN-109</u>, "Inspection Between Data Link Connector and VDC/TCS/ABS Control Unit Circuit".

				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	EM screen	1-101-1	T			Receive	diagnosis			SELE-DIAG	RESULTS
SELECT STST	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		THEODEIG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	∩ NR WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCU (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	_	UNIV	_	CAN COMM CIRCUIT (UV000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	ı	_	-	OINTANIN	CAN COMM CIRCUIT (U1000)	ı
ABS	_	NG	UNKWN	UNION	UNI WN	-	UNK WN	_	1	CAN COMM CIRCUIT (U V 000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U)000)	_



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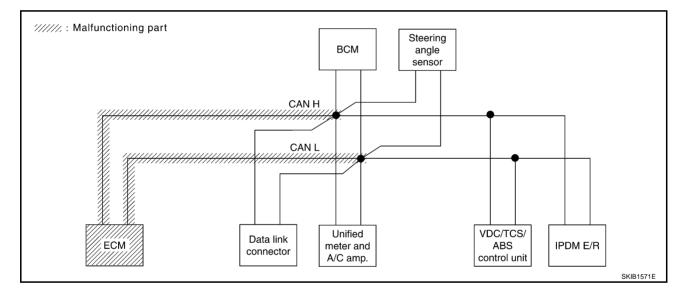
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Case 2
Check ECM circuit. Refer to <u>LAN-110</u>, "ECM Circuit Inspection" .

				CAN	I DIAG SU	PPORT MI	NTR				
SELECT SYST	EM screen	1141-1	T			Receive	diagnosis			SELF-DIAG	RESULTS
OLLLO1 0101	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	GEET-DIAC	THEODEIG
ENGINE	_	NG	UNK WN	_	UNIVWN	UNI	-	UNKWN	UNK WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUI (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (UN000)	_
BCM	No indication	NG	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNION	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UN000)	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (UN000)	_



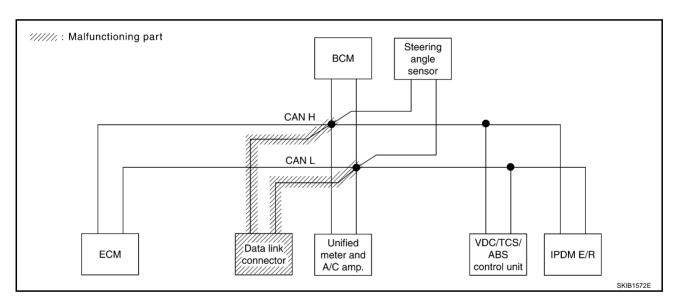
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Case 3
Check data link connector circuit. Refer to <u>LAN-111</u>, "<u>Data Link Connector Circuit Inspection</u>" .

				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
022201 0101	2111 0010011	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCU (U1001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	-	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



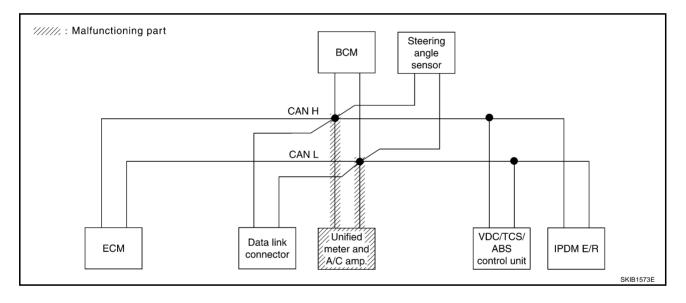
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Case 4
Check unified meter and A/C amp. circuit. Refer to <u>LAN-111</u>, "Unified Meter and A/C Amp. Circuit Inspection".

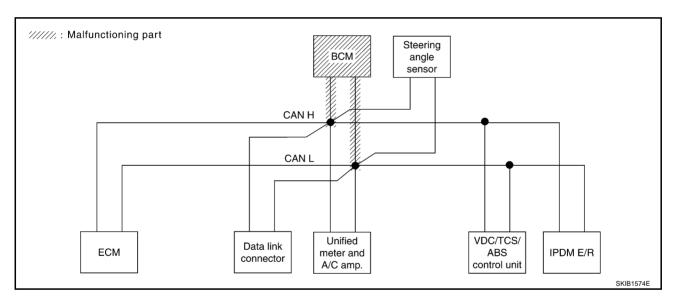
				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
OLLLO1 0101	LIWI SCICCII	diagnosis		ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		111200210
ENGINE	_	NG	UNKWN	-	UNIWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UV)01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	-	UNKWN	_	CAN COMM CIRCUIT (UV)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNI WN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNIWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



Case 5

Check BCM circuit. Refer to LAN-112, "BCM Circuit Inspection" .

				CAN	I DIAG SU	PPORT MI	NTR				
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
322231 3131	2 3370011	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	UNIKWN	1	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNIWN	-	UNKWN	_	CAN COMM CIRCUIT (UV)00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNK WN	ı	_	_	CAN COMM CIRCUIT (UN00)	_



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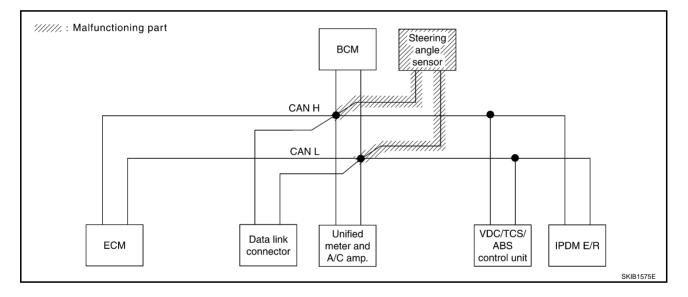
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Case 6
Check steering angle sensor circuit. Refer to <u>LAN-112</u>, "Steering Angle Sensor Circuit Inspection".

				CAN	I DIAG SU						
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
022207 0707	LIVI GOLGGII	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	0221 51/10	. 11200210
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	ı	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
METER A/C AMP	No indication	-	UNKWN	UNKWN	1	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	ı	ı	ı	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	1	UNKWN	-	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	ı	UNKWN	_	-	-	CAN COMM CIRCUIT (U1000)	_



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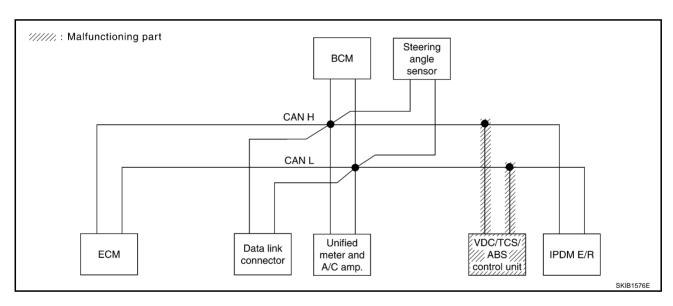
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Case 7

Check VDC/TCS/ABS control unit circuit. Refer to LAN-113, "VDC/TCS/ABS Control Unit Circuit Inspection".

				CAN	N DIAG SU						
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
322231 0101	2 5510011	diagnosis	diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	-	UNION	_	CAN COMM CIRCUIT (UN000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	W	UNIVAN	UNKWN	UNI WN	_	UNK WN	_	_	CAN COMM CIRCUIT (UN)00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	-	_	_	CAN COMM CIRCUIT (U1000)	_

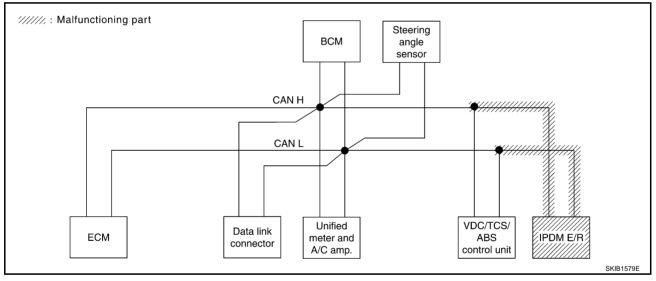


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Case 8
Check IPDM E/R circuit. Refer to <u>LAN-113, "IPDM E/R Circuit Inspection"</u>.

				CAN	N DIAG SU						
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
02220.010.		diagnosis		ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	_	UNKWN	-	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	ı	1	UNK WN	CAN COMM CIRCUIT (U1000)	I
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	-	1	CAN COMM CIRCUIT (U1000)	1
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	-	-	-	CAN COMM CIRCUIT (UN00)	_



Case 9
Check CAN communication circuit. Refer to <u>LAN-114</u>, "CAN Communication Circuit Inspection" .

				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	FM screen	lasiai a l	T			Receive	diagnosis			SELF-DIAG	RESULTS
OLLLO1 0101	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	OLLI DIAC	TILOGLIG
ENGINE	_	NG	UNI W N	_	UNI WN	UNIXWN	_	UNIONN	∩ NK WN	CAN COMM CIRCUIT (UV)00)	CAN COMM CIRCUI (UN001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (UN00)	_
ВСМ	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	=
ABS	-	₩	Ω ΝΙ ⁄ΜΝ	UNKWN	UNKWN	_	∩ NK WN	_	_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (UX)00)	_

Case 10

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-117</u>, "IPDM E/R Ignition Relay Circuit Inspection".

				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
0222010101			diagnosis	ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		11120210
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNI WN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
METER A/C AMP	No indication	1	UNKWN	UNKWN	_	UNKWN	_	UNIMN	_	CAN COMM CIRCUIT (UN)00)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	-	CAN COMM CIRCUIT (U1000)	_

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Case 11

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to $\underline{\text{LAN-117}}$, "IPDM E/R Ignition Relay $\underline{\text{Circuit Inspection}}$.

				CAN	N DIAG SU	PPORT MI	NTR				
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
0222010101	LIVI COI COII			ECM	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		THEODETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
METER A/C AMP	No indication	_	UNKWN	UNKWN	_	UNKWN	_	UNKWN	-	CAN COMM CIRCUIT (U1000)	-
всм	No indication	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	_	_	_	_	_	_	CAN COMM CIRCUIT (UX)00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

KIB2257E

Inspection Between Data Link Connector and VDC/TCS/ABS Control Unit Circuit

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M15
- Harness connector E108

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

Revision: 2004 December **LAN-109** 2005 350Z

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

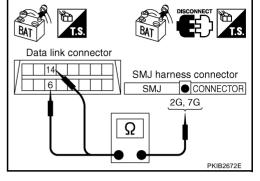
- Disconnect harness connector M15.
- Check continuity between data link connector M8 terminals 6 (L), 14 (P) and harness connector M15 terminals 2G (L), 7G (P).

6 (L) – 2G (L) 14 (P) – 7G (P) : Continuity should exist.

: Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect VDC/TCS/ABS control unit connector.
- Check continuity between harness connector E108 terminals 2G (L), 7G (P) and VDC/TCS/ABS control unit harness connector E118 terminals 61 (L), 63 (P).

2G (L) – 61 (L)

: Continuity should exist.

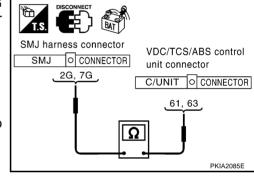
7G (P) - 63 (P)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



AKS00AA4

ECM Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F102
- Harness connector M72

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

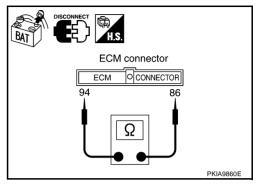
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L)
$$-$$
 86 (P) : Approx. 108 $-$ 132 Ω

OK or NG

OK >> Replace ECM.

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



AKS00AA5

Data Link Connector Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

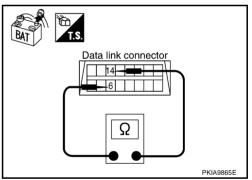
Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – **14 (P)** : Approx. **54** – **66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-5, "TROUBLE DIAG-NOSES WORK FLOW".

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



Unified Meter and A/C Amp. Circuit Inspection

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the battery cable from the negative 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.

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$\overline{2}$. 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 M48 terminals 1 (L) and 11 (P).

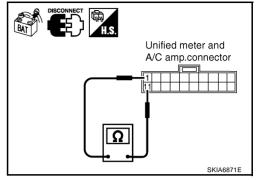
: Approx. 54 – 66 Ω

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.



AKS00AA7

BCM Circuit Inspection

1. CHECK CONNECTOR

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

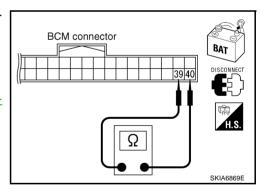
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M90 terminals 39 (L) and 40 (P).

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-18</u>, "Removal and Installation of BCM".

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



AKS00AA8

Steering Angle Sensor Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative 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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2. CHECK HARNESS FOR OPEN CIRCUIT

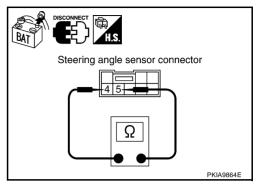
- Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M22 terminals 4 (L) and 5 (P).

4 (L) – **5 (P)** : Approx. **54** – **66**
$$\Omega$$

OK or NG

OK >> Replace steering angle sensor.

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



AKS00AAS

VDC/TCS/ABS Control Unit Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check terminals and connector of VDC/TCS/ABS 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

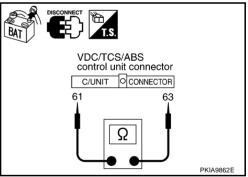
- 1. Disconnect VDC/TCS/ABS control unit connector.
- Check resistance between VDC/TCS/ABS control unit harness connector E118 terminals 61 (L) and 63 (P).

61 (L) – 63 (P) : Approx.
$$54 - 66 \Omega$$

OK or NG

OK >> Replace VDC/TCS/ABS control unit.

NG >> Repair harness between VDC/TCS/ABS control unit and IPDM E/R.



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IPDM E/R Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative 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

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

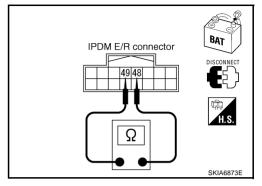
48 (L) – 49 (P) : Approx.
$$108 - 132 \Omega$$

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector E108.



AKS00AAB

CAN Communication Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the battery cable from the negative terminal. 2.
- Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, sensor side, control unit side and harness side).
- **ECM**
- Unified meter and A/C amp.
- **BCM**
- Steering angle sensor
- VDC/TCS/ABS control unit
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

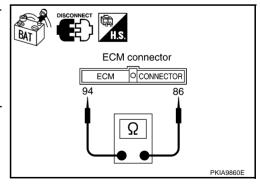
2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ECM connector and harness connector F102.
- Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

OK or NG

OK >> GO TO 3.

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



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3. CHECK HARNESS FOR SHORT CIRCUIT

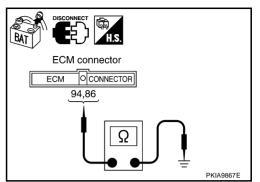
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – Ground : Continuity should not exist. 86 (P) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

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



4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Unified meter and A/C amp. connector
- BCM connector
- Steering angle sensor connector
- Harness connector M15
- 2. Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG >> Che

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and steering angle sensor
 - Harness between data link connector and harness connector M15

5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

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

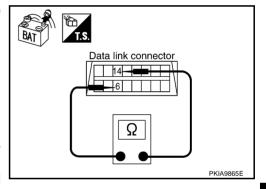
OK or NG

NG

OK >> GO TO 6.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M15



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6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect VDC/TCS/ABS control unit connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

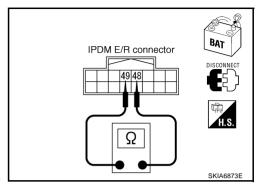
: Continuity should not exist.

OK or NG

OK NG

OK >> GO TO 7.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and VDC/TCS/ABS control unit
 - Harness between IPDM E/R and harness connector E108



7. CHECK HARNESS FOR SHORT CIRCUIT

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

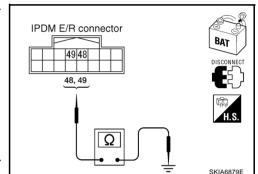
48 (L) – Ground : Continuity should not exist. 49 (P) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and VDC/TCS/ABS control unit
 - Harness between IPDM E/R and harness connector E108



8. CHECK ECM AND IPDM E/R INTERNAL CIRCUIT

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

94 – 86 : Approx. 108 – 132 Ω

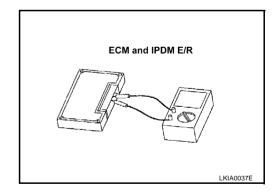
3. Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω

OK or NG

OK >> GO TO 9.

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



9. CHECK SYMPTOM

- 1. Fill in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all the connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-13, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

CAN SYSTEM (TYPE 4)

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Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect the battery cable to the negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- Unified meter and A/C amp.
- BCM
- Steering angle sensor
- VDC/TCS/ABS control unit
- ECM
- IPDM E/R

Check results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Inspection

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-11, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

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Revision: 2004 December **LAN-117** 2005 350Z

[CAN]

CAN SYSTEM (TYPE 5)

PFP:23710

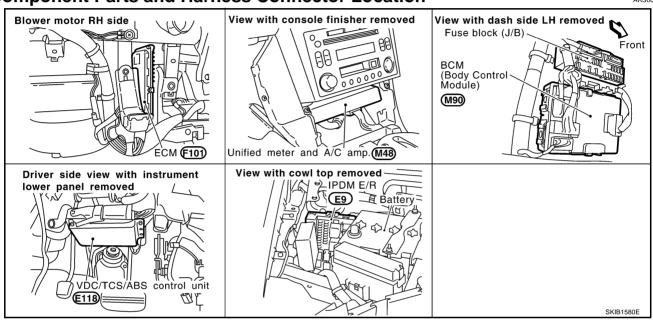
System Description

AKS00DT5

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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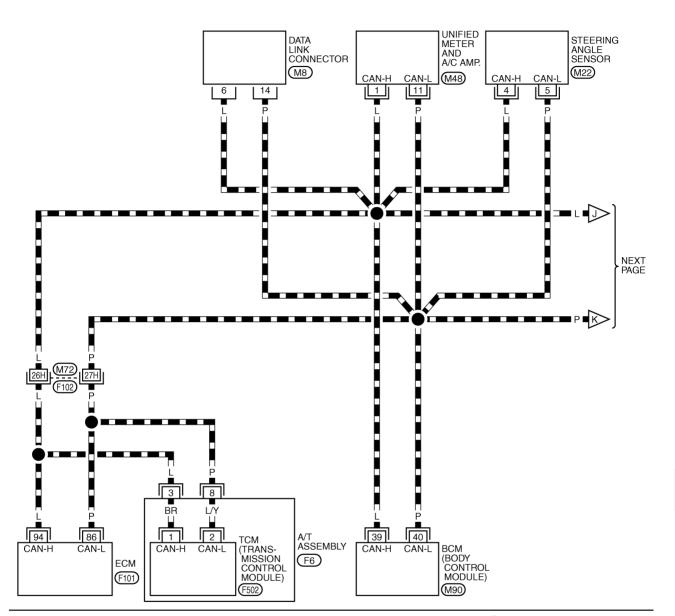
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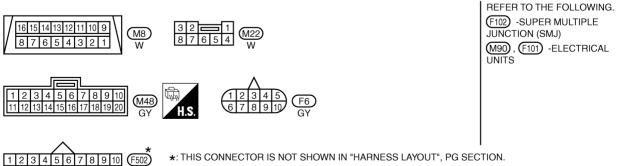
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LAN-CAN-09

: DATA LINE



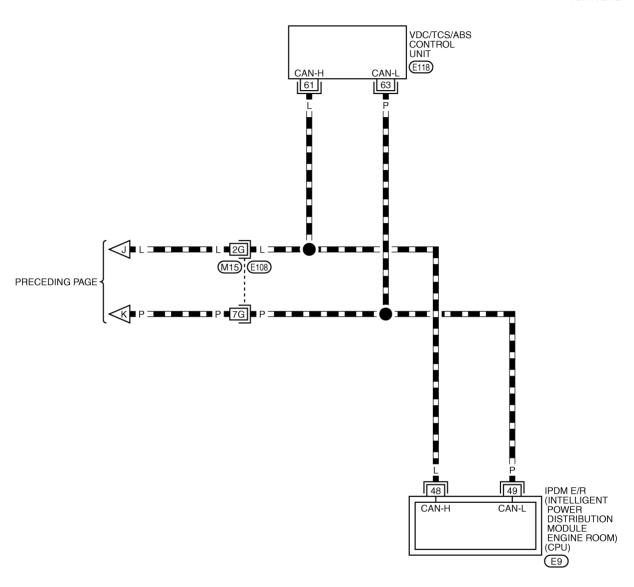


TKWT3239E

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LAN-CAN-10

: DATA LINE





REFER TO THE FOLLOWING. E108 -SUPER MULTIPLE JUNCTION (SMJ)

E118 -ELECTRICAL UNITS

TKWT3240E

CAN SYSTEM (TYPE 5)

[CAN]

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CHECK SHEET

NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

A/T — NG UNKWN UNKWN — UNKWN — UNKWN — UNKWN — CAN COMM CIRCUIT (U1000) — METER A/C AMP No indication — UNKWN UNKWN UNKWN — UNKWN — UNKWN — CAN COMM CIRCUIT (U1000) — BCM No indication NG UNKWN UNKWN — UNKWN — UNKWN — UNKWN — CAN COMM CIRCUIT (U1000) — ABS — NG UNKWN UNKWN UNKWN UNKWN — UNKWN — CAN COMM CIRCUIT (U1000) — CAN COMM CIRCUIT (U	Check sheet tal	ט וע				ANIDIAC	0.1000	DT MAN	<u> </u>			Ι	
Initial Iransmit					C	AN DIAG							
ATT	SELECT SYSTE				ECM	тсм	METER	ВСМ				SELF-DIAG	RESULTS
ATT	ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN		CAN COMM CIRCUI (U1001)
METER A/C AMP No indication — UNKWN UNKWN — UNKWN UNKWN — UNKWN — UNKWN — UNKWN UNKWN UNKWN — UNKWN UNKWN — UNKWN UNKWN — UNKWN UNKWN — UN	A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_		UNKWN	_	CAN COMM CIRCUIT	
Attach copy of Atta	METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	-	UNKWN	_	CAN COMM CIRCUIT	_
ABS	ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT	_
PDM E/R No indication — UNKWN — — UNKWN — — CAN COMM CIRCUIT (U1000) — Symptoms: Attach copy of Attach copy of	ABS	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT	_
Symptoms: Attach copy of Attach copy of	IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN		_	_	CAN COMM CIRCUIT	_
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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of A/T SELF-DIAG RESULTS	Attach copy of METER A/C AMP SELF-DIAG RESULTS
Attach copy of BCM SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of A/T CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR
Attach copy of BCM CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR

CHECK SHEET RESULTS (EXAMPLE)

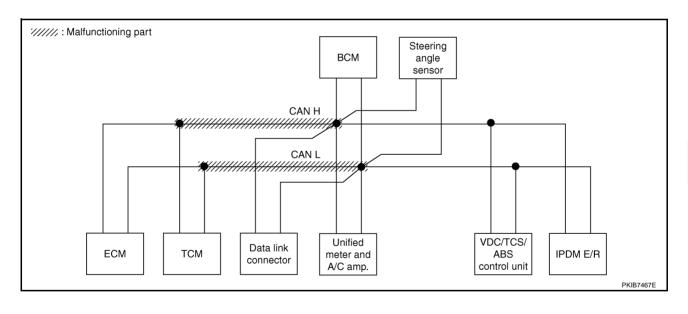
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

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

				C.	AN DIAG	SUPPO	RT MNT	R				
SELECT SYSTI	EM coreen	Initial	Transmit			Rece	eive diag	nosis			SELF-DIAG	DESILITS
SELECT STOTI		diagnosis		l .	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	THESOLIS
ENGINE	_	NG	UNKWN	_	UNKWN	UN K ₩N	UNK\\\	-	UNK W N	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U 101)
A/T	_	NG	UNKWN	UNKWN	-	UNK WN	_	_	UNK W N	1	CAN COMMCIRCUIT (U 100)	_
METER A/C AMP	No indication	_	UNKWN	UNK W N	UNKWN	_	UNKWN	_	UNKWN	-	CAN COMM/CIRCUIT (U 100)	_
ВСМ	No indication	NG	UNKWN	UN K ₩N	-	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNK WN	UNK WN	UNKWN	_	UNKWN	_	-	CAN COMM/CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNK WN	-	_	UNKWN	-	_	1	CAN COMMICIRCUIT (UN00)	_



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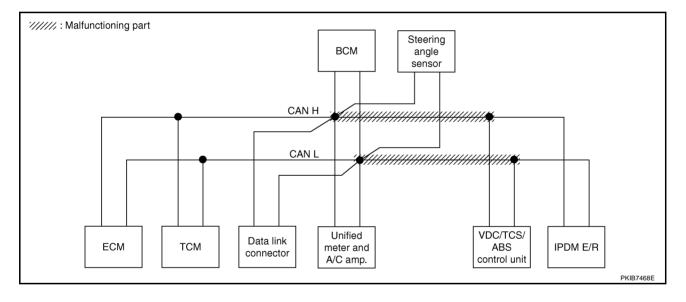
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Case 2
Check harness between data link connector and VDC/TCS/ABS control unit. Refer to LAN-134, "Inspection Between Data Link Connector and VDC/TCS/ABS Control Unit Circuit".

				С	AN DIAG	SUPPC	RT MNT	R				
SELECT SYSTI	EM screen	Initial	Transmit			Rece	eive diagı	nosis			SELF-DIAG	RESULTS
OLLLOI SIGII	LIVI SCIEETI		diagnosis	ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	TILOULIO
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	ı	UNKWN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMMCIRCUI (U101)
A/T	_	NG	UNKWN	UNKWN	1	UNKWN		_	UNK W N	_	CAN COMM CIRCUIT (U1000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNK W N	_	CAN COMM CIRCUIT (U1000)	-
ВСМ	No indication	NG	UNKWN	UNKWN	ı	UNKWN	_	_		Ω ΝΚ (ΜΝ	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNK WN	UNK W N	UNK WN	_	UNK WN		_	CAN COMMCIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	CAN COMMCIRCUIT (U 100)	_



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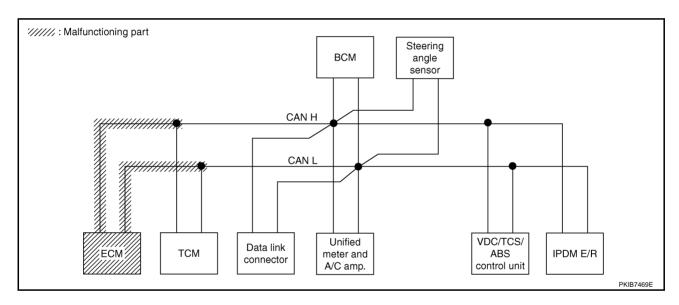
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Case 3
Check ECM circuit. Refer to <u>LAN-135</u>, "ECM Circuit Inspection" .

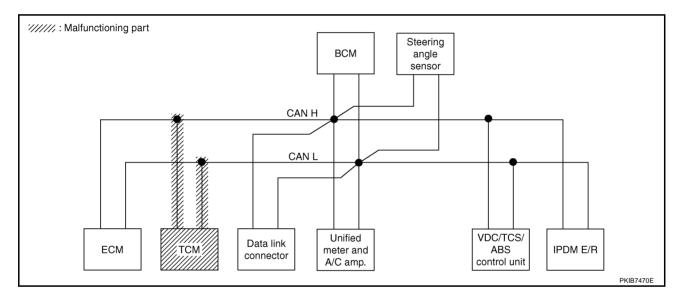
				С	AN DIAG	SUPPO	RT MNT	R				
SELECT SYSTI	EM screen	Initial	Transmit			Rece	eive diag	nosis			SELE-DIAG	RESULTS
SELECT STOTI		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	THEODEIG
ENGINE	_	NG	UNK WN	_	UNK WN	UNK WN	UNK W N	_	UNKWN	UNK WN	CAN COMMICIRCUIT (U 1000)	CAN COMMCIRCUIT (U101)
A/T	_	NG	UNKWN	UNK WN	-	UNKWN	_	_	UNKWN	-	CAN COMM/CIRCUIT (U 100)	_
METER A/C AMP	No indication	1	UNKWN	UNK WN	UNKWN	_	UNKWN	-	UNKWN	_	CAN COMM CIRCUIT (U 100)	-
BCM	No indication	NG	UNKWN	UNK WN	1	UNKWN	_	_		UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN		1	CAN COMMICIRCUIT (U 100)	-
IPDM E/R	No indication	-	UNKWN	UNK WN	-	_	UNKWN	_	_	-	CAN COMMICIRCUIT (U 100)	_



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Case 4
Check TCM circuit. Refer to <u>LAN-136</u>, "TCM Circuit Inspection" .

				С	AN DIAG	SUPPC	RT MNT	R				
SELECT SYSTI	EM screen	Initial	Transmit			Rece	eive diagı	nosis			SELE-DIAG	RESULTS
SELECT STOTI		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	THEODEIG
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	ı	UNKWN	UNKWN	CAN COMMCIRCUIT (U 1000)	CAN COMM CIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	-	1	UNK WN	1	CAN COMMCIRCUIT (U 100)	1
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNK WN	_	UNKWN	-	UNKWN	-	CAN COMM CIRCUIT (U 100)	-
ВСМ	No indication	NG	UNKWN	UNKWN	ı	UNKWN	ı	1	_	UNKWN	CAN COMM CIRCUIT (U1000)	ı
ABS	_	NG	UNKWN	UNKWN	UNK WN	UNKWN	_	UNKWN	_	1	CAN COMMICIRCUIT (U 100)	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	_	1	CAN COMM CIRCUIT (U1000)	_



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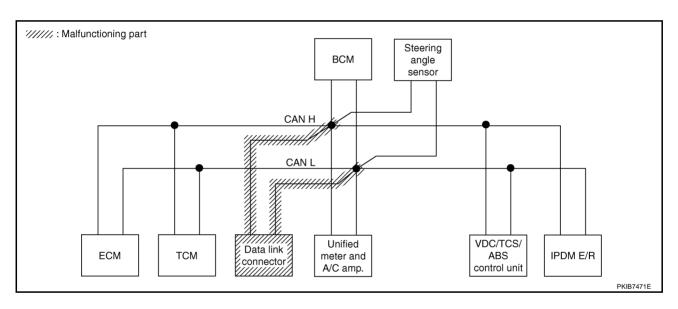
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Case 5

Check data link connector circuit. Refer to <u>LAN-136</u>, "<u>Data Link Connector Circuit Inspection</u>".

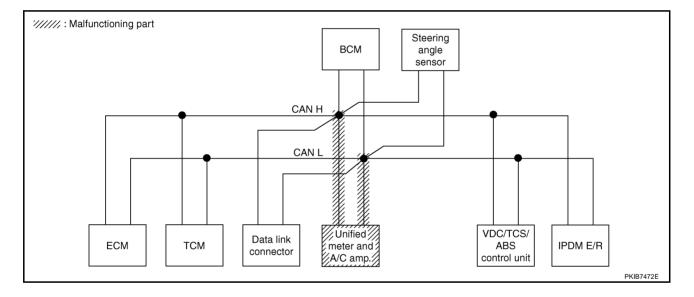
				С	AN DIAG	SUPPC	RT MNT	R				
SELECT SYSTE		Initial diagnosis	Transmit diagnosis	ECM	ТСМ	Rece METER /M&A	BCM /SEC		VDC/TCS /ABS	IPDM E/R	SELF-DIAG	RESULTS
ENGINE	-	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	-	-	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	-	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	1	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	ı	UNKWN	UNKWN	ı	1	UNKWN	ı	_	_	CAN COMM CIRCUIT (U1000)	_
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Case 6
Check unified meter and A/C amp. circuit. Refer to <u>LAN-137</u>, "Unified Meter and A/C Amp. Circuit Inspection".

				С	AN DIAG	SUPPC	RT MNT	R				
SELECT SYSTI	=M coroon	Initial	Transmit			Rece	eive diagr	nosis			SELE DIAG	RESULTS
SELECT STSTI		diagnosis	Transmit diagnosis	ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	RESOLIS
ENGINE	_	NG	UNKWN	ı	UNKWN	UNK WN	UNKWN	ı	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMMICIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	ı	UNK WN	-	1	UNKWN	-	CAN COMMCIRCUIT (U 1000)	-
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	ı	UNKWN	_	CAN COMM CIRCUIT (U 100)	-
BCM	No indication	NG	UNKWN	UNKWN	ı	UNK WN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	UNK WN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	1	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



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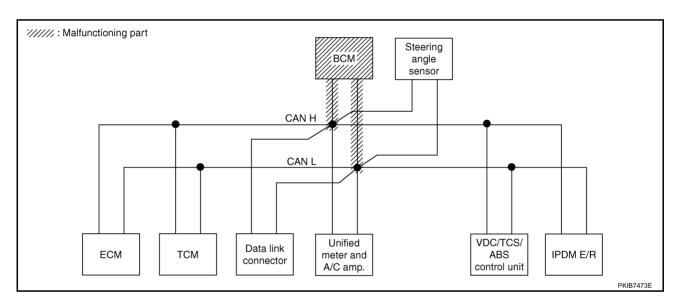
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Case 7
Check BCM circuit. Refer to <u>LAN-137, "BCM Circuit Inspection"</u>.

				C.	AN DIAG	SUPPO	RT MNT	R				
SELECT SYSTI	EM coroon	Initial	Transmit			Rece	eive diag	nosis			SELE DIAG	RESULTS
SELECT STSTI		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SLLI -DIAC	RESOLIS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNK WN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMMICIRCUIT (U101)
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	-	1	UNKWN	-	CAN COMM CIRCUIT (U1000)	-
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNK WN	_	UNKWN	_	CAN COMM/CIRCUIT (U 100)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN		1	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	1	_	UNK WN	_	-	-	CAN COMMICIRCUIT (U 100)	_

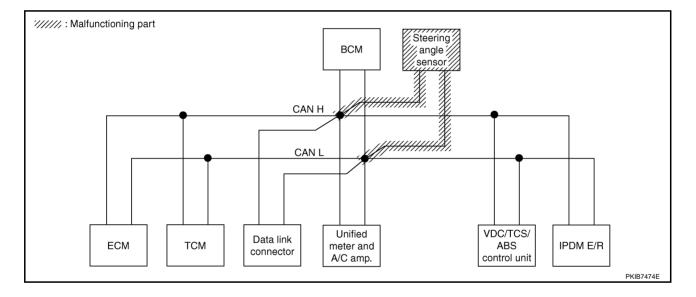


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Case 8
Check steering angle sensor circuit. Refer to <u>LAN-138</u>, "Steering Angle Sensor Circuit Inspection".

				C	AN DIAG	SUPPO	DRT MNT	·R				
SELECT SYST	EM coroon	1.22.1	T		7.11 517 10		eive diagr				SELF-DIAG	DECLUTE
SELECT SYST		Initial diagnosis	Transmit diagnosis		тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELF-DIAG	RESULIS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK/WN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
		•			•	•			•			



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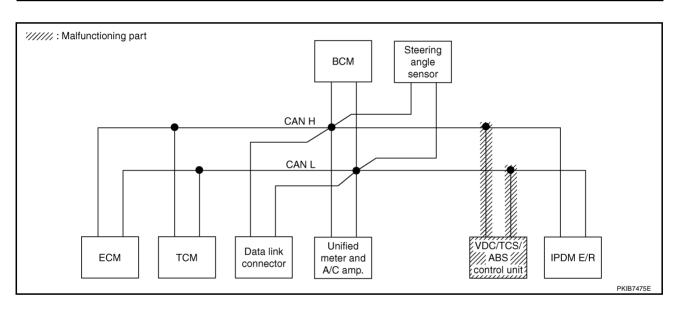
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Case 9

Check VDC/TCS/ABS control unit circuit. Refer to LAN-138, "VDC/TCS/ABS Control Unit Circuit Inspection".

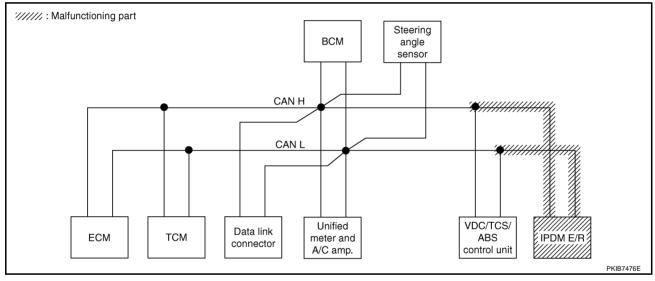
				С	AN DIAG	SUPPO	RT MNT	R				
SELECT SYSTI	=M coroon	Initial	Tronomit			Rece	eive diagr	nosis			SELF-DIAG RESULTS	
SELECT STSTE		Initial diagnosis	Transmit diagnosis		тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELF-DIAC	I NESULIS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	1	UNK/WN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMMCIRCUIT (U1V01)
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	-	ı	UNKWN	1	CAN COMM CIRCUIT (U 100)	1
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	ı	UNKWN	1	UNK WN	ı	CAN COMM CIRCUIT (U 100)	ı
BCM	No indication	NG	UNKWN	UNKWN	ı	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	N	UNK WN	UN K ₩N	UNK WN	UNK WN	_	UNK WN	_	1	CAN COMMICIRCUIT (U 100)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	1	-	UNKWN	_	_	1	CAN COMM CIRCUIT (U1000)	_



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Case 10
Check IPDM E/R circuit. Refer to LAN-139, "IPDM E/R Circuit Inspection".

				С	AN DIAG	SUPPO						
SELECT SYSTI	EM screen	Initial	Transmit				eive diagi				SELF-DIAG	RESULTS
		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	ı	UNKWN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMMCIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	_	1	UNKWN	-	CAN COMM CIRCUIT (U1000)	-
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	_	UNKWN	ı	UNKWN	_	CAN COMM CIRCUIT (U1000)	-
BCM	No indication	NG	UNKWN	UNKWN	1	UNKWN	_	-	-	UNK WN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	-	UNKWN	UNKWN	-	_	UNKWN	_	_	_	CAN COMMICIRCUIT (U 100)	_



Case 11
Check CAN communication circuit. Refer to <u>LAN-139</u>, "CAN Communication Circuit Inspection" .

				С	AN DIAG	SUPPO						
SELECT SYSTI	EM screen	Initial	Transmit				eive diag				SELF-DIAG	RESULTS
		diagnosis			тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	F/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNK WN	ı	UNK WN	UNK WN	CAN COMM CIRCUIT (U 1000)	CAN COMMCIRCUIT (U101)
A/T	_	NG	UNKWN	UNK WN	ı	UNKWN	_	1	UNKWN	-	CAN COMM/CIRCUIT (U 100)	1
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	-	UNKWN	_	CAN COMMCIRCUIT (U 100)	_
BCM	No indication	NG	UNKWN	UNKWN	1	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	N	UNK WN	UNK WN	UNK WN	UNK WN	_	UNKWN	_	_	CAN COMMICIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	CAN COMMICIRCUIT (U 100)	_

CAN SYSTEM (TYPE 5)

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Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-142</u>, "IPDM E/R Ignition Relay <u>Circuit Inspection"</u>.

				С	AN DIAG	SUPPO	RT MNT	R					
SELECT SYSTI	EM screen	Initial	Transmit			Rece	eive diagr	nosis			SELF-DIAG	RESULTS	
SELECT STOTI		diagnosis			тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM/CIRCUIT (U 1000)	CAN COMMCIRCUIT (U1001)	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	-	UNK WN	_	CAN COMMCIRCUIT (U 1000)	-	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_	

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-142</u>, "IPDM E/R Ignition Relay <u>Circuit Inspection"</u>.

				С	AN DIAG	SUPPO	RT MNT	R				
SELECT SYSTI	=M screen	Initial	Transmit			Rece	eive diagr	nosis			SELF-DIAG	RESULTS
SELECT STOTI		diagnosis		ECM	тсм	METER /M&A	BCM /SEC	STRG	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	TILOULIO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
A/T	_	NG	UNKWN	_	_	_	_	_	UNKWN	_	CAN COMMICIRCUIT (U 100)	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	_	UNKWN	_	-	_	_	_	CAN COMMICIRCUIT (UN00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	-	CAN COMM CIRCUIT (U1000)	_

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Inspection Between TCM and Data Link Connector Circuit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and 3. harness side).
- Harness connector F102
- Harness connector M72

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector and harness connector F102.
- Check continuity between A/T assembly harness connector F6 terminals 3 (L), 8 (P) and harness connector F102 terminals 26H (L), 27H (P).

3(L) - 26H(L)

: Continuity should exist.

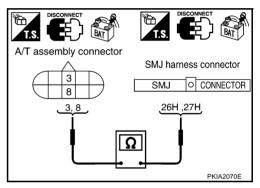
8(P) - 27H(P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M72 terminals 26H (L), 27H (P) and data link connector M8 terminals 6 (L), 14 (P).

26H (L) - 6 (L)

: Continuity should exist.

27H (P) - 14 (P)

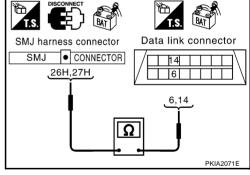
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



Inspection Between Data Link Connector and VDC/TCS/ABS Control Unit Circuit AKS00DTP

CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M15
- Harness connector E108

OK or NG

OK >> GO TO 2.

Revision: 2004 December

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M15.
- 2. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and harness connector M15 terminals 2G (L), 7G (P).

6 (L) – 2G (L)

: Continuity should exist.

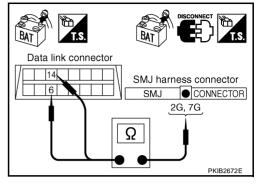
14 (P) - 7G (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect VDC/TCS/ABS control unit connector.
- Check continuity between harness connector E108 terminals 2G (L), 7G (P) and VDC/TCS/ABS control unit harness connector E118 terminals 61 (L), 63 (P).

: Continuity should exist.

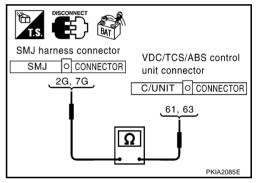
7G (P) - 63 (P)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-5, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



AKS00DTQ

ECM Circuit Inspection

1. CHECK CONNECTOR

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

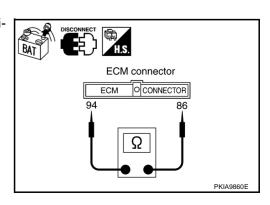
- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

: Approx. $108 - 132 \Omega$

OK or NG

OK >> Replace ECM.

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



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TCM Circuit Inspection

1. CHECK CONNECTOR

AKS00DTR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

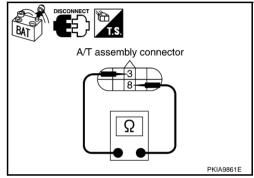
- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F6 terminals 3 (L) and 8 (P).

3 (L)
$$-$$
 8 (P) : Approx. 54 $-$ 66 Ω

OK or NG

OK >> Replace control valve with TCM.

NG >> Repair harness between A/T assembly and harness connector F102.



AKS00DTS

Data Link Connector Circuit Inspection

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

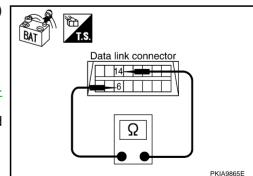
6 (L) – 14 (P) : Approx.
$$54 - 66 \Omega$$

OK or NG

NG

OK >> Diagnose again. Refer to <u>LAN-5</u>, "TROUBLE <u>DIAGNOSES WORK FLOW"</u>.

>> Repair harness between data link connector and unified meter and A/C amp.



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Unified Meter and A/C Amp. Circuit Inspection

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the battery cable from the negative 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 M48 terminals 1 (L) and 11 (P).

: Approx. 54 – 66 Ω

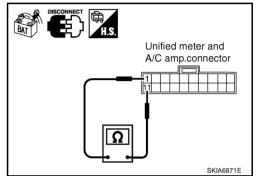
OK or NG

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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BCM Circuit Inspection

1. CHECK CONNECTOR

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

- Disconnect BCM connector.
- Check resistance between BCM harness connector M90 terminals 39 (L) and 40 (P).

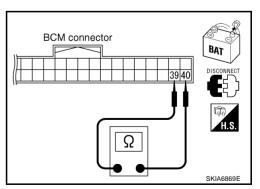
$$39(L) - 40(P)$$

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-18</u>, "Removal and Installation of BCM".

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



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Steering Angle Sensor Circuit Inspection

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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 M22 terminals 4 (L) and 5 (P).

$$4(L) - 5(P)$$

: Approx. 54 – 66 Ω

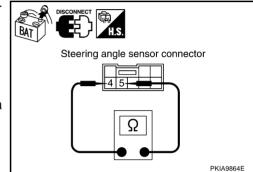
OK or NG

OK

>> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



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VDC/TCS/ABS Control Unit Circuit Inspection

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check terminals and connector of VDC/TCS/ABS 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

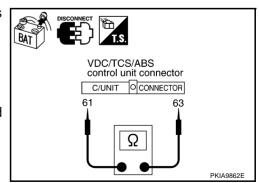
- 1. Disconnect VDC/TCS/ABS control unit connector.
- 2. Check resistance between VDC/TCS/ABS control unit harness connector E118 terminals 61 (L) and 63 (P).

: Approx. 54 – 66 Ω

OK or NG

OK >> Replace VDC/TCS/ABS control unit.
NG >> Repair harness between VDC/TCS/ABS control unit.

>> Repair harness between VDC/TCS/ABS control unit and IPDM E/R.



CAN SYSTEM (TYPE 5)

[CAN]

IPDM E/R Circuit Inspection

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative 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 (P).

: Approx. 108 – 132 Ω

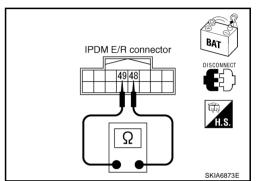
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector E108.



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CAN Communication Circuit Inspection

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, meter side, sensor side, control unit side and harness side).
- ECM
- A/T assembly
- Unified meter and A/C amp.
- BCM
- Steering angle sensor
- VDC/TCS/ABS control unit
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

- 1. Disconnect following connectors.
- ECM connector
- A/T assembly connector
- Harness connector F102
- 2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

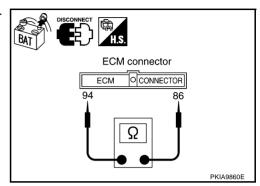
94 (L) – 86 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and A/T assembly
 - Harness between ECM and harness connector F102



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – Ground : Continuity should not exist. 86 (P) – 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 ECM and A/T assembly
 - Harness between ECM and harness connector F102

ECM connector ECM OCONNECTOR 94,86 PKIA9867E

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Unified meter and A/C amp. connector
- BCM connector
- Steering angle sensor connector
- Harness connector M15
- 2. Check continuity between data link connector M8 terminals 6 (L) and 14 (P).



OK or NG

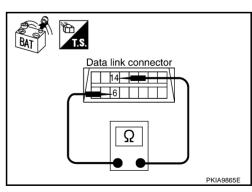
OK

NG

>> GO TO 5.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M15



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

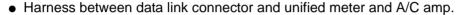
> : Continuity should not exist. **6 (L) – Ground** 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M72



- Harness between data link connector and BCM
- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M15

6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect VDC/TCS/ABS control unit connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and VDC/TCS/ABS control unit
 - Harness between IPDM E/R and harness connector E108

BAT IPDM E/R connector Ω SKIA6873E

Data link connector

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7. CHECK HARNESS FOR SHORT CIRCUIT

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

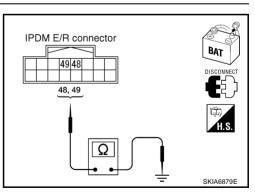
> 48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and VDC/TCS/ABS control unit
 - Harness between IPDM E/R and harness connector E108



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8. CHECK ECM AND IPDM E/R INTERNAL CIRCUIT

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

94 – 86 : Approx. 108 – 132 Ω

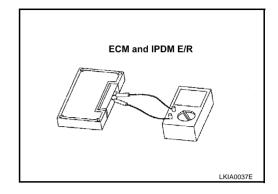
3. Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω

OK or NG

OK >> GO TO 9.

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



9. CHECK SYMPTOM

- 1. Fill in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all the connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-13, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

10. CHECK UNIT REPRODUCIBILITY

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect the battery cable to the negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- A/T assembly
- Unified meter and A/C amp.
- BCM
- Steering angle sensor
- VDC/TCS/ABS control unit
- ECM
- IPDM E/R

Check results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Inspection

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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-11, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".