

Check87

IPDM E/R Circuit Check88

CAN Communication Circuit Check 88

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PRECAUTIONS

[CAN]

PRECAUTIONS PFP:00001

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

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

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

Precautions When Using CONSULT-II

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

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

CHECK POINTS FOR USING CONSULT-II

- Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle?
- If YES, GO TO 2.
- If NO, GO TO 5.
- 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.
- 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.
- Diagnose CAN communication system. Refer to LAN-5, "CAN Communication Unit".

Precautions For Trouble Diagnosis **CAN SYSTEM**

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- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.
- Be sure to turn ignition switch off and disconnect negative battery terminal before checking the circuit.

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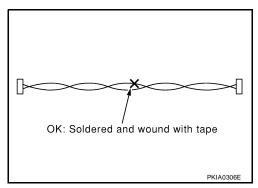
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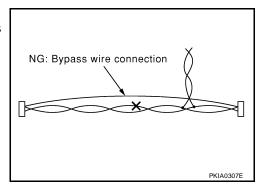
Precautions For Harness Repair CAN SYSTEM

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• 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]

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

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

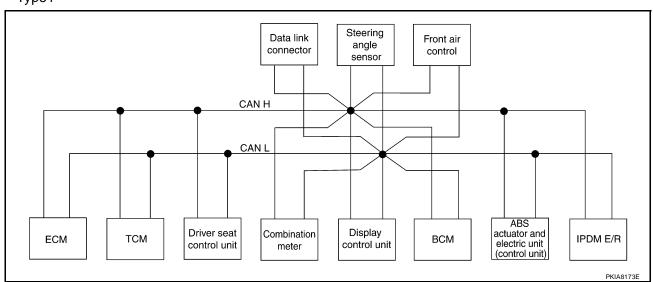
Body type		Wa	igon	
Axle	2\	WD	4\	VD
Engine		VK5	66DE	
Transmission		Α	/T	
Brake control		V	DC	
ICC system		×		×
CAN system type	1	2	3	4
CAN system trouble diagnosis	<u>LAN-16</u>	<u>LAN-50</u>	<u>LAN-90</u>	<u>LAN-126</u>

x: Applicable

TYPE1

System diagram

Type1



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ТСМ	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	ВСМ	Steer- ing angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R		R	R				R	
Engine status signal	Т					R		R		

		AII O	OWNIVIC		11011					[CAN]
Signals	ECM	ТСМ	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	всм	Steer- ing angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Engine coolant temperature signal	Т	R		R				R		
A/T self-diagnosis signal	R	T								
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								
Key switch signal			R			Т				
Ignition switch signal			R			Т				R
P range signal		Т	R							
Stop lamp switch signal		R		T		R				
Parking brake switch signal				Т		R				
Fuel consumption monitor signal	Т			R T	R					
Turbine revolution signal	R	Т								
Output shaft revolution signal	R	Т								
A/C switch signal	R					Т				
A/C compressor request signal	Т							R		R
Blower fan motor switch signal	R					Т		R		
A/C switch/indicator signal					T R			R T		
Cooling fan speed request signal	Т							R		R
Position light request signal				R		Т				R
Low beam request signal						Т				R
Low beam status signal	R									Т
High beam request signal				R		Т				R
High beam status signal	R									Т
Front fog light request signal						Т				R
Day time running light request signal						Т				R
Vehicle speed signal	R	R	R	R T	R	R		R R	Т	
Sleep wake up signal				R		Т				R
Door switch signal			R	R	R	Т				R
Turn indicator signal				R		Т				
Key fob ID signal			R			Т				
Key fob door unlock signal			R			Т				
Buzzer output signal				R		Т				
Fuel level sensor signal	R			T						
Fuel level low warning signal				Т	R					
ASCD SET lamp signal	Т			R						
ASCD CRUISE lamp signal	Т			R						

CAN COMMUNICATION

[CAN]

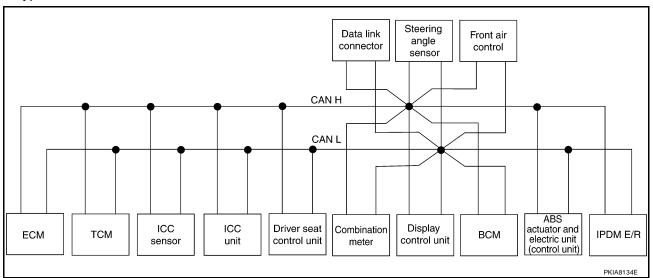
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Signals	ECM	TCM	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	всм	Steer- ing angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R	АВ
Malfunction indicator lamp signal	Т			R							С
Front wiper request signal						Т				R	
Front wiper stop position signal						R				Т	
Rear window defogger switch signal						Т		R		R	D
Rear window defogger control signal	R				R			R		Т	
Hood switch signal						R				Т	Е
Theft warning horn request signal						Т				R	
Horn chirp signal						Т				R	
Steering angle sensor signal							Т		R		F
ABS warning lamp signal				R					Т		
VDC OFF indicator lamp signal				R					Т		G
SLIP indicator lamp signal				R					Т		
Brake warning lamp signal				R					Т		
System setting signal			R T		T R						Н
Distance to empty signal				Т	R						
ASCD operation signal	Т	R									
ASCD OD cancel request	Т	R									
A/T CHECK indicator lamp signal		Т		R							J
A/T position indicator lamp signal		Т		R							
Tire pressure signal				R		Т					
Tire pressure data signal					R	Т					LAN
1st position switch signal		R		Т							
4th position switch signal		R		Т							L
Tow mode switch signal		R		Т							
A/T fluid temperature sensor signal		Т		R							

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TYPE2

System diagram

Type2



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ICC sen- sor	ICC unit	Driver seat con- trol unit	Combination mete	Dis- play con- trol unit	всм	Steer- ing angle sensor	Front air con- trol	ABS actuator and electric unit (control unit)	IPD M E/ R
Engine speed signal	Т	R		R		R	R				R	
Engine status signal	Т							R		R		
Engine coolant temperature signal	Т	R				R				R		
A/T self-diagnosis signal	R	Т										
Accelerator pedal position signal	Т	R		R							R	
Closed throttle position signal	Т	R		R								
Wide open throttle position signal	Т	R										
Battery voltage signal	Т	R										
Key switch signal					R			Т				
Ignition switch signal					R			Т				R
P range signal		Т		R	R							
Stop lamp switch signal		R				Т		R				
Parking brake switch signal						Т		R				
First constitution and the simulation	Т					R						
Fuel consumption monitor signal						Т	R					
Turbine revolution signal	R	Т		R								
Output shaft revolution signal	R	Т		R								
A/C switch signal	R							Т				
A/C compressor request signal	Т									R		R
Blower fan motor switch signal	R							Т		R		

CAN COMMUNICATION

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Signals	ECM	ТСМ	ICC sen- sor	ICC unit	Driver seat con- trol unit	Combination mete	Dis- play con- trol unit	всм	Steer- ing angle sensor	Front air con- trol	ABS actuator and electric unit (control unit)	IPD M E/ R
A/C switch/indicator signal							T R			R		
Cooling fan speed request signal	Т									R		R
Position light request signal						R		Т				R
Low beam request signal								Т				R
Low beam status signal	R											Т
High beam request signal						R		Т				R
High beam status signal	R											Т
Front fog light request signal								Т				R
Day time running light request signal								Т				R
						R				R	Т	
Vehicle speed signal	R	R	R		R	Т	R	R		R		
Sleep wake up signal						R		Т				R
Door switch signal					R	R	R	Т				R
Turn indicator signal						R		Т				
Key fob ID signal					R			Т				
Key fob door unlock signal					R			Т				
Buzzer output signal				Т		R R		Т				
Fuel level sensor signal	R					Т						
Fuel level low warning signal						Т	R					
Malfunction indicator lamp signal	Т					R						
Front wiper request signal				R				Т				R
Front wiper stop position signal								R				Т
Rear window defogger switch signal								Т		R		R
Rear window defogger control signal	R						R					Т
Hood switch signal								R				Т
Theft warning horn request signal								Т				R
Horn chirp signal								Т				R
Steering angle sensor signal									Т		R	
ABS warning lamp signal						R					Т	
VDC OFF indicator lamp signal				R		R					Т	
SLIP indicator lamp signal						R					Т	
Brake warning lamp signal						R					Т	
VDC operation signal				R							Т	
ABS malfunction signal				R							Т	
TCS malfunction signal				R							Т	
VDC malfunction signal				R							T	

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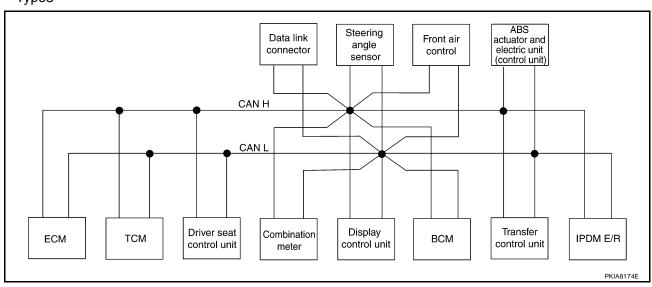
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Signals	ECM	TCM	ICC sen- sor	ICC unit	Driver seat con- trol unit	Combination mete	Dis- play con- trol unit	всм	Steer- ing angle sensor	Front air con- trol	ABS actuator and electric unit (control unit)	IPD M E/ R
Brake pressure sensor signal				R							T	
Cycles action simpl					R		Т					
System setting signal					Т		R					
Distance to empty signal						Т	R					
ASCD operation signal	Т	R										
ASCD OD cancel request	Т	R										
A/T CHECK indicator lamp signal		Т				R						
A/T position indicator lamp signal		Т		R		R						
Current gear position signal		Т		R								
Tire pressure signal						R		Т				
Tire pressure data signal							R	Т				
1st position switch signal		R				Т						
4th position switch signal		R				Т						
Tow mode switch signal		R				Т						
A/T fluid temperature sensor signal		Т				R						
ICC operation signal	R	R		Т								
ICC OD cancel request signal	R	R		Т								
ICC sensor signal			Т	R								
ICC system display signal				Т		R						
ICC steering switch signal	Т			R								

TYPE 3 System diagram

Type3



CAN COMMUNICATION

[CAN]

T: Transmit R: Receive

Input/output signal char	

									i. iran	SIIII K.	Receive
Signals	ECM	ТСМ	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	ВСМ	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
A/T self-diagnosis signal	R	Т									
Stop lamp switch signal		R		Т		R					
Parking brake switch signal				Т		R					
Battery voltage signal	Т	R									
Key switch signal			R			Т					
Ignition switch signal			R			Т					R
P range signal		Т	R								
Closed throttle position signal	Т	R									
Wide open throttle position signal	Т	R									
Engine speed signal	Т	R		R	R				R	R	
Engine status signal	Т					R		R			
Engine coolant temperature signal	Т	R		R				R			
Accelerator pedal position signal	Т	R							R	R	
Fuel consumption monitor signal	Т			R							
				Т	R						
Turbine revolution signal	R	Т									
Output shaft revolution signal	R	Т							R		
A/C switch signal	R					Т					
A/C compressor request signal	Т							R			R
Blower fan motor switch signal	R					Т		R			
A/C switch/indicator signal					T R			R T			
Cooling fan speed request signal	Т							R			R
Position light request signal				R		Т					R
Low beam request signal						Т					R
Low beam status signal	R										Т
High beam request signal				R		Т					R
High beam status signal	R										Т
Front fog light request signal						Т					R
Day time running light request signal						Т					R
				R				R	R	Т	
Vehicle speed signal	R	R	R	Т	R	R		R			
Sleep wake up signal				R		Т					R
Door switch signal			R	R	R	Т					R
Turn indicator signal				R		Т					
Key fob ID signal			R			Т					
Key fob door unlock signal			R			Т					

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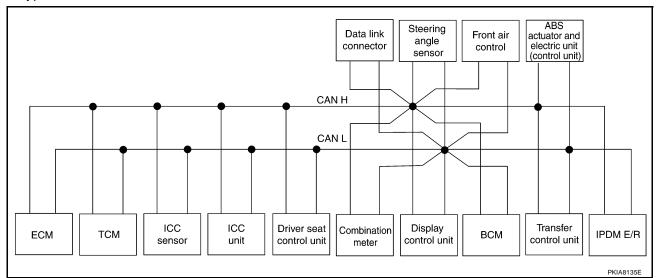
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Signals	ECM	ТСМ	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	всм	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
Buzzer output signal				R		Т					
Fuel level sensor signal	R			Т							
ASCD SET lamp signal	Т			R							
ASCD CRUISE lamp signal	Т			R							
Malfunction indicator lamp signal	Т			R							
Fuel level low warning signal				Т	R						
Front wiper request signal						Т					R
Front wiper stop position signal						R					Т
Rear window defogger switch signal						Т		R			R
Rear window defogger control signal	R				R			R			Т
Hood switch signal						R					Т
Theft warning horn request signal						Т					R
Horn chirp signal						Т					R
Steering angle sensor signal							Т			R	
ABS warning lamp signal				R						Т	
VDC OFF indicator lamp signal				R						Т	
SLIP indicator lamp signal				R						Т	
Brake warning lamp signal				R						Т	
System setting signal			R		Т						
Cystem setting signal			Т		R						
Distance to empty signal				Т	R						
ASCD operation signal	Т	R									
ASCD OD cancel request	Т	R									
A/T CHECK indicator lamp signal		Т		R							
A/T position indicator lamp signal		Т		R					R		
Tire pressure signal				R		Т					
Tire pressure data signal					R	Т					
1st position switch signal		R		Т							
4th position switch signal		R		Т							
Tow mode switch signal		R		Т							
A/T fluid temperature sensor signal		Т		R							

TYPE 4
System diagram

Type4



Input/output signal chart

T: Transmit R: Receive

										I	: Iransm	IT R: R	eceive
Signals	ECM	тсм	ICC sen- sor	ICC unit	Driver seat con- trol unit	Combination mete	Dis- play con- trol unit	всм	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPD M E/R
A/T self-diagnosis signal	R	T											
Stop lamp switch signal		R				Т		R					
Parking brake switch signal						Т							R
Battery voltage signal	Т	R											
Key switch signal					R			Т					
Ignition switch signal					R			Т					R
P range signal		Т		R	R								
Closed throttle position signal	Т	R		R									
Wide open throttle position signal	Т	R											
Engine speed signal	Т	R		R		R	R				R	R	
Engine status signal	Т							R		R			
Engine coolant temperature signal	Т	R				R				R			
Accelerator pedal position signal	Т	R		R							R	R	
Fuel consumption monitor signal	Т					R							
ruei consumption monitor signal						Т	R						
Turbine revolution signal	R	Т		R									
Output shaft revolution signal	R	Т		R							R		
A/C switch signal	R							Т					
A/C compressor request signal	Т									R			R
Blower fan motor switch signal	R							Т		R			

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Signals	ECM	тсм	ICC sen- sor	ICC unit	Driver seat con- trol unit	Combination mete	Dis- play con- trol unit	всм	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPD M E/R
A/C switch/indicator signal							T R			R T			
Cooling fan speed request signal	Т									R			R
Position light request signal						R		Т					R
Low beam request signal								Т					R
Low beam status signal	R												Т
High beam request signal						R		Т					R
High beam status signal	R												Т
Front fog light request signal								Т					R
Day time running light request signal								Т					R
With a literal						R				R	R	Т	
Vehicle speed signal	R	R	R		R	Т	R	R		R			
Sleep wake up signal						R		Т					R
Door switch signal					R	R	R	Т					R
Turn indicator signal						R		Т					
Key fob ID signal					R			Т					
Key fob door unlock signal					R			Т					
Buzzer output signal				Т		R R		Т					
Fuel level sensor signal	R			'		T							
Malfunction indicator lamp signal	T					R							
Fuel level low warning signal	!					T	R						
Front wiper request signal				R		'	1	Т					R
Front wiper stop position signal				IX.				R					T
								K					
Rear window defogger switch sig- nal								Т		R			R
Rear window defogger control signal	R						R			R			Т
Hood switch signal								R					Т
Theft warning horn request signal								Т					R
Horn chirp signal								Т					R
Steering angle sensor signal									Т			R	
ABS warning lamp signal						R						Т	
VDC OFF indicator lamp signal				R		R						Т	
SLIP indicator lamp signal						R						Т	
Brake warning lamp signal						R						Т	
VDC operation signal				R								Т	
ABS malfunction signal				R								Т	

CAN COMMUNICATION

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Signals	ECM	TCM	ICC sen- sor	ICC unit	Driver seat con- trol unit	Combination mete	Dis- play con- trol unit	всм	Steer- ing angle sen- sor	Front air con- trol	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPD M E/R
TCS malfunction signal				R								T	
VDC malfunction signal				R								Т	
Brake pressure sensor signal				R								Т	
System setting signal					R T		T R						
Distance to empty signal						Т	R						
ASCD operation signal	Т	R											
ASCD OD cancel request	Т	R											
A/T CHECK indicator lamp signal		Т				R							
A/T position indicator lamp signal		Т		R		R					R		
Current gear position signal		Т		R									
Tire pressure signal						R		Т					
Tire pressure data signal							R	Т					
1st position switch signal		R				Т							
4th position switch signal		R				Т							
Tow mode switch signal		R				Т							
A/T fluid temperature sensor signal		Т				R							
ICC operation signal	R	R		Т									
ICC OD cancel request signal	R	R		Т									
ICC sensor signal			Т	R									
ICC system display signal				Т		R							
ICC steering switch signal	Т			R									

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[CAN]

CAN SYSTEM (TYPE 1)

PFP:23710

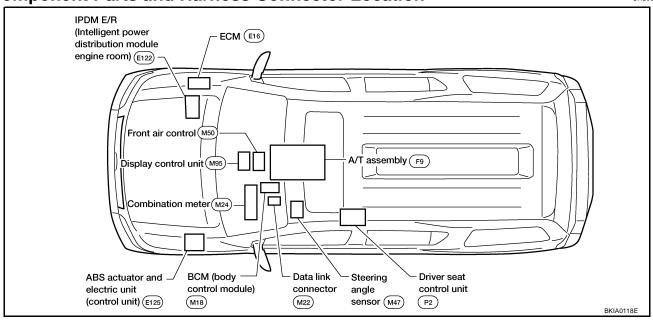
System Description

UKS000P0

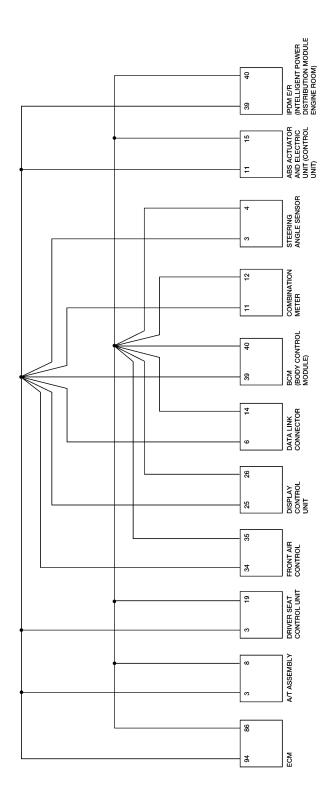
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information 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

UKS000P1



Schematic UKS000P2



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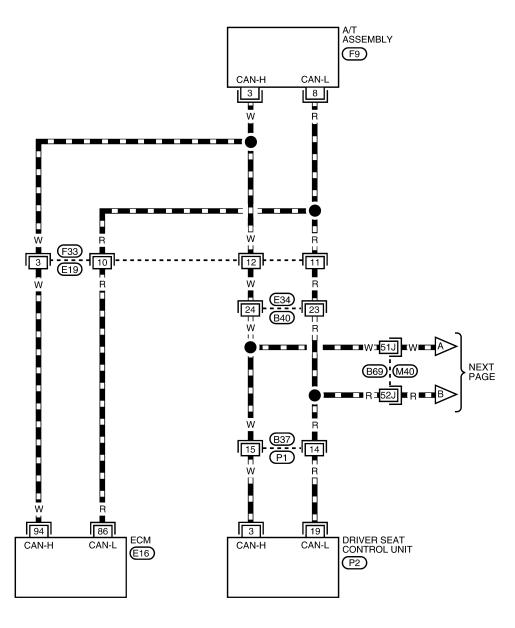
BKWA0078E

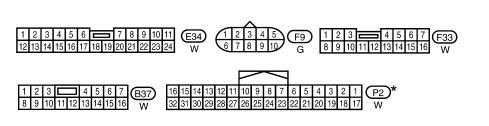
Wiring Diagram - CAN -

IKS000P3

LAN-CAN-01

■□■ : DATA LINE





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

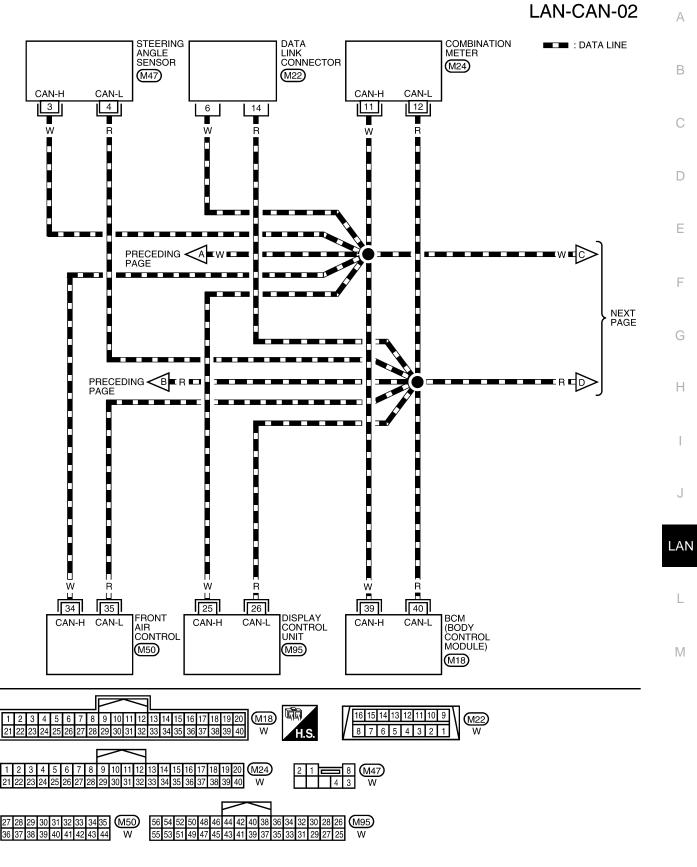
REFER TO THE FOLLOWING.

M40 - SUPER MULTIPLE

JUNCTION (SMJ)

E16 - ELECTRICAL UNITS

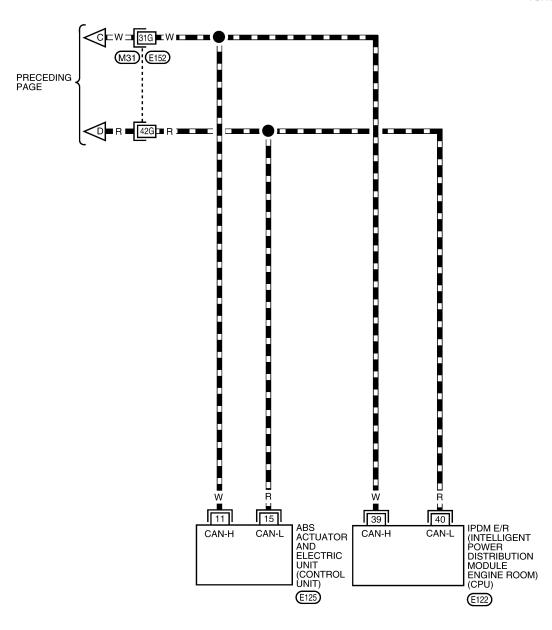
BKWA0079E

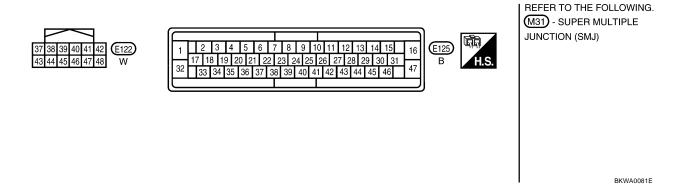


BKWA0080E

LAN-CAN-03

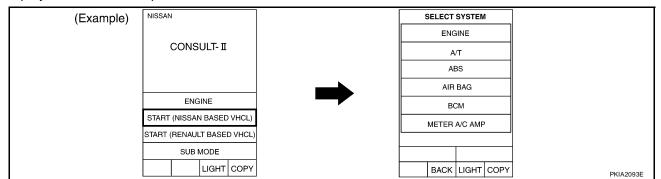
■■■: DATA LINE



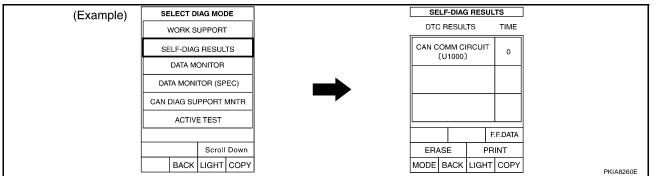


Work Flow

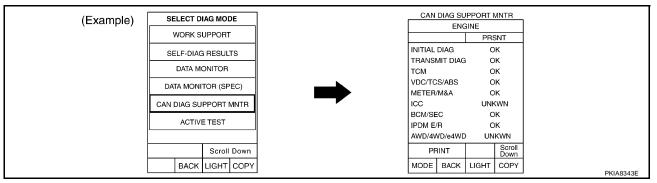
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-23</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG" or "UNKWN" in the check sheet table. Refer to LAN-23, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-131</u>, "CAN Communication Line <u>Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-23</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 1)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-23</u>, "CHECK SHEET" .

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control unit, replace the control unit. Refer to AV-131, "CAN Communication Line Check" .
- 9. According to the check sheet results (example), start inspection. Refer to LAN-25, "CHECK SHEET RESULTS (EXAMPLE)".

CAN SYSTEM (TYPE 1)

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CHECK SHEET

NOTE:

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

		Ī				CAN DIA		T MANITO			
251 50T 0\/0T						CAN DIA	G SUPPOF Receive o	diagnosis			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	METER/M&A	BCM/SEC		Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_		ı	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	ı	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	-	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	-	_
			ttach copy .ECT SYST				Attach copy :LECT SYS				

PKIA8048E

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of A/T SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. 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 AUTO DRIVE POS. 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)

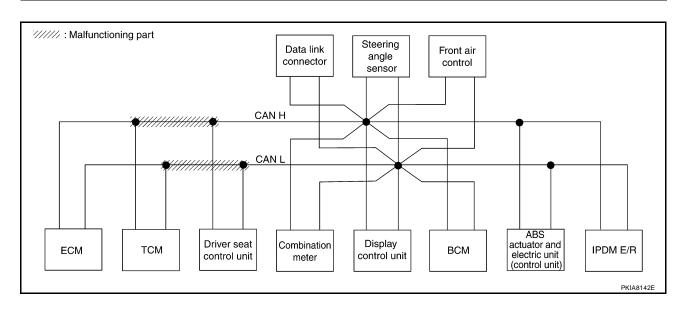
NOTE:

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

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-40, "Circuit Check Between TCM and Driver Seat Control Unit"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	∩ иК	_	_	UNK W N	UNK VN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNIXWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN PRC 3	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNI W N	UNK WN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNI W N	_	_	UNKWN	_	_	_	_



Revision: August 2007 LAN-25 2004 QX56

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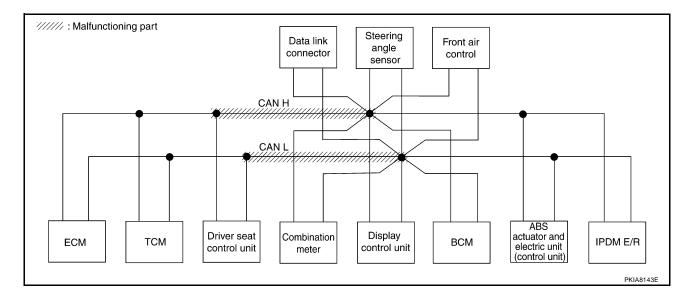
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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-41</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						CAN DIA	G SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	∩ NK WN	UNKWN	_	_	UNK W N	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UN K ₩N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	_	_	_	_	UNKWI
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_



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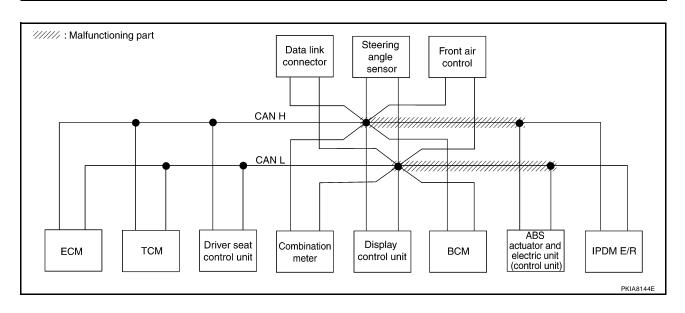
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Case 3

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-42</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

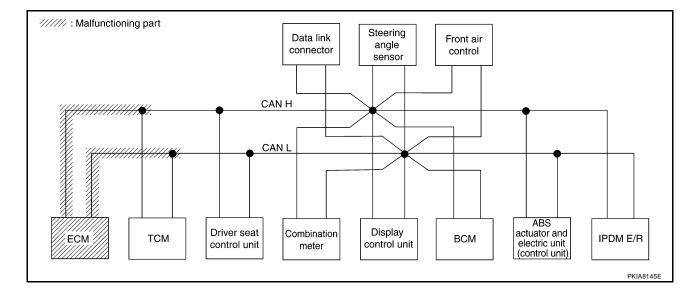
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIVI GOI GOI	diagnosis	diagnosis	ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNK WN	UNK W N
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	-	_	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CANORC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	-	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNK W N	_	-	UNK W N	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 4
Check ECM circuit. Refer to <u>LAN-43, "ECM Circuit Check"</u>.

						CAN DIA	G SUPPOF				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	NNK WN	_	UNK WN	NNK WN	UNKWN	_	_	UNK W N	UNK WN
A/T	_	NG	UNKWN	UNIONN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	1	_	UNKWN	_	_	_	_

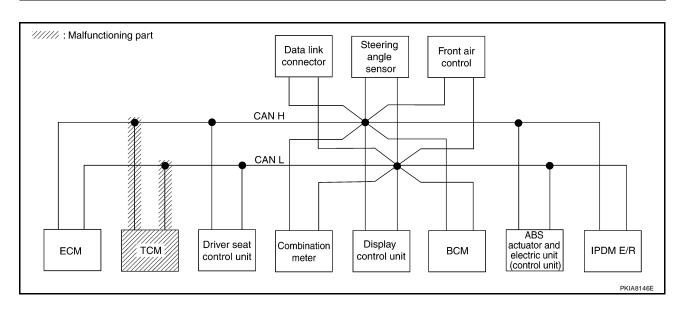


CAN SYSTEM (TYPE 1)

[CAN]

Case 5
Check TCM circuit. Refer to <u>LAN-43, "TCM Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNK W N	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNK/WN	_	UNK WN	-	_	_	NMKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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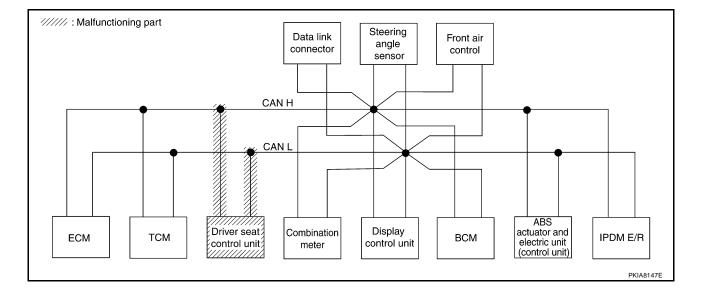
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Case 6
Check driver seat control unit circuit. Refer to <u>LAN-44</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
022201 0101	LIW GOTGOTT	diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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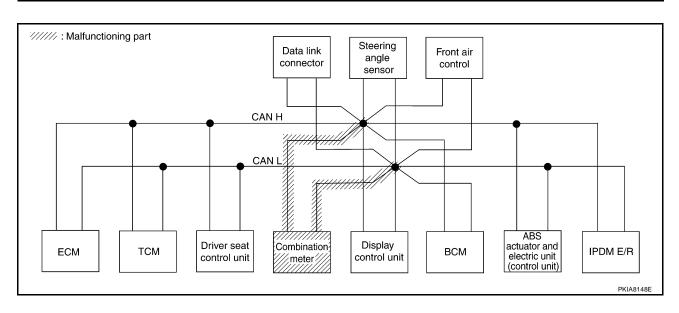
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Case 7
Check combination meter circuit. Refer to <u>LAN-44</u>, "Combination Meter Circuit Check" .

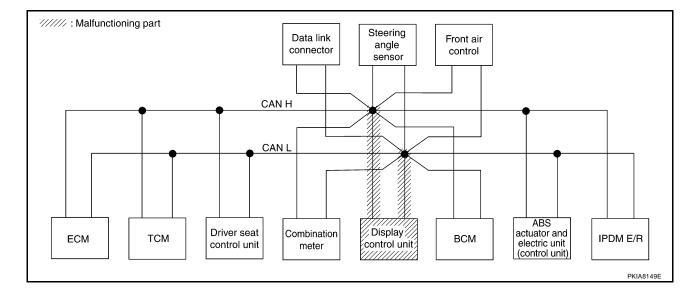
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	EW SOICCH	diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNIXWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	-	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN ORC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	∩ NK WN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 8
Check display control unit circuit. Refer to <u>LAN-45</u>, "<u>Display Control Unit Circuit Check"</u>.

SELECT SYSTEM screen						CAN DIA	G SUPPOF	RT MNTR			
		Initial	Transmit	Receive diagnosis							
0222010101	2111 0010011	diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	-	_
Display control unit	_	CAN COMM	CAN ORC 1	CAN IRC 3	-	CAN IRC 5	CAN ORC 2	_	CAN ORC 4	_	CAN CARC
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	_	UNKWN
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



CAN SYSTEM (TYPE 1)

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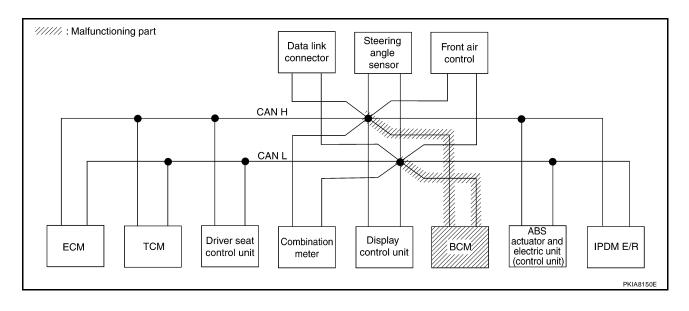
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Case 9
Check BCM circuit. Refer to <u>LAN-45, "BCM Circuit Check"</u>.

						CAN DIA	G SUPPOF	T MNTR				
SELECT SYSTEM screen		Initial	Transmit				Receive	diagnosis				
		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	Ω ΝΚ ₩Ν	_	_	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CANORC 2	_	CAN CIRC 4	_	CAN CIRC	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNK ₩N	_	_	_	_	

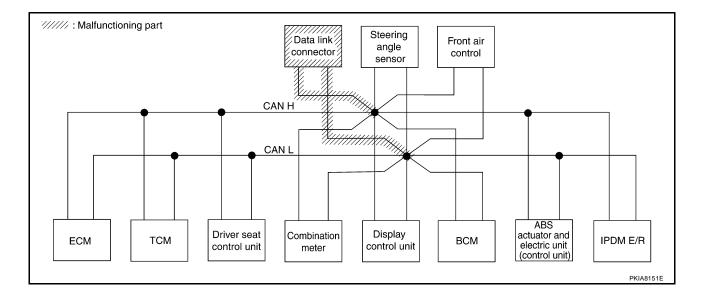


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Case 10
Check data link connector circuit. Refer to <u>LAN-46</u>, "<u>Data Link Connector Circuit Check"</u>.

SELECT SYSTEM screen						CAN DIA	G SUPPOF	RT MNTR			
		Initial	Transmit Receive diagnosis								
		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	-	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



CAN SYSTEM (TYPE 1)

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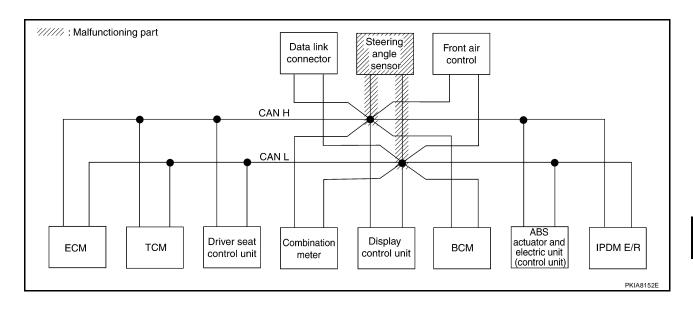
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Case 11

Check steering angle sensor circuit. Refer to <u>LAN-46</u>, "Steering Angle Sensor Circuit Check" .

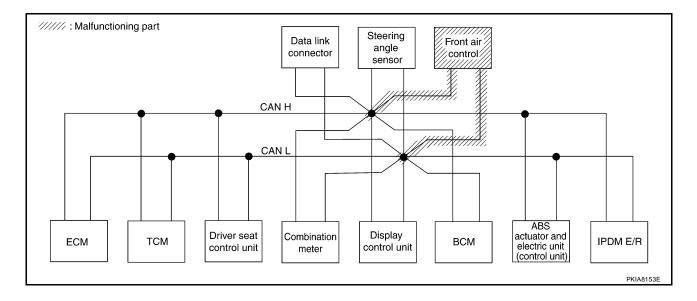
					CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit Receive di			iagnosis					
		diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNK W N	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_



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Case 12
Check front air control circuit. Refer to <u>LAN-47</u>, "Front Air Control Circuit Check" .

SELECT SYSTEM screen				1		CAN DIA	G SUPPOF				
		Initial	Transmit	Receive diagnosis							
		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIÁC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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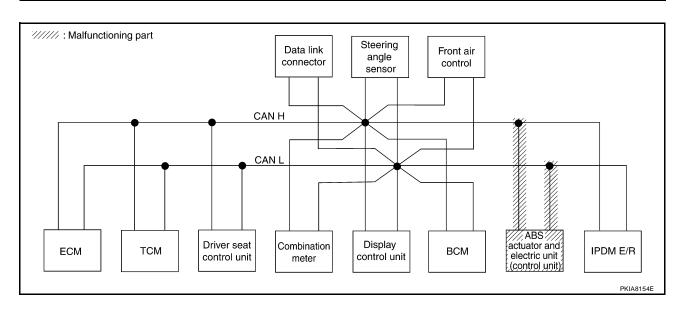
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Case 13

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

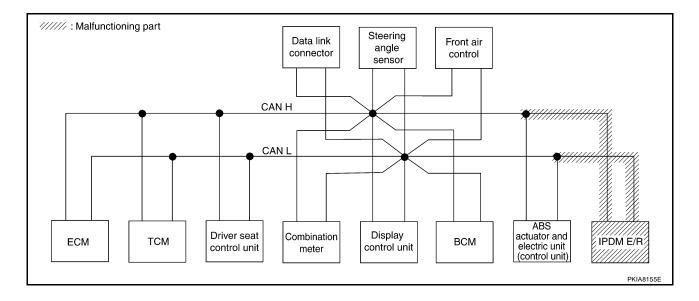
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
322313131	LIW COTCOTT	diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	_	∩ NR WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	-	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	₩	UNKWN	UM WN	UNKWN	_	_	UNK W N	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 14
Check IPDM E/R circuit. Refer to LAN-48, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
02220101011	ZIVI SOICCII	diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNK W N
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CANORC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNK WI
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 15

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

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	NNK WN	_	UNK WN	∩ NR WN	UNKWN	_	_	UNK W N	UNK WN
A/T		NG	UNKWN	UNKWN	_	UNK WN	_	_	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	
Display control unit	_	CAN COMM	CANARC 1	CAN ORC 3	_	CAN CAC 5	CAN RC 2	_	CAN ORC 4		CANCARC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	M	UNIMN	UNKWN	UNKWN	_	_	UNK WN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to $\underline{\text{LAN-49}}$, "IPDM E/R Ignition Relay $\underline{\text{Circuit Check}}$ ".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	Ω ΝΚ ⁄ΜΝ	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	_	-	_		UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_
						•				•	•

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Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-49</u>, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	2111 0010011	diagnosis	diagnosis	ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNK WN	_	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	-	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNK W N	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	-

Circuit Check Between TCM and Driver Seat Control Unit

UKS0018I

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 12 (W)

: Continuity should exist.

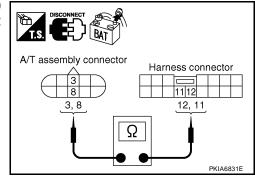
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



$3.\,$ check harness for open circuit

- 1. Disconnect harness connector E34.
- 2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E34 terminals 24 (W), 23 (R).

12 (W) - 24 (W)

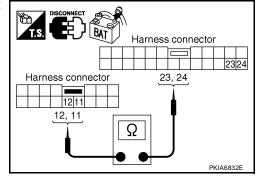
: Continuity should exist.

11 (R) - 23 (R)

: Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and driver seat control unit harness connector P2 terminals 3 (W), 19 (R).

24 (W) - 3 (W)

: Continuity should exist.

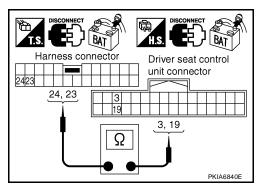
23 (R) - 19 (R)

: Continuity should exist.

OK or NG

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

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0018J

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 51J (W)

: Continuity should exist.

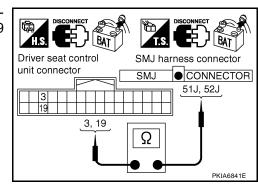
19 (R) - 52J (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$3.\,$ check harness for open circuit

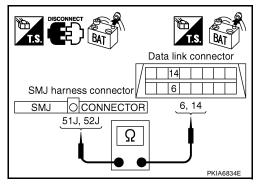
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

51J (W) - 6 (W) : Continuity should exist. 52J (R) - 14 (R) : Continuity should exist.

OK or NG

OK \rightarrow Connect all the connectors and diagnose again. Refer to LAN-21, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0018K

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

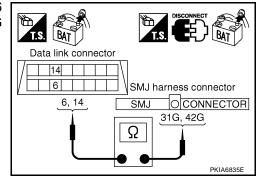
2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M31.
- Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

6 (W) - 31G (W) : Continuity should exist. 14 (R) - 42G (R) : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

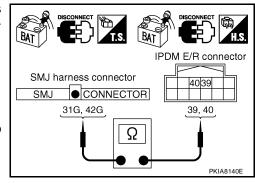
- Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 19 (W), 40 (R).

31G (W) - 39 (W) : Continuity should exist. 42G (R) - 40 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-21, "Work Flow"</u>.

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$2.\,$ check harness for open circuit

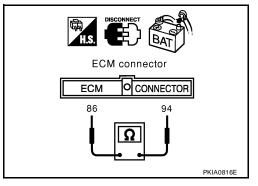
- Disconnect ECM connector.
- Check resistance between ECM harness connector E16 termi-2 nals 94 (W) and 86 (R).

: Approx. 108 - 132 Ω

OK or NG

>> Replace ECM. OK

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



TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

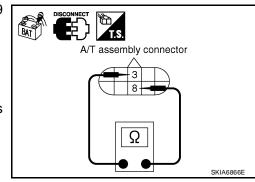
- Disconnect A/T assembly connector. 1.
- Check resistance between A/T assembly harness connector F9 terminals 3 (W) and 8 (R).

3 (W) - 8 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace control valve with TCM.

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



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

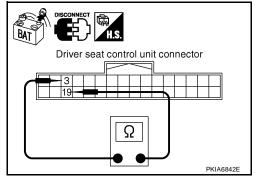
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B69.



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Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

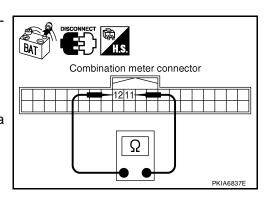
11 (W) - 12 (R)

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.

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



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Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

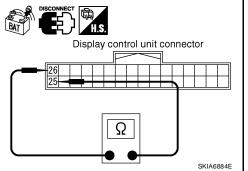
- Disconnect display control unit connector.
- Check resistance between display control unit harness connector M95 terminals 25 (W) and 26 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

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



BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$2.\,$ check harness for open circuit

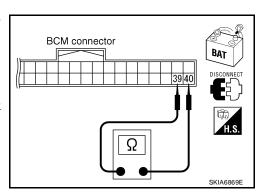
- Disconnect BCM connector.
- Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

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



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the negative battery 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

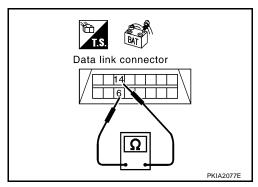
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

6 (W) - 14 (R) : Approx. 54 - 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-21, "Work Flow"</u> .

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



Steering Angle Sensor Circuit Check

UKS0018S

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery 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 M47 terminals 3 (W) and 4 (R).

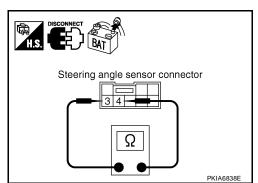
3 (W) - 4 (R) : Approx.
$$54 - 66\Omega$$

OK or NG

NG

OK >> Replace steering angle sensor.

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



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Front Air Control Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

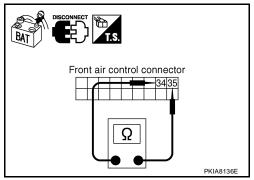
OK or NG

OK

>> Replace front air control.

NG

>> Repair harness between front air control and data link connector.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

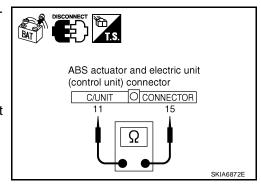
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

: Approx. 54 - 66 Ω

OK or NG

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

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



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Revision: August 2007 LAN-47 2004 QX56

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: **Approx. 108 - 132** Ω

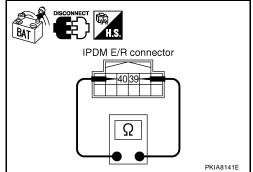
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector E152.



CAN Communication Circuit Check

UKS0018W

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- A/T assembly
- Driver seat control unit
- Combination meter
- Display control unit
- BCM
- Steering angle sensor
- Front air control
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

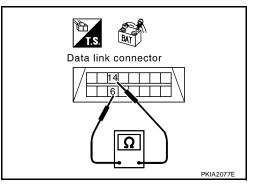
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

6 (W) - 14 (R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR SHORT CIRCUIT

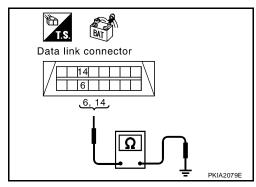
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

6 (W) - Ground : Continuity should not exist. 14 (R) - Ground : Continuity should not exist.

OK or NG

OK >> Check ECM and IPDM E/R. Refer to <u>LAN-49</u>, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION".

NG >> Repair harness.



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IPDM E/R Ignition Relay Circuit Check

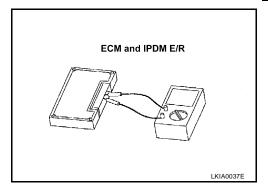
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to <u>PG-27</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-13</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START"

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 2)

PFP:23710

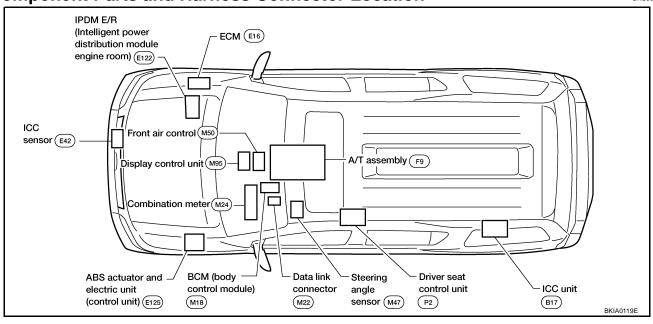
System Description

UKS001N3

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

UKS001N4



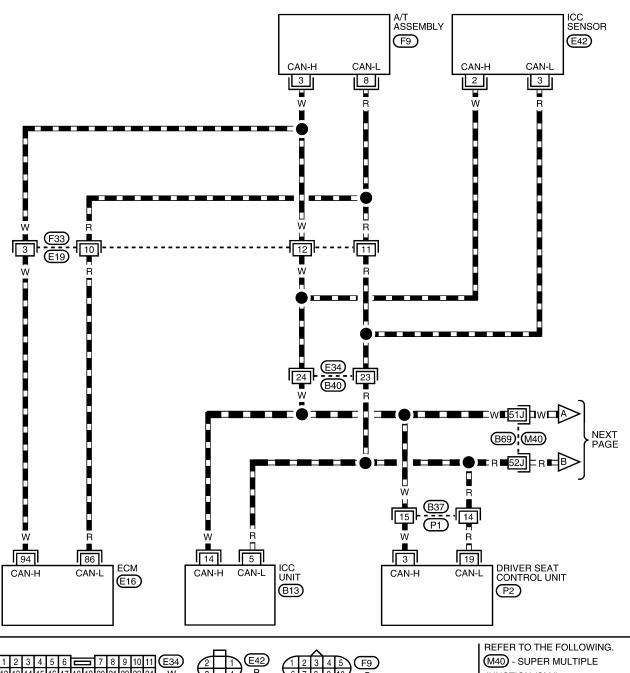
[CAN]

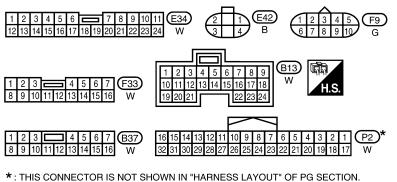
Schematic UKS001N5 Α IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) В 40 33 С ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 15 D STEERING ANGLE SENSOR Е COMBINATION METER 12 F BCM (BODY CONTROL MODULE) 6 G 33 Н 4 56 25 35 FRONT AIR CONTROL LAN 34 DRIVER SEAT CONTROL UNIT 19 M 2 ICC UNIT 4 ICC SENSOR 98 ECM 94 BKWA0074E

Wiring Diagram - CAN -

LAN-CAN-04

■■■: DATA LINE





JUNCTION (SMJ)

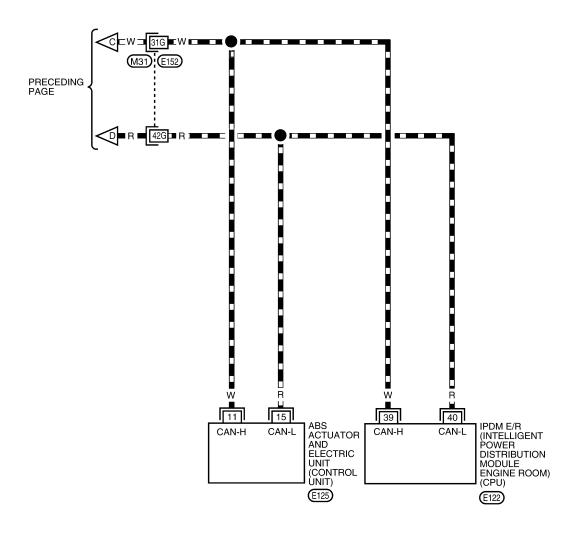
E16 - ELECTRICAL UNITS

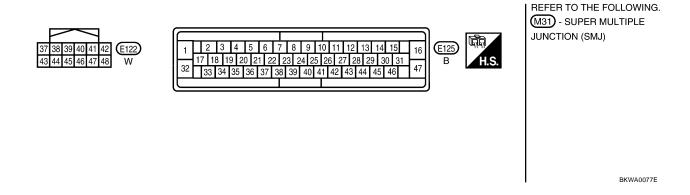
LAN-CAN-05 Α DATA LINK CONNECTOR COMBINATION METER STEERING ■□■ : DATA LINE ANGLE SENSOR (M24) В (M47) (M22) CAN-L CAN-H CAN-H CAN-L 4 6 12 14 C W w D Е PRECEDING A NEXT PAGE PRECEDING ✓B = R = Н LAN R 26 39 34 35 25 40 DISPLAY CONTROL UNIT BCM (BODY CONTROL MODULE) FRONT CAN-L CAN-L CAN-L CAN-H CAN-H CAN-H AIR CONTROL (M50) (M95) M (M18) (M18) M22 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 <u>M24</u> 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 W (M50

BKWA0076E

LAN-CAN-06

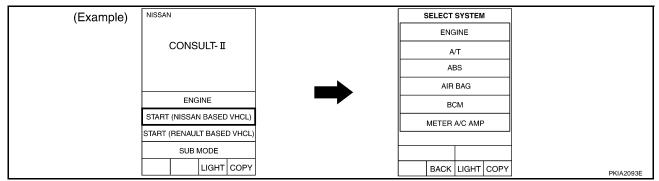
■□■ : DATA LINE



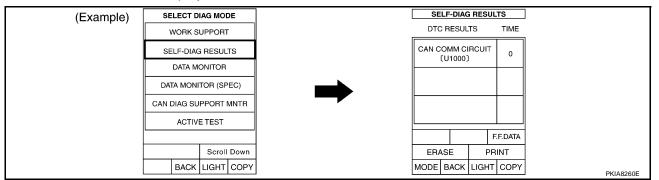


Work Flow

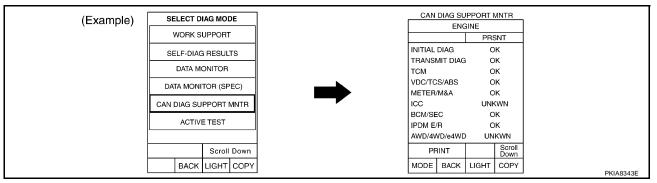
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-57</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG" or "UNKWN" in the check sheet table. Refer to <u>LAN-57</u>, "CHECK SHEET"

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-131</u>, "CAN Communication Line <u>Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-57</u>, <u>"CHECK SHEET"</u> .

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8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-57</u>, "CHECK SHEET" .

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control unit, replace the control unit. Refer to <u>AV-131</u>, "CAN Communication Line Check" .
- 9. According to the check sheet results (example), start inspection. Refer to LAN-59, "CHECK SHEET RESULTS (EXAMPLE)".

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CHECK SHEET

NOTE:

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

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM coroon	104-1	T			0/11	<i>Birta</i> 66		diagnosis				
SELECT STST	EIVI SCIEETI	Initial diagnosis	Transmit diagnosis	ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
NGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
Т	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_	UNKWN	_
c	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	UNKWN	_
JTO DRIVE POS	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
splay control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
СМ	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_	_	UNKWI
BS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
DM E/R	No indication	-	UNKWN	UNKWN	ı	_	-	1	UNKWN	_	_	_	_
			Attach copy of SELECT SYSTEM				SE	Attach co LECT S\	py of /STEM				
			CA	IN DIAG	display	ch copy of control u RT MONIT	nit	k sheet					

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Attach copy of Attach copy of Attach copy of Attach copy of ENGINE A/T ICC AUTO DRIVE POS. SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of BCM ABS IPDM E/R **SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS** Attach copy of Attach copy of Attach copy of Attach copy of ENGINÉ ICC AUTO DRIVE POS. A/T **CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT**

Attach copy of BCM CAN DIAG SUPPORT MNTR

MNTR

Attach copy of ABS CAN DIAG SUPPORT MNTR

MNTR

Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR

MNTR

MNTR

PKIA8088E

CHECK SHEET RESULTS (EXAMPLE)

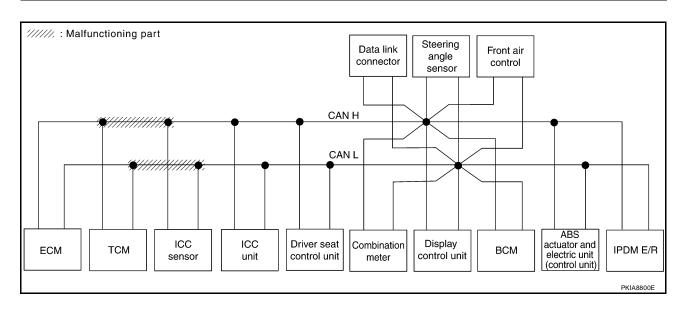
NOTE:

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

Case 1

Check harness between TCM and ICC sensor. Refer to $\underline{\text{LAN-78}}$, "Circuit Check Between TCM and ICC Sensor".

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
02220101011	_W 30/00/	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNK WN	UNK WN	Ω ΝΚ ⁄ΜΝ	-	_	UN K ₩N	UNK\
A/T	_	NG	UNKWN	UNKWN	_	_	UNI W N	UNKWN	_	_	_	UNI W WN	_
ICC	_	NG	UNKWN	∩ M MN	UNK WN	UNKWN	-	_	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CARC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	-	CAN CIR
ВСМ	No indication	NG	UNKWN	UN K ₩N	_	_	_	UNKWN	_	_	_	_	UNKW
ABS	_	NG	UNKWN	UNK WN	UN K ∕WN	_	_	-	_	UNKWN	-	-	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_	_	_



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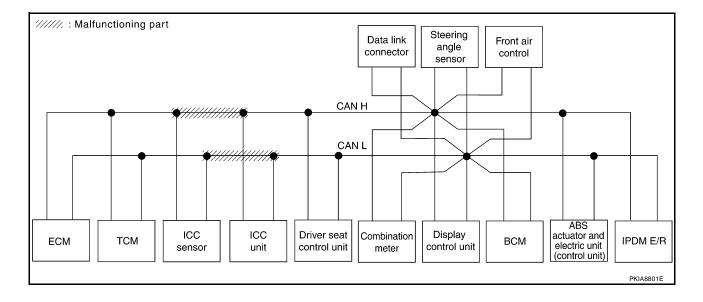
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Case 2
Check harness between ICC sensor and ICC unit. Refer to <u>LAN-79, "Circuit Check Between ICC Sensor and ICC Unit"</u>.

İ	ŀ					CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	EM screen	Initial	Transmit					Receive	diagnosis				
	LIVI SCICCII		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UN ∳ WN	UNK WN	UNK WN	_	-	Ω ΝΙ ⁄γΝΙ	n nk (MI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNI WN	-	-	_	Ω ΝΚ ⁄ΜΝ	_
ICC	_	NG	UNKWN	UNK WN	UN ∳ WN	Ω ΝΚ ⁄⁄ΜΝ	_	-	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNI W NN	_	_	UNKWN	UNKWN	_	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	1	CAN CIRC
всм	No indication	NG	UNKWN	UNK/WN	_	_	_	UNKWN	-	_	_	-	UNKWI
ABS	_	NG	UNKWN	UNK/WN	UNK W N	_	_	_	-	UNKWN	_	-	-
IPDM E/R	No indication	_	UNKWN	UNK/WN	_	_	_	_	UNKWN	_	_	-	-



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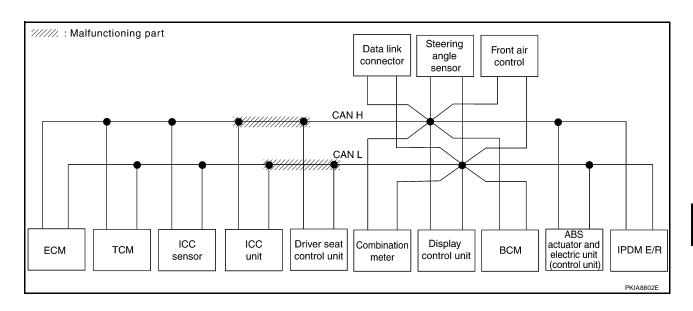
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Case 3

Check harness between ICC unit and driver seat control unit. Refer to <u>LAN-80</u>, "Circuit Check Between ICC <u>Unit and Driver Seat Control Unit"</u>.

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	EM screen	Initial	Transmit					Receive	diagnosis				
	IN Scicen	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	Ω ΝΚ ,ΜΝ	UNK WN	_	-	UNKWN	NMW
A/T	_	NG	UNKWN	UNKWN	-	-	UNKWN	UNI WN	_	_	_	UNIXWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	-	UNI W NN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNI WN	_	-	UNKWN	UNKWN	_	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	CAN CIRC
всм	No indication	NG	UNKWN	UNK/WN	-	_	_	UNKWN	-	-	-	_	UNKW
ABS	_	NG	UNKWN	UNKWN	UNK W N	_	_	_	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_	_	_

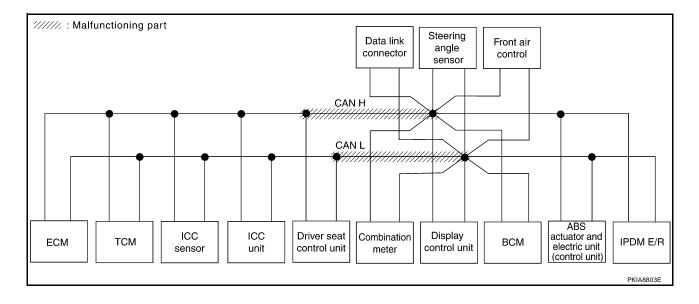


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Case 4

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-80</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

i	ļ	1				CAN	I DIAG SU	PPORT M	INTR				
SELECT SYSTE	FM screen	Initial	Transmit					Receive	diagnosis				
02220101012	IVI SOICOIT		diagnosis	ECM	тсм	ICC SENSOR		METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UN K ₩N	UN K ₩N	_	-	Π Μ ΜΝ	UNK.
A/T	_	NG	UNKWN	UNKWN		_	UNKWN	UNI W WN	_	'	_	Ω ΝΚ ₩Ν	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	_	_	Π Μ ΜΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIR
всм	No indication	NG	UNKWN	UNKWN	_	_		UNKWN	_		-	- 1	UNKW
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	-	- 1	_	UNKWN	_	- 1	_
IPDM E/R	No indication	_	UNKWN	UNK/WN			_		UNKWN	_	_		<u> </u>



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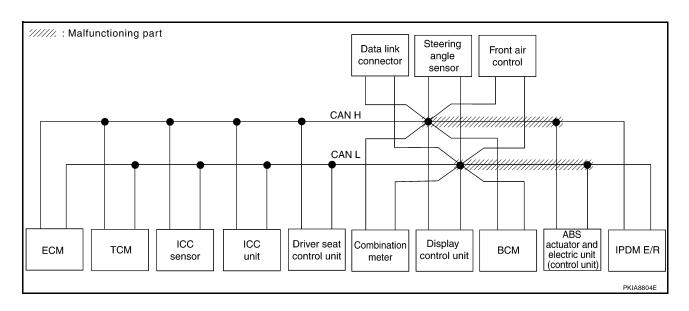
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Case 5

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-81</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

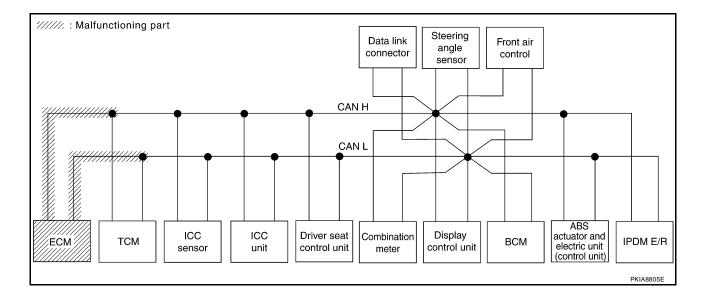
						CAN	DIAG SU	PPORT M	1NTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
02220101012		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_	UNK WN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	UNI WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CANCAC
всм	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	_	_	_	UNK
ABS	_	NG	UNKWN	UNK WN	UNK W N	-	_	_	_	UNK WN	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_



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Case 6
Check ECM circuit. Refer to <u>LAN-82, "ECM Circuit Check"</u>.

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
02220101011	_W 00/00/1	diagnosis	diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UN K ₩N	_	UN K ₩N	-	Ω ΝΚ ⁄⁄⁄⁄/(WN	UN K ₩N	UNK WN	_	-	UNK WN	UNK\(\mathbb{W}\)
A/T	_	NG	UNKWN	UN WN	_	-	UNKWN	UNKWN	-	_	_	UNKWN	_
ICC	_	NG	UNKWN	UN K ₩N	UNKWN	UNKWN	-	_	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	-	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN ORC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UN A WN	_	1	_	UNKWN	ı	_	_	_	UNKW
ABS	_	NG	UNKWN	UNI W N	UNKWN	-	_	_	-	UNKWN	-	-	_
IPDM E/R	No indication	_	UNKWN	UNIMN	_	_	_	_	UNKWN	_	_	_	_



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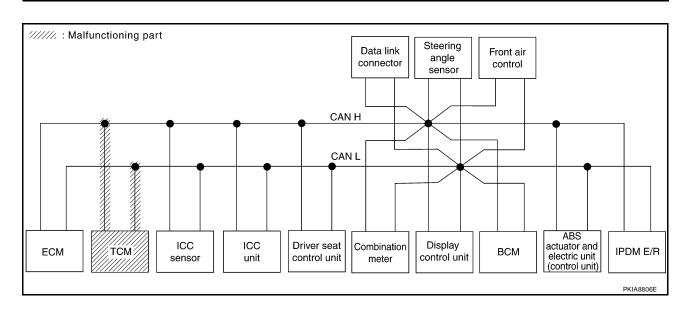
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Case 7
Check TCM circuit. Refer to <u>LAN-82, "TCM Circuit Check"</u>.

						CAN	DIAG SU	PPORT M	1NTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
02220101011	LIVI GOLGOLI	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNK WN	_	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNI W WN	_	_	UNK WN	UNK WN	ı	-	_	UNK WN	_
ICC	_	NG	UNKWN	UNKWN	Ω ΝΚ ΑΝΙ	UNKWN	ı	_	UNKWN	-	1	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	Ω ΝΚ ⁄ΝΝ	_	-	UNKWN	UNKWN	-	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	_	UNKWI
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	_	UNKWN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_



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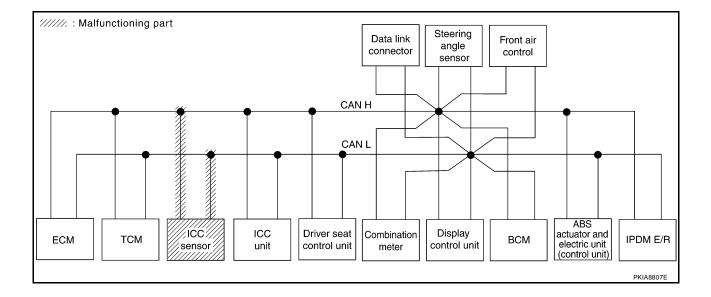
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Case 8 Check ICC sensor circuit. Refer to $\underline{\mathsf{LAN-83}}$, "ICC Sensor Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR						
SELECT SYSTE	=M screen	Initial	Transmit		Receive diagnosis										
02220101011	LIVI GOLGOLI		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKW		
A/T	_	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	-	_	UNKWN	_		
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNK ∕ WN	-	_	UNKWN	1	-	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	-	_	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC		
ВСМ	No indication	NG	UNKWN	UNKWN	_	1	-	UNKWN	_	1	_		UNKW		
ABS	_	NG	UNKWN	UNKWN	UNKWN	1	_	_	_	UNKWN	_	-	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_		

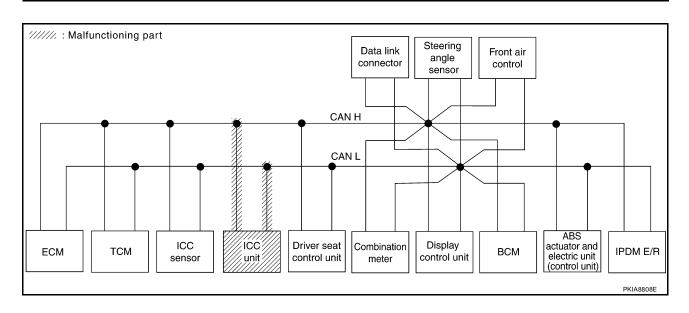


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Case 9

Check ICC unit circuit. Refer to LAN-83, "ICC Unit Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	FM screen	Initial	Transmit					Receive	diagnosis				
		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	Ω νΚ ΜΝ	UNKWN	UNKWN	_	_	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	-	-	UNK WN	UNKWN	_	-	_	UNKWN	_
ICC	_	NG	Ω ΝΚ (WN	Ω ΝΚ ⁄ΜΝ	n uk wu	n rk {\w}νν	-	-	UNK VN	_	-	UNK W N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	-	_	_	UNKWI
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_



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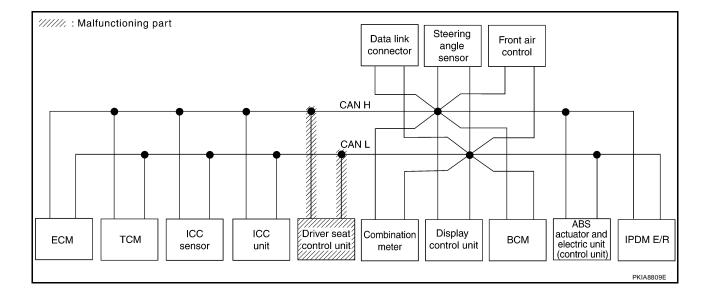
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Case 10

Check driver seat control unit circuit. Refer to LAN-84, "Driver Seat Control Unit Circuit Check" .

	ŀ					CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	EM screen	Initial	Transmit					Receive	diagnosis				
OLLLOT GTOTE	IN SOICCIT	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	-	UNKWN	UNKWN	UNKWN	_		UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	-	_	-	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	-	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	1	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	_		UNKWN		_	_	_	UNKWI
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	_	_



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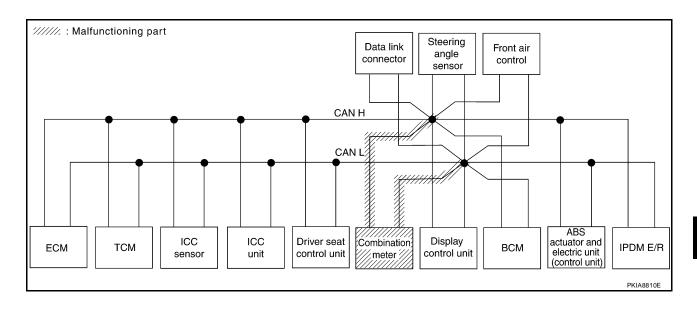
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Case 11
Check combination meter circuit. Refer to <u>LAN-84</u>, "Combination Meter Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR							
SELECT SYSTE	FM screen	Initial	Transmit		Receive diagnosis											
02220101012	2111 0010011	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UN K ₩N	UNKWN	-	-	UNKWN	UNKWI			
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UN K ₩N	_	_	_	UNKWN	_			
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	n νκ ⁄ων	UNKWN	_	_	_	_			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CANORC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC			
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNK WN	_	_	_	_	UNKW			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_	-			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_			



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Case 12
Check display control unit circuit. Refer to <u>LAN-85</u>, "<u>Display Control Unit Circuit Check</u>" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	-M screen	Initial	Transmit					Receive	diagnosis				
OLLLOT GTOTI	IN SOICCIT		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	_	_	UNKWN	
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	-	-	_
Display control unit	_	CAN COMM	CANORC 1	CANCERC 3	_	_	_	CANORC 5	CANORC 2	_	CANORC 4	_	CANCERO
всм	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	_	_	_	UNKW
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	_	_

/////.: Malfunctioning part Steering Data link Front air angle connector control sensor CAN H CAN L ABS actuator and ICC ICC Driver seat Combination Display/ ECM TCM BCM IPDM E/R electric unit (control unit) unit control unit control unit sensor meter PKIA8811E

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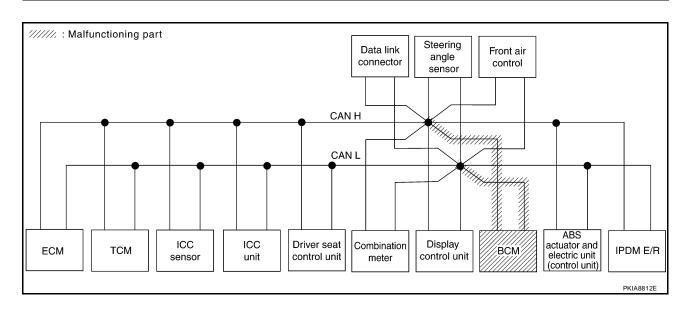
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Case 13
Check BCM circuit. Refer to <u>LAN-85, "BCM Circuit Check"</u>.

						CAN	DIAG SU	PPORT M	INTR						
SELECT SYSTE	FM screen	Initial	Transmit	Receive diagnosis											
02220101012		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_		UNKWN	UNKW		
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_	UNKWN	_		
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	-	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNK WN	_	-	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		_	_	CAN CIRC 5	CANCAC 2	1	CAN CIRC 4	_	CAN CIR		
всм	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_	_	UNKW		
ABS	_	NG	UNKWN	UNKWN	UNKWN		_	-	-	UNKWN	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNK WN	_	_	_	_		



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Case 14
Check data link connector circuit. Refer to <u>LAN-86</u>, "<u>Data Link Connector Circuit Check"</u>.

		1				CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	EM screen	Initial	Transmit					Receive	diagnosis				
02220101012	IN SOICCIT		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	_	1	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_	UNKW
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_

/////.: Malfunctioning part Steering Data link Front air angle connector control sensor CAN H CAN L ABS actuator and ICC ICC Driver seat Combination Display ECM TCM BCM IPDM E/R electric unit (control unit) unit control unit control unit sensor meter PKIA8813E

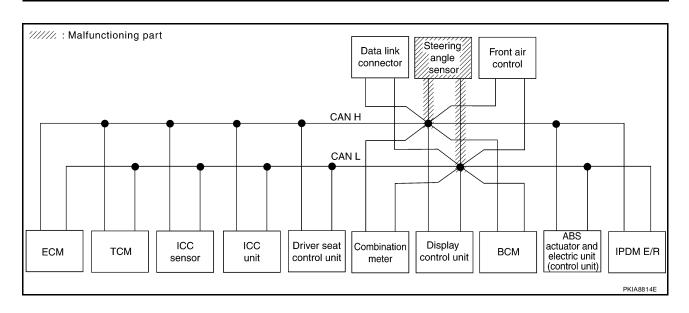
CAN SYSTEM (TYPE 2)

[CAN]

Case 15

Check steering angle sensor circuit. Refer to <u>LAN-86</u>, "Steering Angle Sensor Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	FM screen	Initial	Transmit					Receive	diagnosis				
02220101012	_III 0010011		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	-	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	1	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	UNKWI
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNK W N	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_



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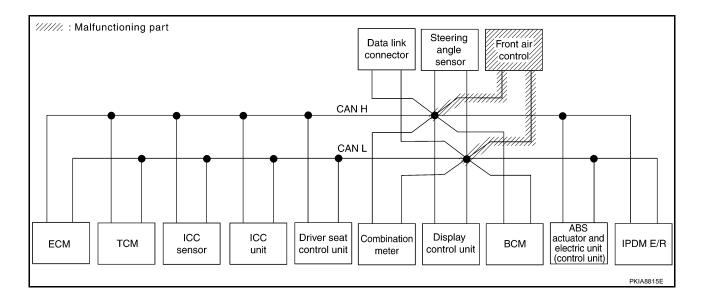
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Case 16
Check front air control circuit. Refer to <u>LAN-87</u>, "Front Air Control Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
02220101011	LIVI GOLGOLI		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	-	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	1	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CANOTRC 4	_	CAN CIR
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	1	_	_	UNKW
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN		_	_	_



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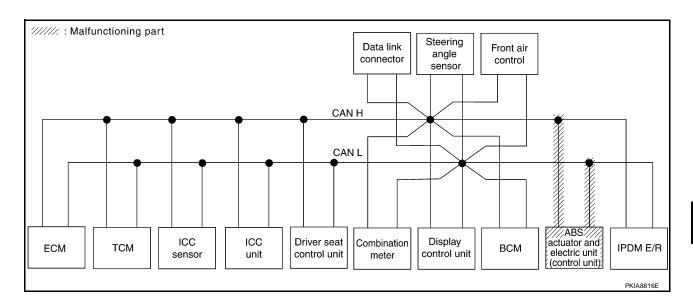
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Case 17

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-87</u>, "ABS Actuator and <u>Electric Unit</u> (Control Unit) Circuit Check" .

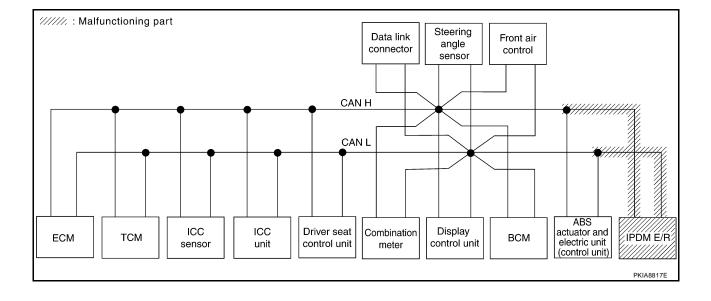
						CAN	DIAG SU	PPORT M	1NTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
OLLLOT GTOTE	_IW SOICCIT	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	_ 	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	UNKWN	UNKWN	UNKWN	-	1	UNK WN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	1	UNKWN	UNKWN	ı	-	-	UNK WN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	-	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	1	1	UNKWN	UNKWN	_	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	_	_	_	UNKW
ABS	_	N/E	UNK WN	UNK W N	UNK WN	_	_	_	_	UNK WN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_



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Case 18
Check IPDM E/R circuit. Refer to LAN-88, "IPDM E/R Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	EM screen	Initial	Transmit					Receive of	diagnosis				
	LIVI SCICCII	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	-	_	UNKWN	υν κ (ΜΙ
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	-	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	ı	UNKWN	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	1	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	-	CANCAC
всм	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	-	UNK
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_



CAN SYSTEM (TYPE 2)

[CAN]

Case 19

Check CAN communication circuit. Refer to <u>LAN-88</u>, "CAN Communication Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
OLLLOT GTOTE	IN SOICCII	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	UNKWN	IPDM E/R
ENGINE	_	NG	UNI W WN	_	n иk {\mathbb{M}} Μ	_	UNI W WN	UNK WN	UNI WN	_	_	n ık {\w}ν	UN K ₩
A/T	-	NG	UNKWN	UNK WN	_	_	UN K ₩N	Ω ΝΚ ⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄⁄	ı	_	_	Π Μ ΜΝ	_
ICC	_	NG	Ω ΝΚ ⁄⁄⁄⁄/(WN	Ω ΝΚ ΜΝ	UN K ₩N	UN K ₩N	_	_	UNK WN	_	_	UN K ₩N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	_	_	_	CANORC 5	CANORC 2	_	CANCAC 4	-	CANCAC
всм	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	-	_	UNKW
ABS	_	W	Ω ΝΚ ⁄⁄⁄⁄/(WN	UNK WN	UNK W N	-	_	_	-	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_

Case 20

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to $\underline{\text{LAN-89, "IPDM E/R Ignition Relay Circuit Check"}}$.

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTE	=M screen	Initial	Transmit					Receive	diagnosis				
OLLLOT GTOTI	_IW SOICCIT	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	UNKWN	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNK WN	ı	UNKWN	UNKWN	UNKWN	_	_	UNK WN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	_	-	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	NN WN	UNKWN	ı	ı	UNKWN	_	1	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	Ω ΝΚ ,ΜИ	_	-	UNKWN	UNKWN	-	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	ı	UNKWN	1	_	-	_	UNKW
ABS	_	NG	UNKWN	UNKWN	UNKWN	-		-	1	UNKWN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_

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Case 21

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-89</u>, "IPDM E/R Ignition Relay Circuit Check" .

						CAN	DIAG SU	PPORT M	INTR				
SELECT SYSTI	=M screen	Initial	Transmit					Receive	diagnosis				
022207 0707	ZIVI GOTGOTI	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNK WN	_	_	UNK WN	Ω ΝΚ ,((N)	_	-	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	-	_	UNK W N	-	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_	_

Circuit Check Between TCM and ICC Sensor

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1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 12 (W)

: Continuity should exist.

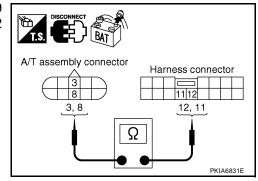
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

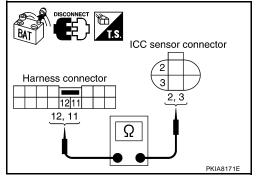
- 1. Disconnect ICC sensor connector.
- Check continuity between harness connector E19 terminals 12 (W), 11 (R) and ICC sensor connector E42 terminals 2 (W), 3 (R).

12 (W) - 2 (W) : Continuity should exist. 11 (R) - 3 (R) : Continuity should exist.

OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-55, "Work Flow" .

NG >> Repair harness.



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Circuit Check Between ICC Sensor and ICC Unit

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ICC sensor connector and harness connector E34.
- Check continuity between ICC sensor connector E42 terminals 2 (W), 3 (R) and harness connector E34 terminals 24 (W), 23 (R).

2 (W) - 24 (W) 3 (R) - 23 (R)

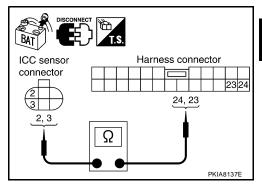
: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG

>> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ICC unit connector.
- 2. Check continuity between harness connector B40 terminals 24 (W), 23 (R) and ICC unit connector B13 terminals 14 (W), 5 (R).

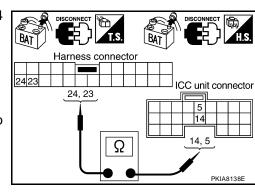
24 (W) - 14 (W) 23 (R) - 5 (R)

: Continuity should exist. : Continuity should exist.

OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-55, "Work Flow" .

NG >> Repair harness.



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Circuit Check Between ICC Unit and Driver Seat Control Unit

1. CHECK CONNECTOR

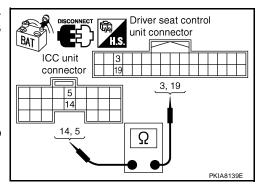
- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ICC unit connector and driver seat control unit connector.
- Check continuity between ICC unit connector B13 terminals 14 (W), 5 (R) and driver seat control unit connector P2 terminals 3 (W), 19 (R).

14 (W) - 3 (W) : Continuity should exist. 5 (R) - 19 (R) : Continuity should exist.

OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-55, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS001N9

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

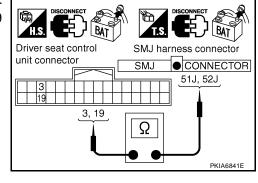
2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 51J (W) : Continuity should exist. 19 (R) - 52J (R) : Continuity should exist.

OK or NG

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



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3. CHECK HARNESS FOR OPEN CIRCUIT

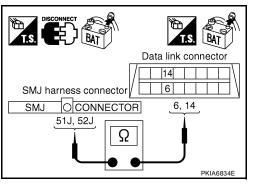
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

51J (W) - 6 (W) : Continuity should exist. 52J (R) - 14 (R) : Continuity should exist.

OK or NG

OK \rightarrow Connect all the connectors and diagnose again. Refer to <u>LAN-55, "Work Flow"</u>.

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect the negative battery terminal.

3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).

Harness connector M31

Harness connector E152

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector M31.

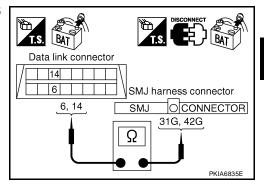
 Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

> 6 (W) - 31G (W) : Continuity should exist. 14 (R) - 42G (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Disconnect IPDM E/R connector.

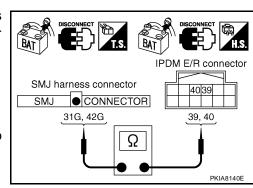
 Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 19 (W), 40 (R).

> 31G (W) - 39 (W) : Continuity should exist. 42G (R) - 40 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-55, "Work Flow".

NG >> Repair harness.



Revision: August 2007 LAN-81 2004 QX56

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ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

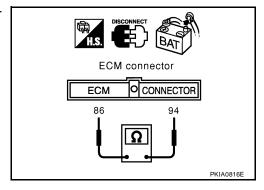
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector E16 terminals 94 (W) and 86 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



TCM Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

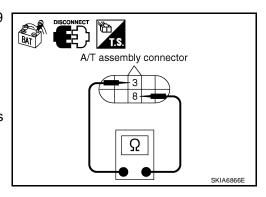
: Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace control valve with TCM.

>> Repair harness between A/T assembly and harness connector F33.



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ICC Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ICC 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

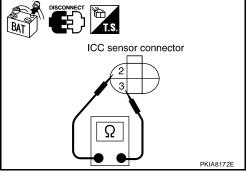
- Disconnect ICC sensor connector.
- Check resistance between ICC sensor harness connector E42 terminals 2 (W) and 3 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ICC sensor.

NG >> Repair harness between ICC sensor and harness connector E34.



ICC Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ICC 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

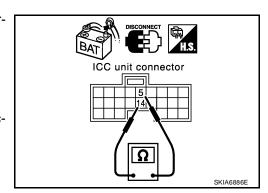
- Disconnect ICC unit connector.
- Check resistance between ICC unit harness connector B13 terminals 14 (W) and 5 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ICC unit.

NG >> Repair harness between ICC unit and harness connector B69.



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

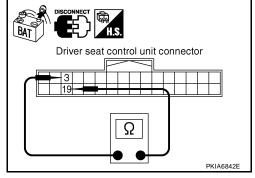
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B69.



UKS001NE

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

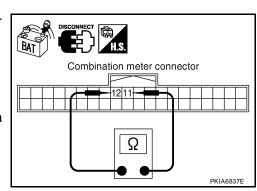
11 (W) - 12 (R)

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.

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



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Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M95 terminals 25 (W) and 26 (R).

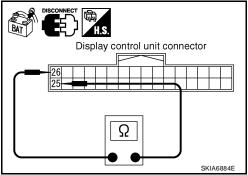
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace display control unit. NG

>> Repair harness between display control unit and data link connector.



BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$2.\,$ check harness for open circuit

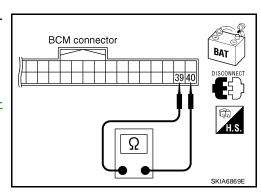
- Disconnect BCM connector.
- Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

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



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

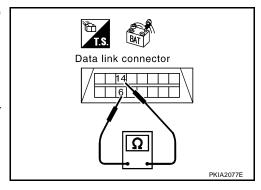
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

6 (W) - 14 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-55</u>, "Work Flow" .

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



Steering Angle Sensor Circuit Check

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1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

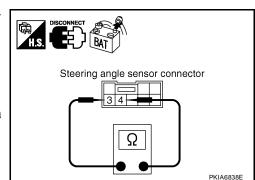
- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M47 terminals 3 (W) and 4 (R).

3 (W) - 4 (R) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace steering angle sensor.

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



Front Air Control Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

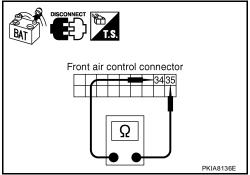
OK or NG

OK

>> Replace front air control.

NG

>> Repair harness between front air control and data link connector.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

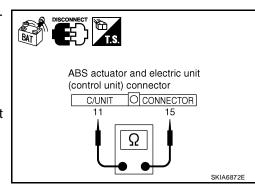
: Approx. 54 - 66 Ω

OK or NG

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

NG

>> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



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IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 108 - 132 Ω

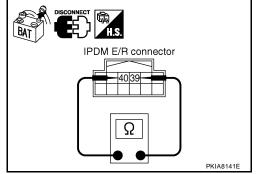
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector E152.



CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- A/T assembly
- ICC sensor
- ICC unit
- Driver seat control unit
- Combination meter
- Display control unit
- BCM
- Steering angle sensor
- Front air control
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

2004 QX56

2. CHECK HARNESS FOR SHORT CIRCUIT

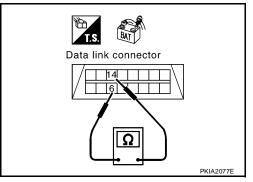
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

> 6 (W) - 14 (R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR SHORT CIRCUIT

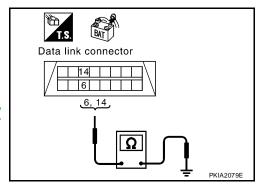
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

> 6 (W) - Ground : Continuity should not exist. 14 (R) - Ground : Continuity should not exist.

OK or NG

OK >> Check ECM and IPDM E/R. Refer to LAN-89, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION" .

NG >> Repair harness.



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IPDM E/R Ignition Relay Circuit Check

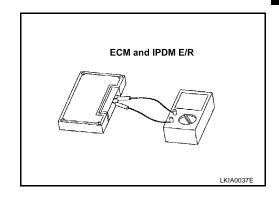
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-27, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START" .

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 3)

PFP:23710

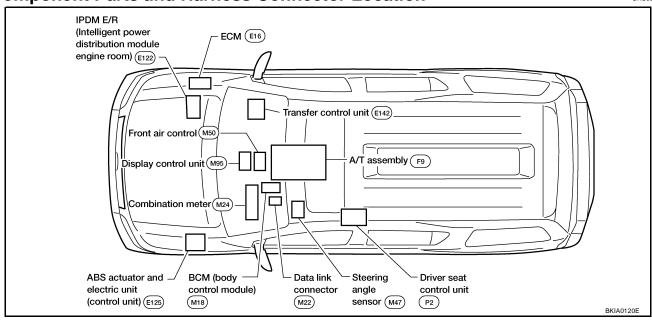
System Description

UKSOOOQY

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

Component Parts and Harness Connector Location

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CAN SYSTEM (TYPE 3)

[CAN]

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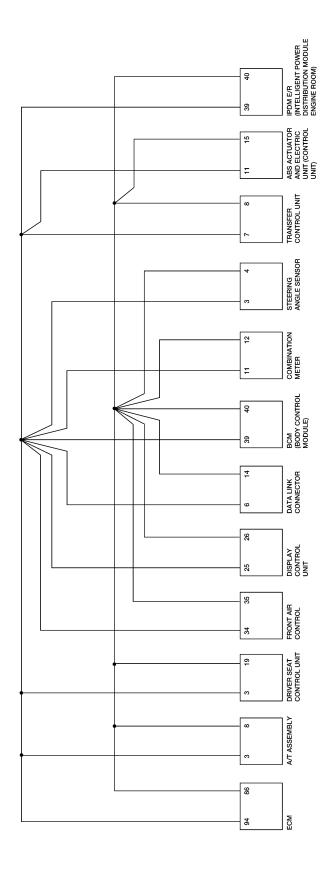
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Schematic



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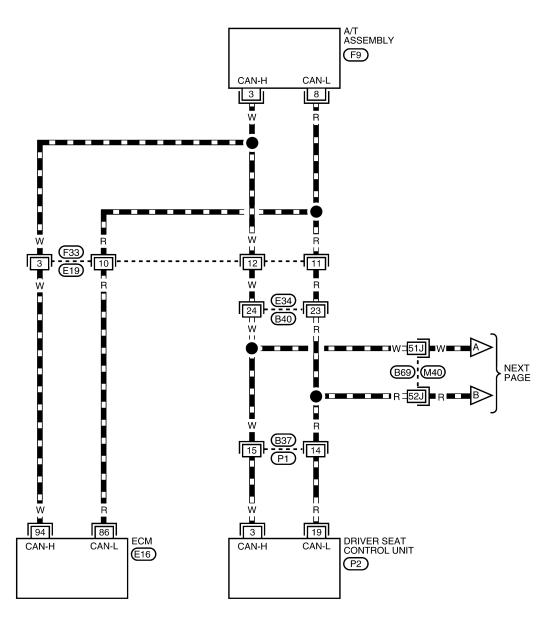
BKWA0001E

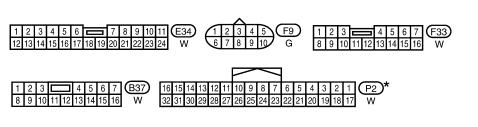
Wiring Diagram - CAN -

IKS000R1

LAN-CAN-07

: DATA LINE





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

REFER TO THE FOLLOWING.

(M40) - SUPER MULTIPLE

JUNCTION (SMJ)

E16 - ELECTRICAL UNITS

BKWA0071E

DATA LINK CONNECTOR

CAN-H

[1]

W

. W

39

CAN-H

R 40

CAN-L

BCM (BODY CONTROL MODULE)

M18

(M22)

14

(M24)

CAN-L

12

STEERING ANGLE SENSOR

6

(M47)

PAGE

PRECEDING ✓B R □

35

CAN-L

FRONT

AIR CONTROL (M50)

34

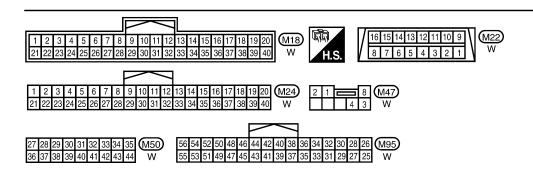
4

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LAN-CAN-08 Α COMBINATION METER ■■■ : DATA LINE В C D Е NEXT PAGE Н

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CAN-L

DISPLAY

CONTROL UNIT

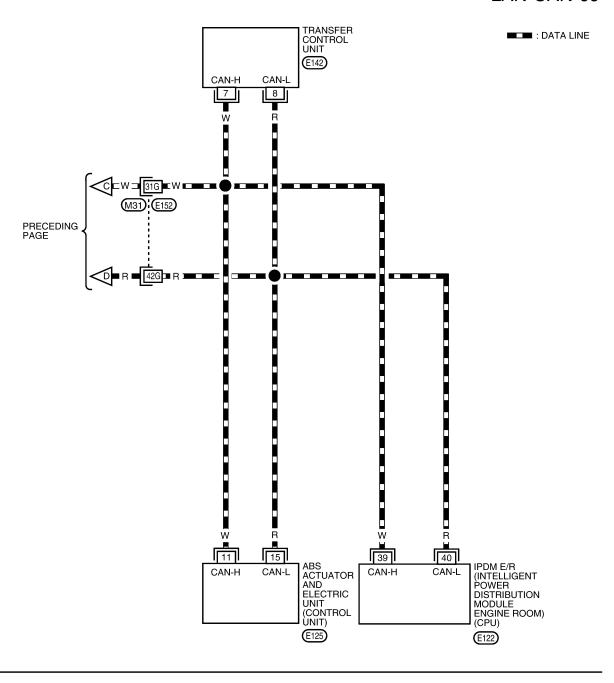
M95

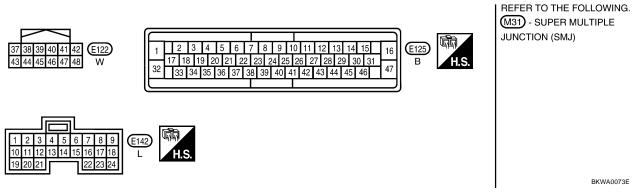
25

CAN-H

BKWA0072E

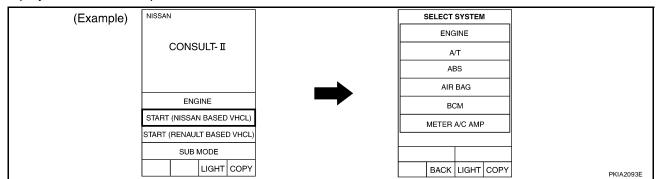
LAN-CAN-09



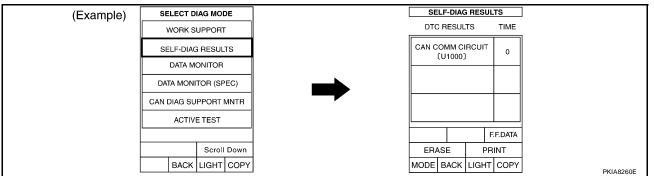


Work Flow

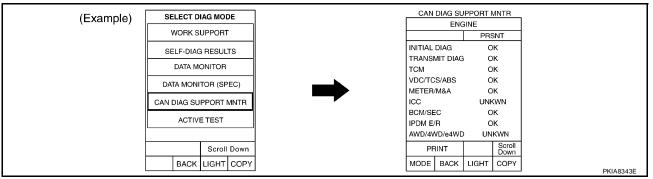
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-97, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG" or "UNKWN" in the check sheet table. Refer to <u>LAN-97</u>, <u>"CHECK SHEET"</u>

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-131</u>, "CAN Communication Line <u>Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-97</u>, <u>"CHECK SHEET"</u>.

LAN

CAN SYSTEM (TYPE 3)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-97</u>, "CHECK SHEET" .

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control unit, replace the control unit. Refer to <u>AV-131</u>, "CAN Communication Line Check" .
- 9. According to the check sheet results (example), start inspection. Refer to LAN-99, "CHECK SHEET RESULTS (EXAMPLE)".

CAN SYSTEM (TYPE 3)

[CAN]

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CHECK SHEET

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

						CAN DIA	G SUPPOF					
SELECT SYSTI	EM screen	Initial	Transmit			T	Red	eive diagn		ALAID (ALAID	I.,,,,,,,,,,	Τ
		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWI
νT	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS	. No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_	_
isplay control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIRC
СМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKW
LL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_
BS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	UNKWN	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_
		s	Attach co	ipy of YSTEM			SELEC	ch copy of	M			
					Attach display co	copy of ontrol unit						

PKIA8067E

Attach copy of ENGINE SELF-DIAG RESULTS

Attach copy of A/T SELF-DIAG RESULTS

Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of BCM SELF-DIAG RESULTS

Attach copy of ALL MODE AWD/4WD 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 AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of BCM CAN DIAG SUPPORT MNTR

Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR

PKIA8068E

CHECK SHEET RESULTS (EXAMPLE)

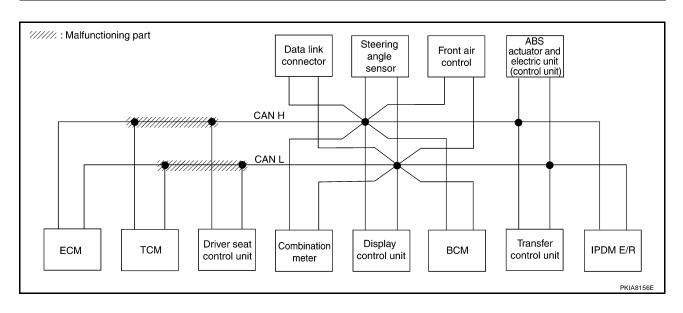
NOTE:

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

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-115</u>, "Circuit Check Between TCM and <u>Driver Seat Control Unit"</u>.

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
02220.0.0.1		diagnosis	diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	- C	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNKWN	_	_	UNKVN	UNK WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNK WN	-	_	_	UNK WN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANATRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	_	_	_	-	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	UNKWN	_	-	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNIKWN	_	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	_	_	_



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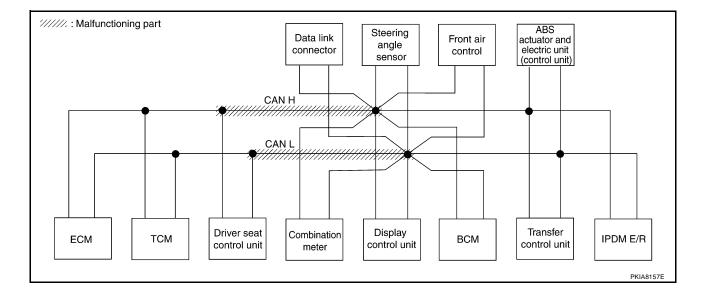
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Case 2
Check harness between driver seat control unit and data link connector. Refer to <u>LAN-116</u>, "Circuit Check

Check harness between driver seat control unit and data link connector. Refer to LAN-116, "Circuit Check Between Driver Seat Control Unit and Data Link Connector".

I						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	1	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	Π ΝΚ ΜΝ	_	_	1	UNK/WN	UNK WN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	-	CAN CIRC
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	-	_	-	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNIKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication		UNKWN	UNK WN	_	_	UNKWN	_	1	-	-	



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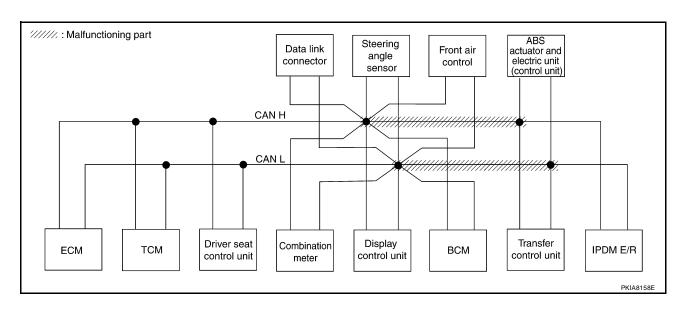
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Case 3

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-117</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

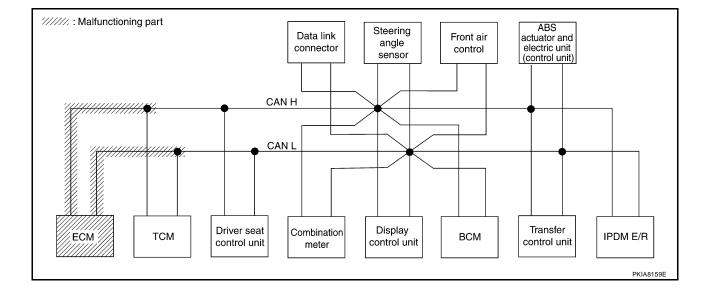
						CAN DIA	G SUPPOF	RT MNTR						
SELECT SYSTE	M screen	Initial	Transmit		Receive diagnosis									
012201 0101	55.55		diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I		
ENGINE	I	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	1	UNKVN	UNKWN	UNK		
A/T	I	NG	UNKWN	UNKWN	ı	UNKWN		_	ı	UNK WN	UNK WN	ı		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	1	ı	1		
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	1	ı	CANORC		
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	1	_	UNION		
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	-	UNKWN	-		
ABS	-	NG	UNKWN	UNK WN	UNIKWN	_	_	UNK WN	_	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	1	_	-		



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Case 4
Check ECM circuit. Refer to <u>LAN-118</u>, "ECM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Red	eive diagn	osis			
0			diagnosis	ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	-	NG	UM W NN	-	UNK WN	UNKWN	UNK WN	-	_	UNKWN	UNK WN	UNKWN
A/T	-	NG	UNKWN	UNIWN	-	UNKWN	_	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_		_
Display control unit	_	CAN COMM	CAN CIRC 1	CANARC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	_	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKVN	_	_	UNKWN	_	_	-	_	_

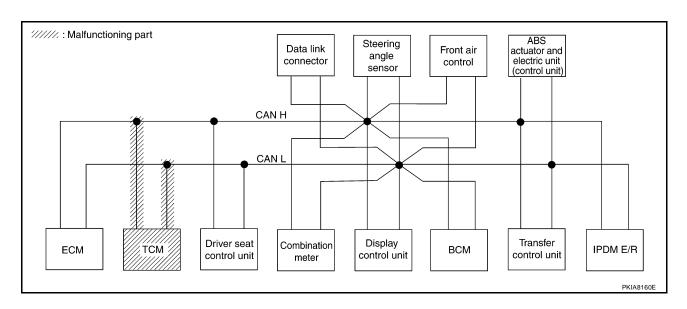


CAN SYSTEM (TYPE 3)

[CAN]

Case 5 Check TCM circuit. Refer to <u>LAN-118</u>, "TCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR						
SELECT SYSTE	M screen	Initial	Transmit		Receive diagnosis									
0222010101	-IN 0010011	diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/		
ENGINE	1	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWN		
A/T	_	NG	UNKWN	UNK/WN	-	UNKWN	_	_	-	UN K WN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	_	_	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIRC		
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN		_	_	-	_	UNKWI		
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_		



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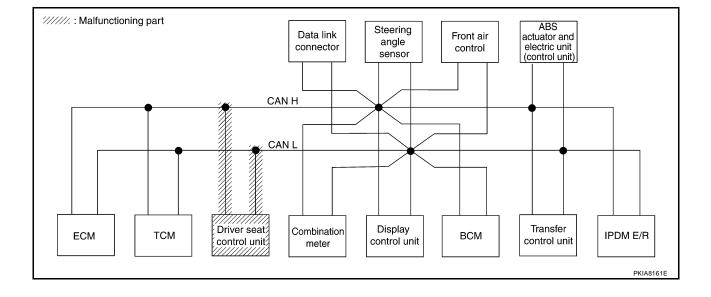
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Case 6
Check driver seat control unit circuit. Refer to <u>LAN-119</u>, "<u>Driver Seat Control Unit Circuit Check</u>" .

						CAN DIA	G SUPPOF	RT MNTR						
SELECT SYSTE	-M screen	Initial	Transmit		Receive diagnosis									
022201 01012	IN SOICCIT		diagnosis	ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWN		
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	_	-	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	-	CAN CIRC		
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	_	_	UNKWN		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_	_		



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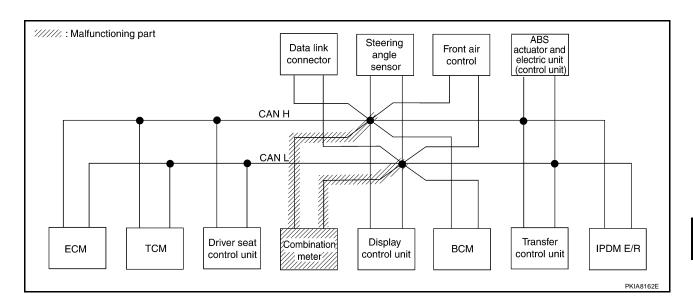
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Case 7
Check combination meter circuit. Refer to <u>LAN-119</u>, "Combination Meter Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR					
SELECT SYSTE	-M screen	Initial	Transmit	Receive diagnosis									
012201 0101		diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNKWN	-	_	UNKWN	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_	-	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CARC 5	CAN CIRC 2	_	CAN CIRC 4	-	-	CAN CIRC	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	-	_	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	_	UNKWN	-	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	-	

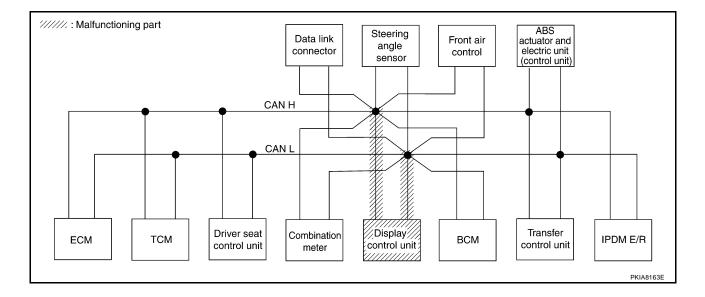


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Case 8
Check display control unit circuit. Refer to <u>LAN-120</u>, "<u>Display Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR							
SELECT SYSTE	-M screen	Initial	Transmit		Receive diagnosis										
OLLLOT GTOTE	IN SOICCIT	diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/			
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWN			
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	UNKWN	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_	_			
Display control unit	_	CAN COMM	CANORC 1	CANA RC 3	_	CAN CARC 5	CANCARC 2	_	CAN CAC 4	_	-	CAN			
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	_	_	UNKWN			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	-	_			

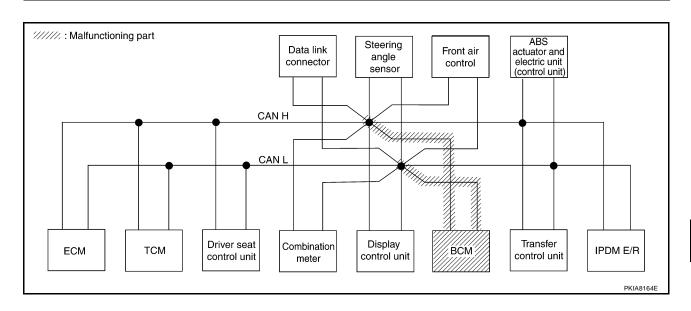


CAN SYSTEM (TYPE 3)

[CAN]

Case 9
Check BCM circuit. Refer to <u>LAN-120</u>, "BCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR					
SELECT SYSTE	-M screen	Initial	Transmit	Receive diagnosis									
00.		diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNK WN	-	_	_	-	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CRC 2	_	CAN CIRC 4	_	-	CAN CIRC	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKWI	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNK WN	-	_	_	_	_	



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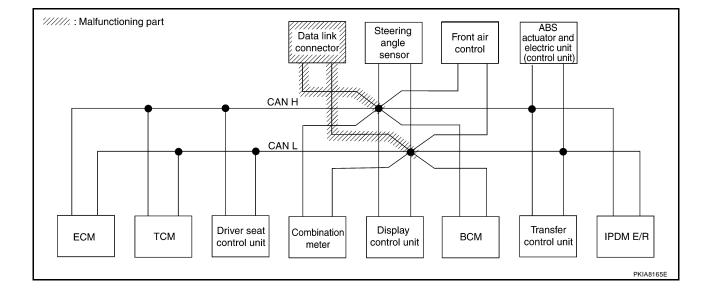
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Case 10
Check data link connector circuit. Refer to <u>LAN-121</u>, "<u>Data Link Connector Circuit Check</u>" .

						CAN DIA	G SUPPOF	RT MNTR					
SELECT SYSTE	-M screen	Initial	Transmit diagnosis	Receive diagnosis									
022201 01012	IN SOICCIT	1		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	_	-	_	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	-	CAN CIRC	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	-	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_	_	



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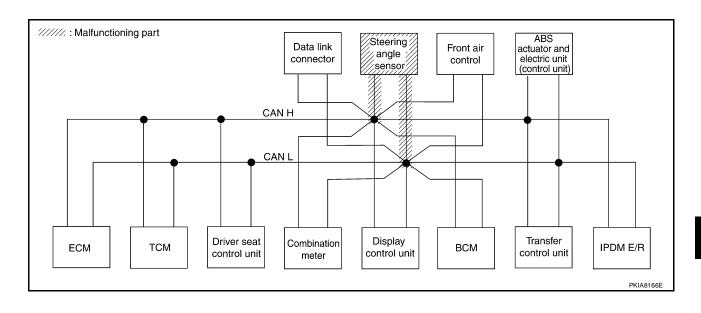
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Case 11

Check steering angle sensor circuit. Refer to <u>LAN-121</u>, "Steering Angle Sensor Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	=M screen	Initial	Transmit				Red	eive diagn	osis			
022201 01011	-W 0010011		diagnosis	ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	-	1	-	ı	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	ı	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	1	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	_	1	_



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Case 12
Check front air control circuit. Refer to <u>LAN-122</u>, "Front Air Control Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
02220101012	-IVI 0010011	diagnosis		ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_	1	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CAC 4	-	1	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	-	_

/////: Malfunctioning part ABS actuator and Steering Data link Front air angle electric unit (control unit) connector control sensor CAN H CAN L Transfer Driver seat Combination Display ECM TCM BCM IPDM E/R control unit control unit control unit meter PKIA8167E

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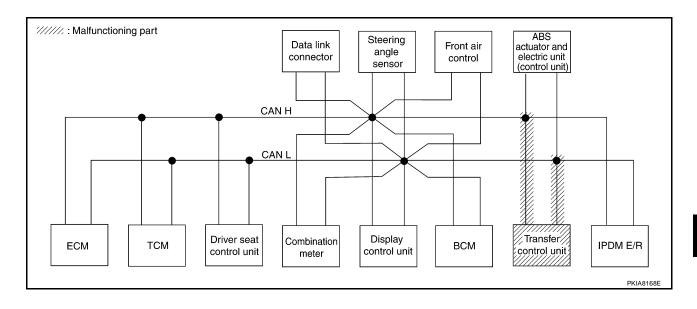
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Case 13
Check transfer control unit circuit. Refer to <u>LAN-122</u>, "<u>Transfer Control Unit Circuit Check</u>" .

ı						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Red	eive diagn	osis			
	-IVI 0010011		diagnosis	ECM	тсм	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNK WN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNIOWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	-	CAN CIRC
всм	No indication	NG	UNKWN	UNKWN		UNKWN	_	_	_	_	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNK/WN	UNKVN	_	-	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN		_	UNKWN	_	_	_	_	_

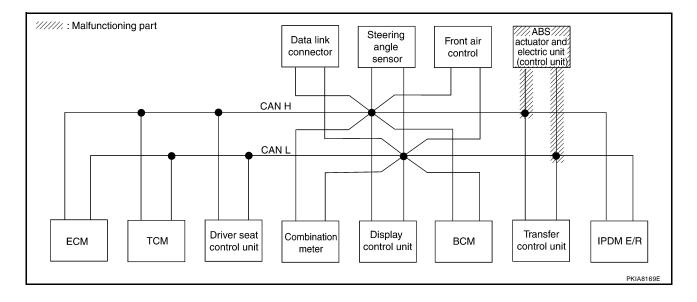


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Case 14

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-123</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

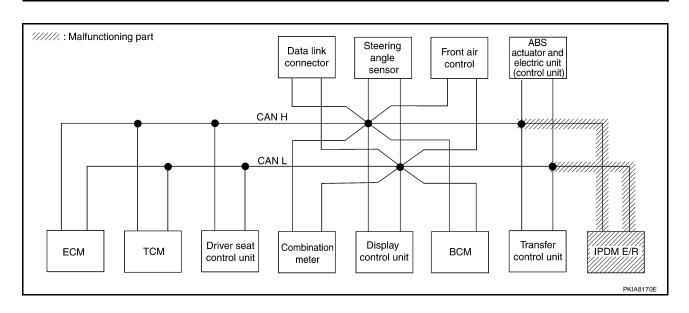
						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
0		diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	1	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	_	_	_	UNKWN	UNK WN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	-	_	_	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	-	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_
ABS	_	rve	UNKWN	UNKWN	UNK WN	_	_	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_



Case 15

Check IPDM E/R circuit. Refer to LAN-123, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
022201 01012	-IN 0010011	diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	I	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	1	UNKWN	UNKWN	UNKVN
A/T	I	NG	UNKWN	UNKWN	ı	UNKWN		_	ı	UNKWN	UNKWN	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	1	1	-	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	1	-	CAN CA C
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	-	1	_	UNK
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	-	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	1	1	_	-



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Case 16

Check CAN communication circuit. Refer to <u>LAN-124</u>, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
012207 0701				ECM	тсм	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNK W N	1	UNKWN	UNK WN	UNK WN	-	_	UNKWN	UNK WN	UNK W I
A/T	_	NG	UNKWN	UNI WN	_	UNKWN	_	_	_	UNKWN	UNIONN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	-	_	1	_	_
Display control unit	_	CAN COMM	CANATRC 1	CANVIRC 3	_	CAN CAC 5	CAN CAC 2	-	CAN CARC 4	-	_	CAN CAR
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	-	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNIXWN	UNKWN	UNKWN	_	_	-	_	_	UNK WN	_
ABS	_	N€	UNIMN	UNIWN	UNIWN	_	_	UNKWN	_	UNKVN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-124, "IPDM E/R Ignition Relay Circuit Check"</u> .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit				Rec	eive diagn	osis			
022201 01012	-IN 0010011	diagnosis	diagnosis	ECM	ТСМ	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK/VN	UNKWN	UNKWN	ı	ı	UNKWN	UNK WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	ı	I	ı	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	I	1	ı	ı	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	ı	CAN CIRC 4	I	I	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	ı	ı	ı	ı	ı	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	1	UNKWN	_
ABS		NG	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	1	UNKWN	ı	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_

Case 18

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-124, "IPDM E/R Ignition Relay Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTE	M screen	Initial	Transmit				Red	eive diagn	osis			
02220101012	-IN 0010011	diagnosis		ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	UNK WN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	1	-	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	1	-	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	1	_	UNKWN
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	-	UNKWN	-
ABS	-	NG	UNKWN	UNIKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	-	1	_	-

Circuit Check Between TCM and Driver Seat Control Unit

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 12 (W)

: Continuity should exist.

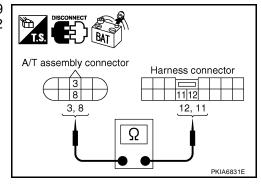
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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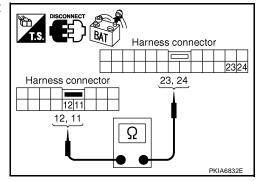
3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector E34.
- Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E34 terminals 24 (W), 23 (R).

12 (W) - 24 (W) : Continuity should exist. 11 (R) - 23 (R) : Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

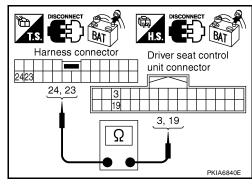
- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and driver seat control unit harness connector P2 terminals 3 (W), 19 (R).

24 (W) - 3 (W) : Continuity should exist. 23 (R) - 19 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to $\underline{LAN-95}$, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0019X

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

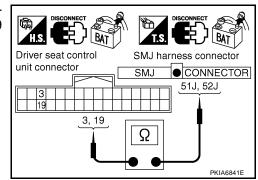
2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 51J (W) : Continuity should exist. 19 (R) - 52J (R) : Continuity should exist.

OK or NG

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



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3. CHECK HARNESS FOR OPEN CIRCUIT

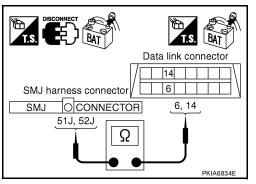
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

> 51J (W) - 6 (W) : Continuity should exist. 52J (R) - 14 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-95, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

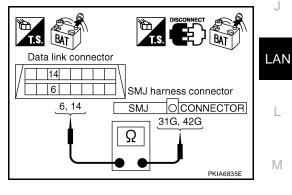
- Disconnect harness connector M31.
- Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

6 (W) - 31G (W) : Continuity should exist. 14 (R) - 42G (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

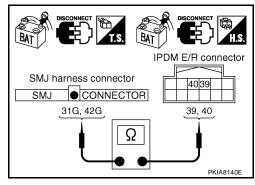
- Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

31G (W) - 39 (W) : Continuity should exist. 42G (R) - 40 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-95, "Work Flow" .

NG >> Repair harness.



LAN-117 Revision: August 2007 2004 QX56

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

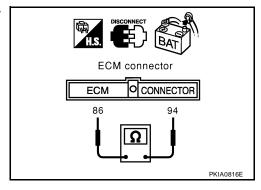
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector E16 terminals 94 (W) and 86 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

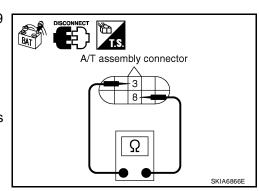
: Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace control valve with TCM.

>> Repair harness between A/T assembly and harness connector F33.



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

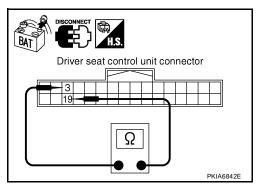
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B69.



UKS001A2

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

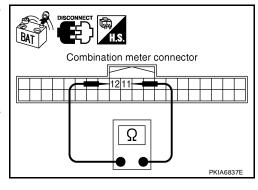
: Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace combination meter.

>> Repair harness between combination meter and data link connector.



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Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

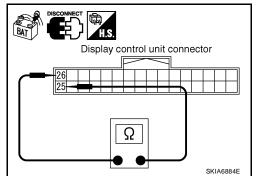
OK or NG

OK >>

>> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



BCM Circuit Check

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1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

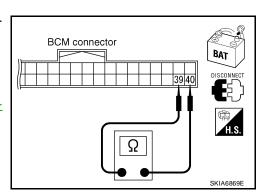
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-19</u>, "Removal and Installation of BCM" .

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



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

2. Disconnect the negative battery terminal.

3. Check the terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

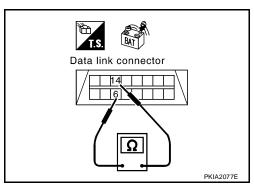
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

6 (W) - 14 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-95, "Work Flow"

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



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect the negative battery terminal.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.

Check resistance between steering angle sensor harness connector M47 terminals 3 (W) and 4 (R).

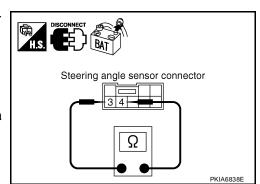
3 (W) - 4 (R) : Approx. **54 - 66**
$$\Omega$$

OK or NG

NG

OK >> Replace steering angle sensor.

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



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Front Air Control Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

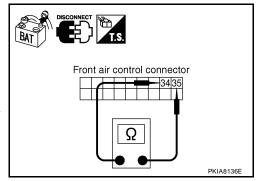
OK or NG

OK

>> Replace front air control.

NG

>> Repair harness between front air control and data link connector.



Transfer Control Unit Circuit Check

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1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

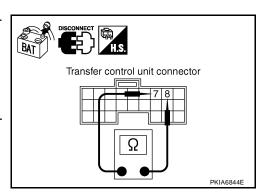
OK or NG

OK >> R

>> Replace transfer control unit.

NG

>> Repair harness between transfer control unit and harness connector E152.



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ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

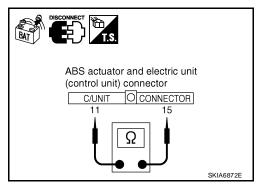
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

: 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 harness connector E152.



IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

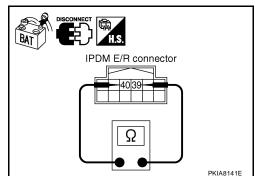
: **Approx.** 108 - 132 Ω

OK or NG

NG

OK >> Replace IPDM E/R.

>> Repair harness between IPDM E/R and harness connector E152.



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- **ECM**
- A/T assembly
- Driver seat control unit
- Combination meter
- Display control unit
- **BCM**
- Steering angle sensor
- Front air control
- Transfer control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

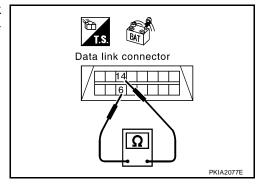
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

> 6 (W) - 14 (R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. check harness for short circuit

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

> **6 (W) - Ground** : Continuity should not exist.

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

OK or NG

OK >> Check ECM and IPDM E/R. Refer to LAN-125, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION" .

NG >> Repair harness.

Data link connector 6 ر14 ,6 PKIA2079E

IPDM E/R Ignition Relay Circuit Check

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

- IPDM E/R power supply circuit. Refer to PG-27, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START"

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CAN SYSTEM (TYPE 3)

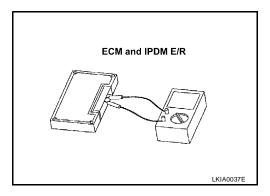
[CAN]

UKS001AD

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 4)

PFP:23710

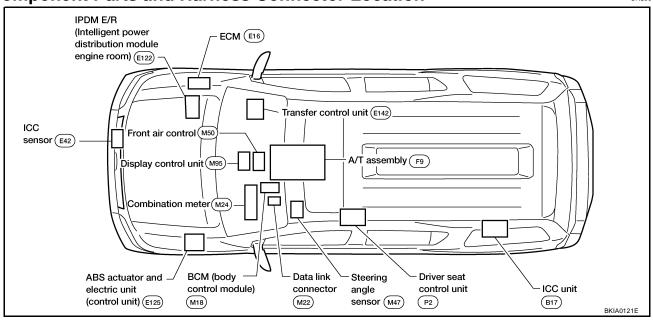
System Description

UKS001NP

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

UKS001NQ



CAN SYSTEM (TYPE 4)

[CAN]

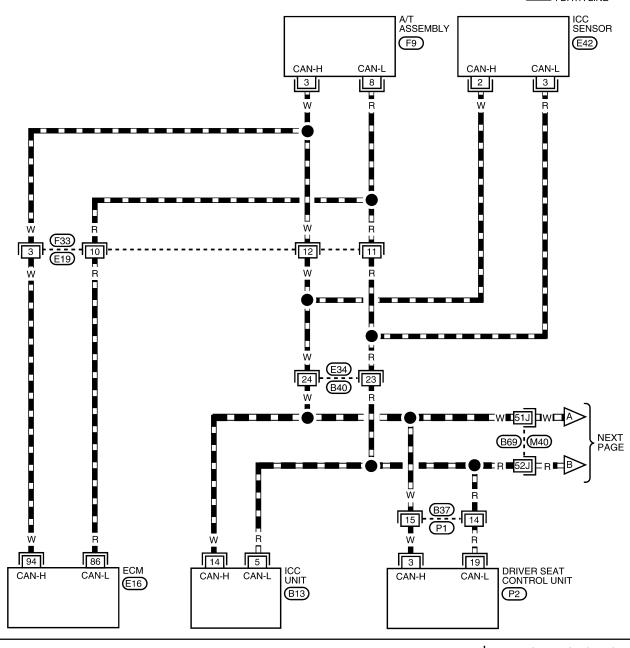
Schematic UKS001NR Α IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 40 В 33 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) С 15 D TRANSFER CONTROL UNIT Е STEERING ANGLE SENSOR F COMBINATION S 12 G BCM (BODY CONTROL MODULE) 40 Н 33 14 56 DISPLAY CONTROL UNIT 22 LAN 35 FRONT AIR CONTROL 34 DRIVER SEAT CONTROL UNIT 19 M ICC UNIT 4 ICC SENSOR A/T ASSEMBLY 98 ECM BKWA0067E

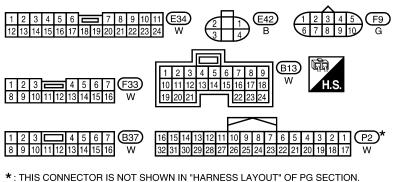
LAN-127 Revision: August 2007 2004 QX56 Wiring Diagram - CAN -

JKS001NS

LAN-CAN-10

: DATA LINE





REFER TO THE FOLLOWING. $\boxed{\text{M40}}$ - SUPER MULTIPLE

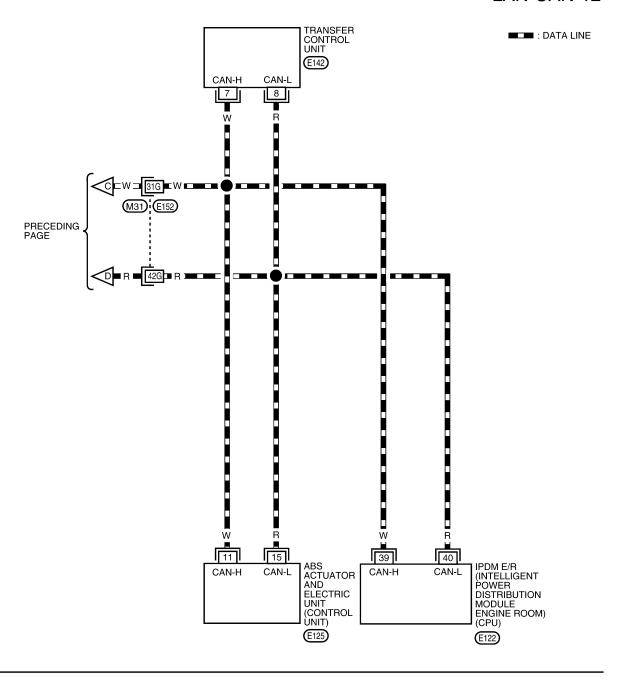
JUNCTION (SMJ)
(E16) - ELECTRICAL UNITS

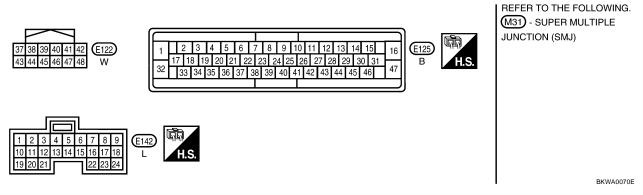
BKWA0582E

LAN-CAN-11 Α DATA LINK CONNECTOR COMBINATION METER **STEERING** ■□■ : DATA LINE ANGLE SENSOR (M24) В (M47) (M22) CAN-H CAN-L CAN-H CAN-L [11] 12 6 14 C W W w D Е PAGE NEXT PAGE Н W LAN w R 26 39 35 25 40 BCM (BODY CONTROL MODULE) DISPLAY CONTROL UNIT FRONT CAN-L CAN-H CAN-L CAN-H CAN-L CAN-H AIR CONTROL (M50) (M95) M (M18) 16 15 14 13 12 11 10 9 (M22) M₁₈ 8 7 6 5 4 3 2 1 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 M24 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 (M50)

BKWA0069E

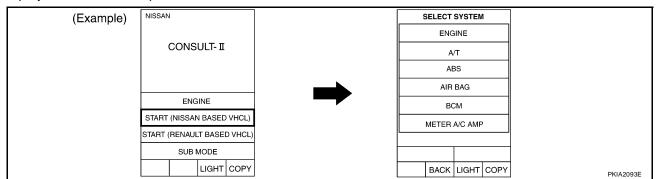
LAN-CAN-12



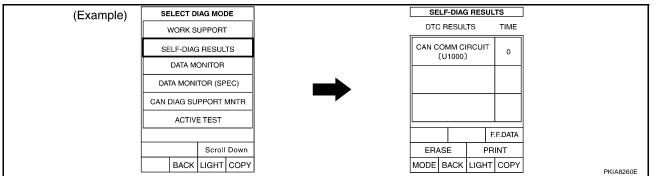


Work Flow

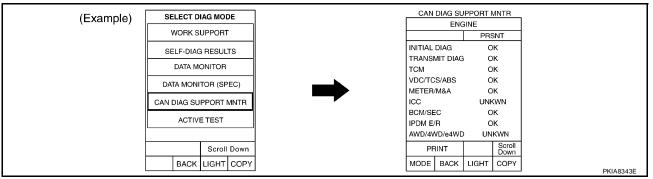
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-133, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG" or "UNKWN" in the check sheet table. Refer to LAN-133, "CHECK SHEET" .

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-131</u>, "CAN Communication Line <u>Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-133</u>, <u>"CHECK SHEET"</u> .

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CAN SYSTEM (TYPE 4)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to LAN-133, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control unit, replace the control unit. Refer to AV-131, "CAN Communication Line Check" .
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-135, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CAN SYSTEM (TYPE 4)

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CHECK SHEET

NOTE:

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

							CAN DIAG	SUPPO	RT MNT	₹				
SELECT SYST	EM screen	Initial	Transmit					Re	ceive dia	gnosis				
	- IVI GOLGOLI	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWI
VT	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
CC	-	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	-	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_	_	_
			Attach copy of SELECT SYSTEM SELECT SYSTEM											
				CAN DIA	dis	Attach co play cont PORT Mo	trol unit	check sh	neet					

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PKIA8111E

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of A/T SELF-DIAG RESULTS	Attach copy of ICC SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	Attach copy of
BCM	ALL MODE AWD/4WD	ABS	IPDM E/R
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of A/T CAN DIAG SUPPORT MNTR	Attach copy of ICC CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	Attach copy of
BCM	ALL MODE AWD/4WD	ABS	IPDM E/R
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR

CHECK SHEET RESULTS (EXAMPLE)

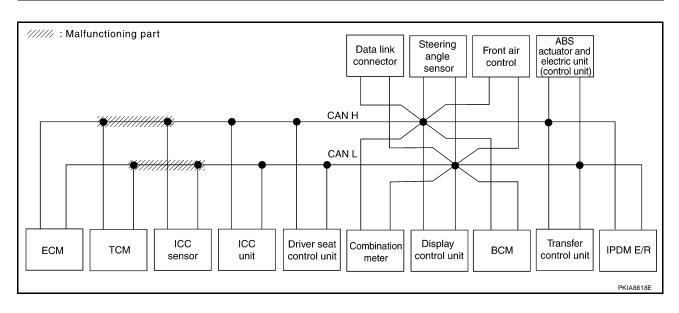
NOTE:

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

Case 1

Check harness between TCM and ICC sensor. Refer to <u>LAN-155</u>, "Circuit Check Between TCM and ICC Sensor" .

						C	AN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis	_			
OLLLOT GTOTE		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK WN	UNK WN	UNK WN	_	_	UNK VN	UNK V N	UNI WI
A/T	_	NG	UNKWN	UNKWN	_	_	UNK WN	UNK N N	_	_	_	UN WN	∩ NK WN	_
ICC		NG	UNKWN	UN K ₩N	UNK WN	UNKWN	-	-	UNKWN	_	_	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNK W N	_	-	UNKWN	UNKWN	_	_	1	1	_
Display control unit	1	CAN COMM	CAN CIRC 1	CANCAC 3	ı	_	ı	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	ı	1	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNK WN	-	_	1	UNKWN	1	_	_	1	1	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UMWN	UNI WN	_		_	_	_	_	ı	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNI WN	_	_	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_	_	_	_



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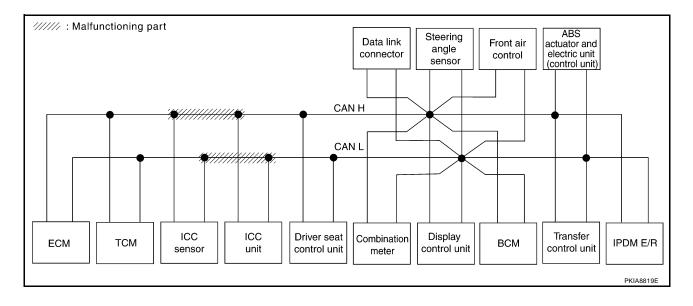
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Case 2
Check harness between ICC sensor and ICC unit. Refer to <u>LAN-156, "Circuit Check Between ICC Sensor and ICC Unit"</u>.

						C	CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT GTOTI		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK ₩N	UNK W N	ΠΝΚ ₩Ν	_	-	UNK VN	UNK N N	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNK WN	UNK A N	_	_	-	UNK WN	UNK WN	_
ICC	_	NG	UNKWN	UNK W N	UNKWN	υ ικ ⁄⁄νν	_	_	UNKWN	_	-	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	-	UNKWN	UNKWN	_	-	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANCAC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNK W N	_	_	1	UNKWN	_	_	-	1	-	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNI WN	_	_	-	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	NAMAN	_	_	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKVN	_	_	_	_	UNKWN	_	_	_	_	_



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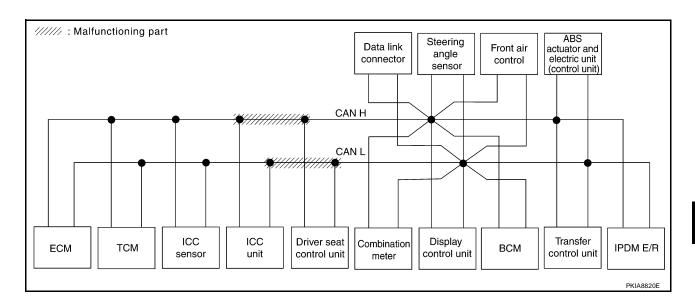
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Case 3

Check harness between ICC unit and driver seat control unit. Refer to <u>LAN-157</u>, "Circuit Check Between ICC <u>Unit and Driver Seat Control Unit"</u>.

		ĺ				C	CAN DIAG	SUPPO	RT MNTF	}				
SELECT SYSTE	-M screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLLO1 GTGTL		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	Ω ΝΚ ⁄ΜΝ	NNK WN	_	_	UN K ₩N	UNK WN	UNWWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNK W N	_	_	_	UN W WN	Π ΛΚ ΜΝ	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	_	_	_	Π ИΚ ΜИ	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	∩ NK WN	_	_	UNKWN	UNKWN	-	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	Ω ΝΚ (ΜΝ	1	_	1	UNKWN	-	_	_	-	_	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNIONN	UNKWN	_		_	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNIVAN	_	_	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_

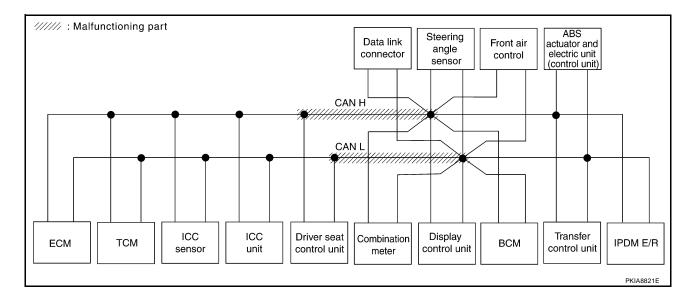


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Case 4

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-157</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						C	CAN DIAG	SUPPO	RT MNTF	}				
SELECT SYSTI	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT OTOTI		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNK WN	UNIWN	_	-	UNKVN	UNKVN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNK A NN	_	_	-	UNK WN	UNK ₩N	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	Ω ΝΚ ⁄⁄⁄⁄/ΝΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	-		-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	-	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNK/WN	_	_	1	UNKWN	1	_	-	-	1	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	UNI WN	_	_	-	_	_	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNI WN	_	_	_	_	UNKWN	-	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKAN	_	_	_	-	UNKWN	_	_	_	_	_



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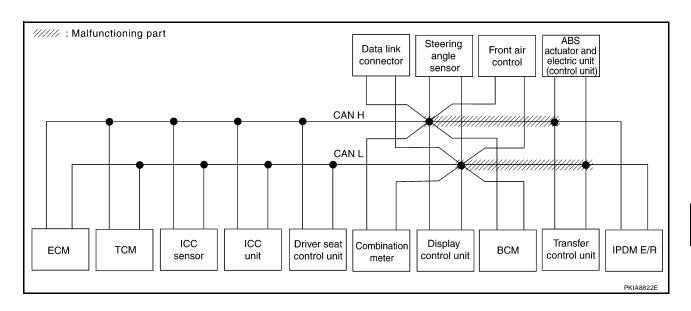
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Case 5

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-158</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

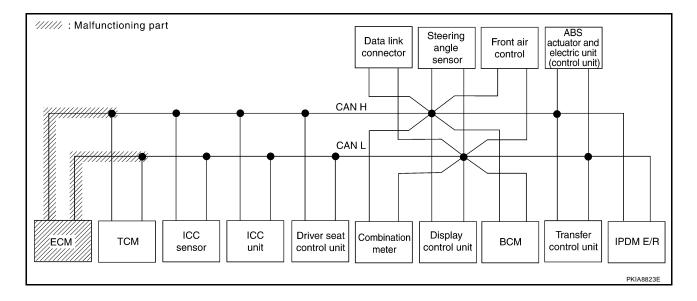
						C	CAN DIAG	SUPPO	RT MNTF	}				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	-	UNK V N	UNK W N	UNK/W
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	1	Ω ΝΚW N	UNK N N	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	-	Π ИΚ ΜИ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	1	UNKWN	UNKWN	_	1	1	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CANORO
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	1	UNKWN	-	_	-	1	1	UNION
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNK WN	_	1	_	_	_	1	_	UNKWN	_
ABS	_	NG	UNKWN	UNK VN	UNK WN	_	_	_	_	UNK WN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN UN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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Case 6
Check ECM circuit. Refer to <u>LAN-159</u>, "ECM Circuit Check" .

						C	CAN DIAG	SUPPO	RT MNTF	7				
SELECT SYSTI	-M screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT OTOTI		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	ı	NG	Ω NK WN	ı	Ω NR WN	ı	UNK V N	UNI S WN	UNKWN	ı	ı	UNK WN	UNKVN	UNWWI
A/T	1	NG	UNKWN	UNIXWN	_		UNKWN	UNKWN	_	ı	ı	UNKWN	UNKWN	_
ICC	_	NG	UNKWN	UNK WN	UNKWN	UNKWN	1	ı	UNKWN	1	-	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	_	-	UNKWN	UNKWN	ı	ı	_	ı	_
Display control unit	1	CAN COMM	CAN CIRC 1	CANORC 3	_	I	1	CAN CIRC 5	CAN CIRC 2	ı	CAN CIRC 4	-	ı	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNK WN	_	-	I	UNKWN	-	ı	ı	-	ı	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNIONN	UNKWN	_			_			_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	1	UNKWN	ı	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_	_	_	_

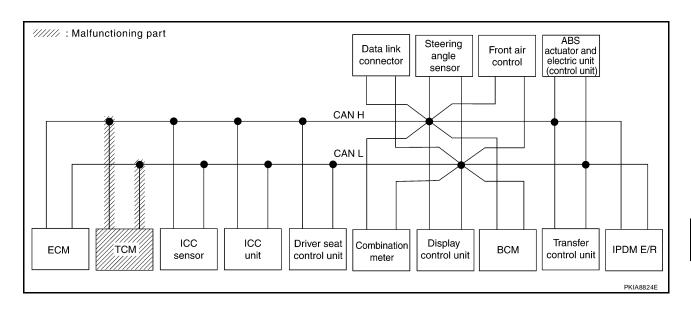


CAN SYSTEM (TYPE 4)

[CAN]

Case 7 Check TCM circuit. Refer to LAN-159, "TCM Circuit Check" .

						C	AN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	-M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	_	Ω ΝΙ ⁄ΜΝ	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKW
A/T	_	NG	UNKWN	UNK WN	_	_	UN K ₩N	UNK WN	_	_	_	UN ∳ WN	Ω ΝΚ ⁄ΝΝ	_
ICC	_	NG	UNKWN	UNKWN	UNK WN	UNKWN	-	_	UNKWN	_	1	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	1	1	UNKWN	UNKWN	_	1	_	1	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	1	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIR
ВСМ	No indication	NG	UNKWN	UNKWN	_	1	1	UNKWN	-	_	1	-	1	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNK WN		_	_	_	_	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	NNN WN	1			_	UNKWN		UNKWN	1	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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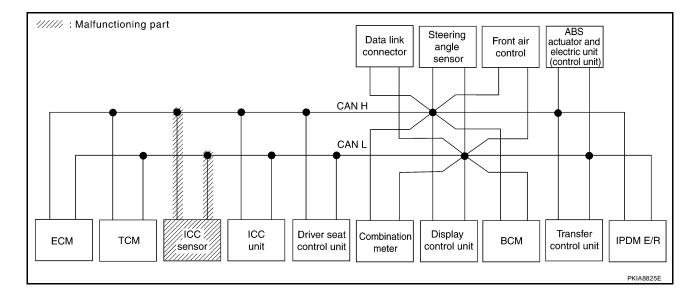
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Case 8
Check ICC sensor circuit. Refer to <u>LAN-160</u>, "ICC Sensor Circuit Check" .

						C	CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTI	=M scroon	Initial	Transmit					Re	ceive dia	gnosis				
OLLEGI GIGII		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	_	_	UNKWN	UNKWN	ı
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNI WN	_	-	UNKWN	-	_	1	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_	-	UNKWN	UNKWN	_	_	1	-	ı
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIF
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	-	-	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	_	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_		UNKWN	_	UNKWN	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_

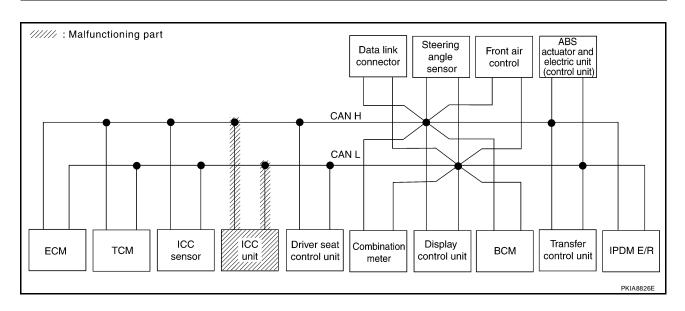


CAN SYSTEM (TYPE 4)

[CAN]

Case 9
Check ICC unit circuit. Refer to <u>LAN-160</u>, "ICC Unit Circuit Check" .

							CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTI	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011	LW GOLCON	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	_	Ω ΝΚ , WN	UNKWN	UNKWN	_	1	UNKWN	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	UNK W N	UNKWN	-	_	-	UNKWN	UNKWN	_
ICC	_	NG	∩ M MN	UNK ∕ WN	n uk wu	UM WN	ı	-	UNK WN	_	1	ı	Ω ΝΚ (ΜΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	1	UNKWN	UNKWN	_	-	1	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	1	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	1	_	-	1	-	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	1	-	-	_	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_		_	_	UNKWN		UNKWN		_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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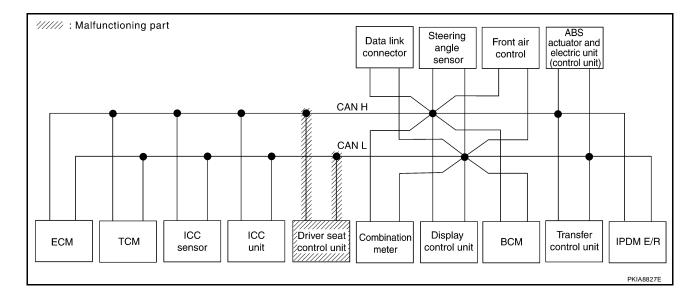
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Case 10
Check driver seat control unit circuit. Refer to <u>LAN-161</u>, "<u>Driver Seat Control Unit Circuit Check</u>" .

						C	AN DIAG	SUPPO	RT MNTF	7				
SELECT SYSTI	=M scroon	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT OTOTI		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	1	_	UNKWN	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIR
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	-	-	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_		_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_	_	_



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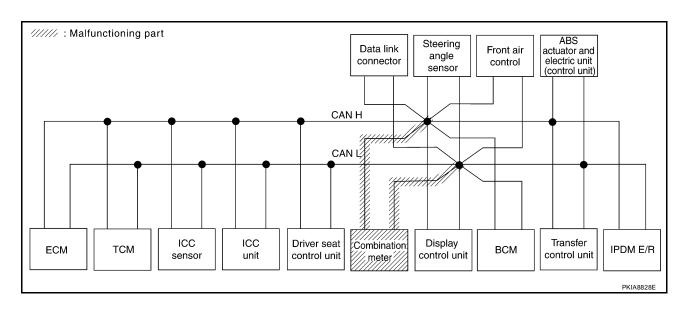
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Case 11
Check combination meter circuit. Refer to <u>LAN-161</u>, "Combination Meter Circuit Check" .

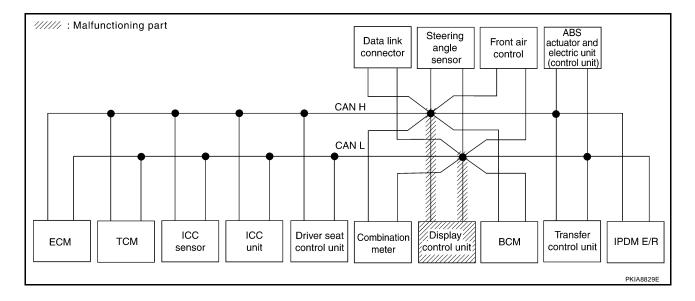
						C	CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	Ω Ν Αγν	UNKWN	_	_	UNKWN	UNKWN	UNKV
A/T	1	NG	UNKWN	UNKWN	_	_	UNKWN	UNK W N	_	_	_	UNKWN	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	ı	-	UNKWN	_	_	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	1	UNK ∕ WN	UNKWN	_	_	-	_	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	1	1	CAN ORC 5	CAN CIRC 2	_	CAN CIRC 4	ı	_	CAN CIF
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	ı	Ω ΝΚ ΛΝ	-	_	_	-	-	UNKV
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNKWN	_	. 1	_	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_			_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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Case 12
Check display control unit circuit. Refer to <u>LAN-162</u>, "<u>Display Control Unit Circuit Check"</u>.

							CAN DIAG	SUPPO	RT MNTF	7				
SELECT SYSTI	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLEGI GIGII		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN		_	UNKWN	UNKWN	UNKW
A/T	-	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	1	_	UNKWN	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	1	UNKWN	-	_	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	-	_	_	_	_
Display control unit	_	CAN COMM	CANCAC 1	CANCEC 3	_	_	_	CANCAC 5	CANCEC 2	_	CANCERC 4	_	_	CANCE
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	-	_	_	-	_	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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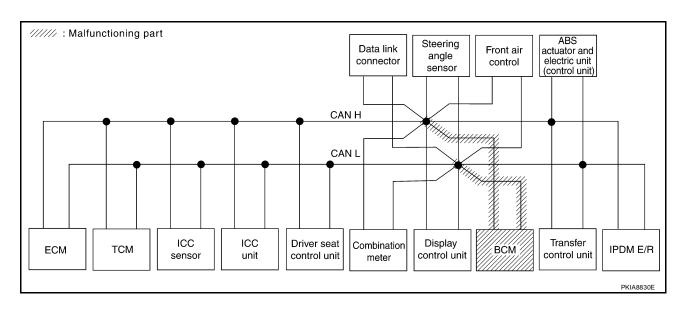
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Case 13
Check BCM circuit. Refer to <u>LAN-162</u>, "BCM Circuit Check" .

						C	CAN DIAG	SUPPO	RT MNTF	3				
SELECT SYSTE	-M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	1	UNKWN	_	UNKWN	UNKWN	UNIXWN	_	1	UNKWN	UNKWN	UNKW
A/T	ı	NG	UNKWN	UNKWN	ı	1	UNKWN	UNKWN	_	_	1	UNKWN	UNKWN	_
ICC	1	NG	UNKWN	UNKWN	UNKWN	UNKWN	1	_	UNKWN	_	ı	ı	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	ı	UNKWN	UNK WN	_	ı	ı	_	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	_	1	CAN CIRC 5	CANCERC 2	_	CAN CIRC 4	-	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	ı	_	ı	UNKWN	-	_	ı	ı	_	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	-	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	ı	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	_	UNK WN	_	_	_	_	_



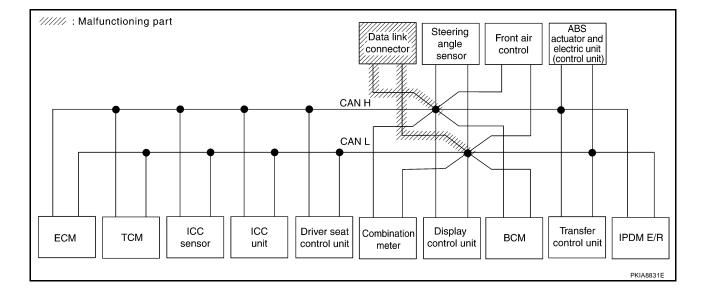
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Case 14
Check data link connector circuit. Refer to <u>LAN-163</u>, "<u>Data Link Connector Circuit Check</u>" .

						C	CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	-M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	UNKW
A/T	-	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN		_	ı	UNKWN	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	1	ı	UNKWN	_	-	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	_	-	UNKWN	UNKWN	-	ı	_	_	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	_	1	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIR
ВСМ	No indication	NG	UNKWN	UNKWN	ı	_	I	UNKWN	ı	_	ı	_	_	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	UNKWN	1	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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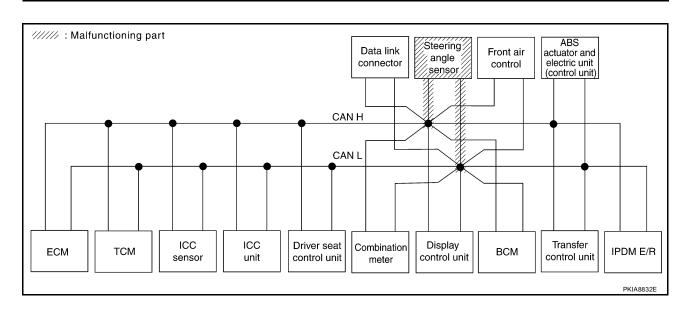
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Case 15

Check steering angle sensor circuit. Refer to <u>LAN-163, "Steering Angle Sensor Circuit Check"</u> .

						C	AN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	ı	NG	UNKWN	ı	UNKWN	ı	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	UNKW
A/T	ı	NG	UNKWN	UNKWN	ı	ı	UNKWN	UNKWN	_	-	ı	UNKWN	UNKWN	ı
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	1	-	UNKWN	UNKWN	_	1	1	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	ı	1	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	_	CAN CIR
ВСМ	No indication	NG	UNKWN	UNKWN	_	1	1	UNKWN	-	_	-	1	-	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	-		_	_	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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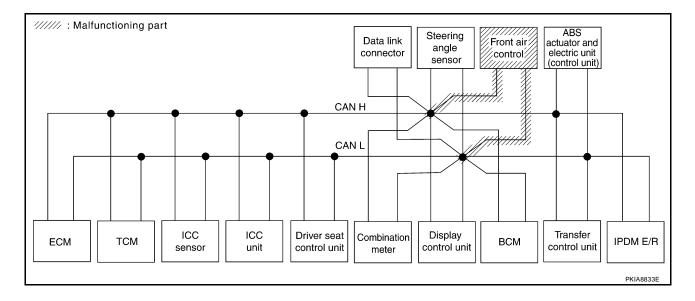
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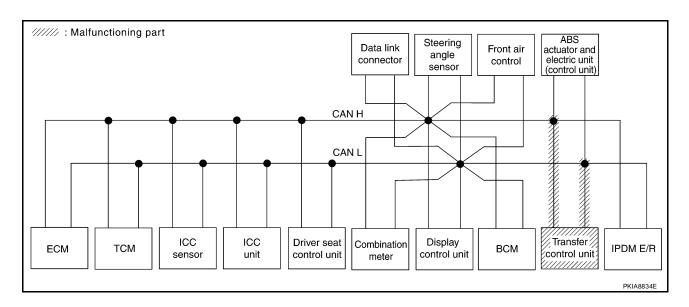
Case 16
Check front air control circuit. Refer to <u>LAN-164</u>, "Front Air Control Circuit Check" .

						C	CAN DIAG	SUPPO	RT MNT	3				
SELECT SYSTI	=M scroon	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT GTOTI		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-	_	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	_	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	-	CANCERC 4	_	-	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	-	İ	UNKWN	_	l	_	_	ı	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	ı	ı	ı	_	ı	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_		_	UNKWN	_	UNKWN	- 1	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	-	UNKWN	-	_	_	_	_



Case 17
Check transfer control unit circuit. Refer to <u>LAN-164, "Transfer Control Unit Circuit Check"</u>.

						C	CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	-M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	1	UNK VN	UNKWN	UNKW
A/T	1	NG	UNKWN	UNKWN	1	_	UNKWN	UNKWN	_	_	ı	UNK WN	UNKWN	ı
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	ı	UNKWN	UNKWN	_	ı	1	1	ı
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	1	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	-	CAN CIR
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	1	UNKWN	-	_	-	1	1	UNKW
ALL MODE AWD/4WD	1	NG	UNK WN	UNK WN	UNKWN	ı	ı	-	ı	_	ı	ı	UNK W N	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_			-	UNKWN	_	Ω ΝΚW N	1	ı
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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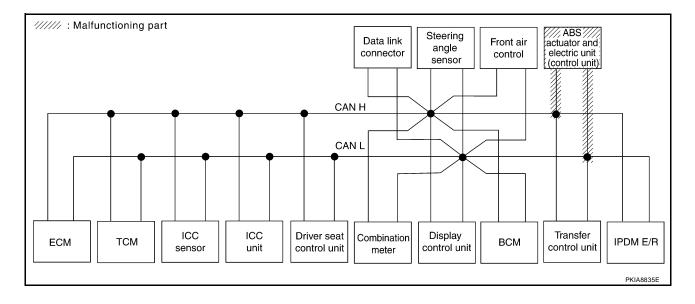
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Case 18

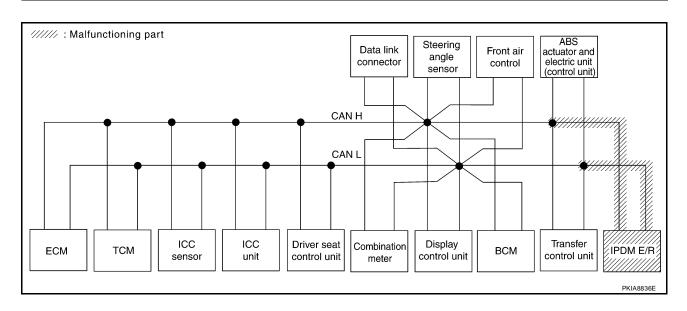
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-165</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

						C	AN DIAG	SUPPO	RT MNTF	}				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT GTOTE		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNWWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	Ω ΝΚ ⁄⁄⁄⁄/ΝΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	_	_	1	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	-	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	1	_	_	_	1	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	_	_	_	UNK WN	_
ABS	_	N	UNK/WN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNK WN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



Case 19
Check IPDM E/R circuit. Refer to <u>LAN-165</u>, "IPDM E/R Circuit Check" .

						C	CAN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTI	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	ı	NG	UNKWN	ı	UNKWN	-	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	U N V
A/T	ı	NG	UNKWN	UNKWN	ı	_	UNKWN	UNKWN		_	ı	UNKWN	UNKWN	ı
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	ı	-	UNKWN	_	1	ı	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	1	UNKWN	UNKWN	_	1	1	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	1	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	-	_	CANORO
BCM	No indication	NG	UNKWN	UNKWN	ı	_	ı	UNKWN		_	ı	-		UNK
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	UNKWN	_	. 1		_	_		1	UNKWN	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_				UNKWN	ı	UNKWN	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_



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Case 20

Check CAN communication circuit. Refer to LAN-166, "CAN Communication Circuit Check" .

						C	CAN DIAG	SUPPO	RT MNTF	3				
SELECT SYSTI	=M scroon	Initial	Transmit					Re	ceive dia	gnosis				
OLLLOT GTOTI		diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	∩ M MN	_	n M γγν	_	ΩΜ ΜΝ	UNK WN	UN K ₩N	_	_	UNK WN	UNI WN	UNIM
A/T	_	NG	UNKWN	UNI WN	_	_	UNK WN	UNK W N	_	_	_	UNK WN	Ω ΝΚ ⁄⁄⁄⁄⁄/(NN	_
ICC	_	NG	NMMN	UNK WN	NNK WN	UNK WN	_	_	Ω ΝΚ ΜΝ	_	_	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	-	_
Display control unit	_	CAN COMM	CANORC 1	CANCAC 3	_	_	_	CANCAC 5	CANORC 2	_	CANC/RC 4	_	_	CANORC
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	_	_	-	UNKWI
ALL MODE AWD/4WD	_	NG	UNK WN	UNIWN	UNI WN	_	_	-	_	_	_	_	UNK WN	_
ABS	_	N	UNKWN	UNKWN	UNIV	_	_	_	_	UNK/WN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_

Case 21

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-166, "IPDM E/R Ignition Relay Circuit Check" .

						(CAN DIAG	SUPPO	RT MNT	7				
SELECT SYSTI	EM screen	Initial	Transmit					Re	ceive dia	gnosis				
OLLEGI GIGH	LIW SCICCII		diagnosis	ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	NMAN N	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNI W N	UNKWN
A/T	_	NG	UNKWN	UNKWN		_	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	1
ICC	_	NG	UNKWN	UNKWN	NNK WN	UNKWN	_	_	UNKWN	_	_	_	UNK WN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	NNK WN	_	_	UNKWN	UNKWN	_	_	_	_	1
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	ı	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNI	_	_	_	_	_	_	_	n νk ⁄ων	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_	_	_
														PKIA8132E

Case 22

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-166, "IPDM E/R Ignition Relay Circuit Check"</u>.

						C	AN DIAG	SUPPO	RT MNTF	₹				
SELECT SYSTE	=M screen	Initial	Transmit					Re	ceive dia	gnosis				
022201 01011	LW GOLCON	diagnosis		ECM	тсм	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	UNKW
A/T	_	NG	UNKWN	UNK WN	_	_	UNK W N	UNKWN	-	_	1	UNK WN	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	1	1	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	_	CAN CIRC
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	1	_	-	1	_	UNKW
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	_	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNI W N	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	_	_

Circuit Check Between TCM and ICC Sensor

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 12 (W)

: Continuity should exist.

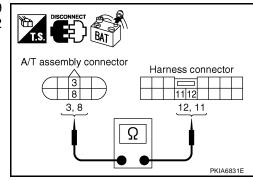
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

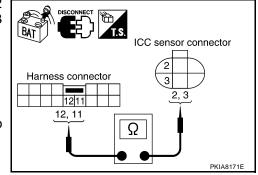
- 1. Disconnect ICC sensor connector.
- Check continuity between harness connector E19 terminals 12 (W), 11 (R) and ICC sensor connector E42 terminals 2 (W), 3 (R).

12 (W) - 2 (W) : Continuity should exist. 11 (R) - 3 (R) : Continuity should exist.

OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-131, "Work Flow" .

NG >> Repair harness.



UKS001PS

Circuit Check Between ICC Sensor and ICC Unit

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ICC sensor connector and harness connector E34.
- Check continuity between ICC sensor connector E42 terminals 2 (W), 3 (R) and harness connector E34 terminals 24 (W), 23 (R).

2 (W) - 24 (W) : Continuity should exist. 3 (R) - 23 (R) : Continuity should exist.

OK or NG

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

ICC sensor connector connector 23 24, 23 24, 23 24, 23

3. CHECK HARNESS FOR OPEN CIRCUIT

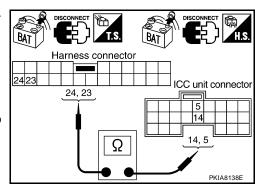
- 1. Disconnect ICC unit connector.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and ICC unit connector B13 terminals 14 (W), 5 (R).

24 (W) - 14 (W) : Continuity should exist. 23 (R) - 5 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-131</u>, "Work Flow" .

NG >> Repair harness.



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Circuit Check Between ICC Unit and Driver Seat Control Unit

1. CHECK CONNECTOR

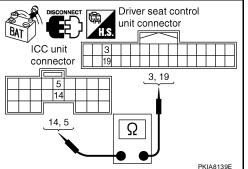
- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect ICC unit connector and driver seat control unit connector.
- Check continuity between ICC unit connector B13 terminals 14 (W), 5 (R) and driver seat control unit connector P2 terminals 3 (W), 19 (R).

14 (W) - 3 (W) : Continuity should exist. 5 (R) - 19 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-131, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. check harness for open circuit

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

3 (W) - 51J (W)

: Continuity should exist.

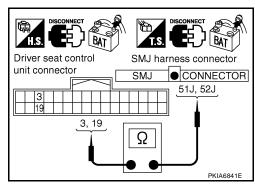
19 (R) - 52J (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$3.\,$ check harness for open circuit

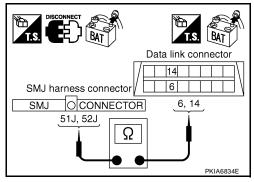
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

51J (W) - 6 (W) : Continuity should exist. 52J (R) - 14 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-131, "Work Flow"</u>.

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001NW

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

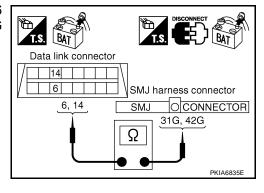
2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M31.
- Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

6 (W) - 31G (W) : Continuity should exist. 14 (R) - 42G (R) : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

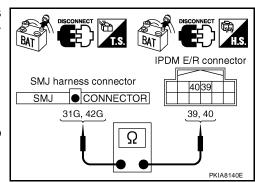
- Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 19 (W), 40 (R).

31G (W) - 39 (W) : Continuity should exist. 42G (R) - 40 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-131</u>, "Work Flow" .

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$2.\,$ check harness for open circuit

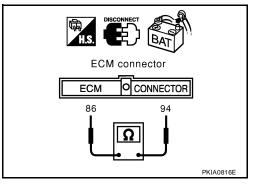
- Disconnect ECM connector.
- Check resistance between ECM harness connector E16 termi-2. nals 94 (W) and 86 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



UKS001NY

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

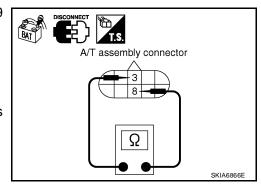
- Disconnect A/T assembly connector. 1.
- Check resistance between A/T assembly harness connector F9 terminals 3 (W) and 8 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace control valve with TCM.

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



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ICC Sensor Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ICC 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

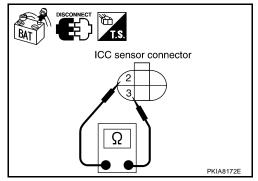
- 1. Disconnect ICC sensor connector.
- 2. Check resistance between ICC sensor harness connector E42 terminals 2 (W) and 3 (R).

2 (W) - 3 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace ICC sensor.

NG >> Repair harness between ICC sensor and harness connector E34.



ICC Unit Circuit Check

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1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ICC 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 ICC unit connector.
- Check resistance between ICC unit harness connector B13 terminals 14 (W) and 5 (R).

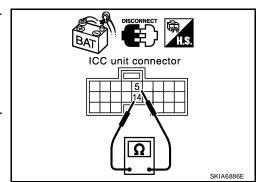
14 (W) - 5 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

NG

OK >> Replace ICC unit.

>> Repair harness between ICC unit and harness connector B69.



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

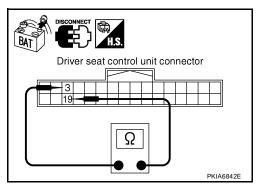
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B69.



UKS00100

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect combination meter connector. 1.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

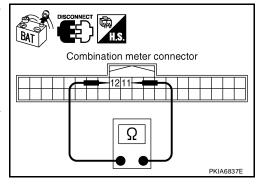
: Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace combination meter.

> >> Repair harness between combination meter and data link connector.



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Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

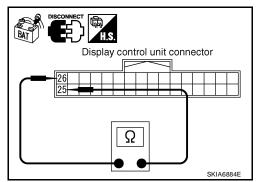
OK or NG

OK >> Replace

>> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



BCM Circuit Check

UKS00102

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

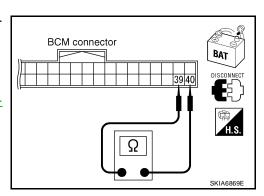
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-19</u>, "Removal and Installation of <u>BCM"</u>.

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



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the negative battery 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

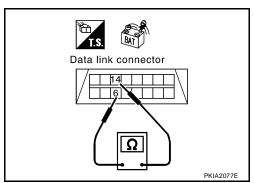
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

6 (W) - 14 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-131, "Work Flow" .

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



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$2.\,$ check harness for open circuit

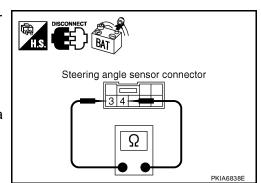
- 1. Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M47 terminals 3 (W) and 4 (R).

3 (W) - 4 (R) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace steering angle sensor.

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



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Front Air Control Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

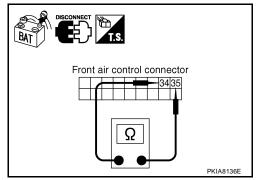
OK or NG

OK

>> Replace front air control.

NG

>> Repair harness between front air control and data link connector.



Transfer Control Unit Circuit Check

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1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

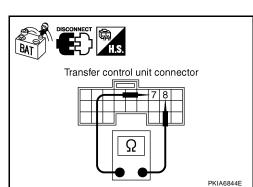
- Disconnect transfer control unit connector.
- Check resistance between transfer control unit harness connector E142 terminals 7 (W) and 8 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace transfer control unit. NG

>> Repair harness between transfer control unit and harness connector E152.



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ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

: Approx. 54 - 66 Ω

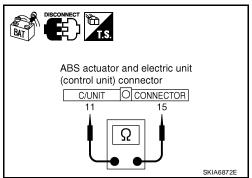
OK or NG

OK

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

NG

>> Repair harness between ABS actuator and electric unit (control unit) and harness connector E152.



IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$2.\,$ check harness for open circuit

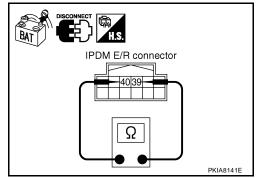
- Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

>> Repair harness between IPDM E/R and harness con-NG nector E152.



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- A/T assembly
- ICC sensor
- ICC unit
- Driver seat control unit
- Combination meter
- Display control unit
- BCM
- Steering angle sensor
- Front air control
- Transfer control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

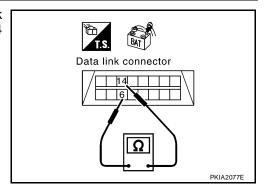
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

6 (W) - 14 (R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR SHORT CIRCUIT

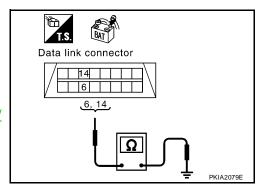
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

6 (W) - Ground : Continuity should not exist. 14 (R) - Ground : Continuity should not exist.

OK or NG

OK >> Check ECM and IPDM E/R. Refer to <u>LAN-167</u>, "ECM/ <u>IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>.

NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

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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 <u>PG-27</u>, "IPDM E/R Power/Ground Circuit Inspection" .

CAN SYSTEM (TYPE 4)

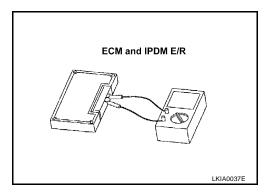
[CAN]

• Ignition power supply circuit. Refer to <u>PG-13, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START"</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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