

CHECK SHEET80

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PRECAUTIONS

[CAN]

PRECAUTIONS PFP:00001

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

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

WARNING:

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

Precautions When Using CONSULT-II

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

CAUTION:

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

CHECK POINTS FOR USING CONSULT-II

- Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle?
- If YES, GO TO 2.
- If NO, GO TO 5.
- 2. Is there any indication other than indications relating to CAN communication system in the self-diagnosis results?
- If YES, GO TO 3.
- If NO, GO TO 4.
- 3. Based on self-diagnosis results unrelated to CAN communication, carry out the inspection.
- Malfunctions may be detected in self-diagnosis depending on control units carrying out CAN communication. Therefore, erase the self-diagnosis results.
- 5. Diagnose CAN communication system. Refer to LAN-5, "CAN Communication Unit" .

Precautions For Trouble Diagnosis CAN SYSTEM

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

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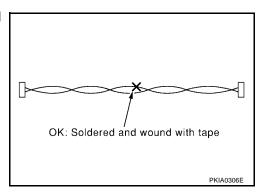
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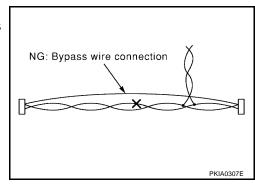
Precautions For Harness Repair CAN SYSTEM

UKS0017L

• 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.

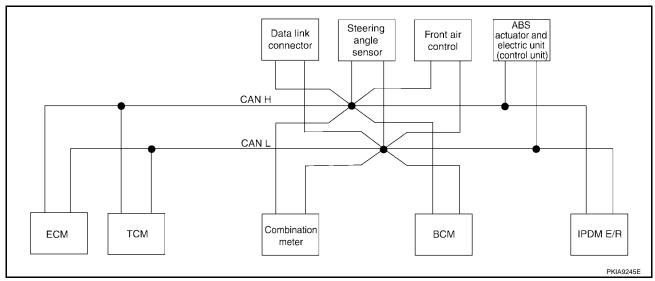
Body type			Wa	igon							
Axle		2WD			4WD						
Engine			VK	6DE							
Transmission		A/T									
Brake control	VDC										
Automatic drive positioner		×	×		×	×					
Navigation system			×			×					
Automatic air conditioner			×			×					
CAN system type	1 2 3 4 5 6										
CAN system trouble diagnosis	LAN-15	LAN-43	LAN-73	LAN-107	LAN-136	LAN-168					

^{×:} Applicable

TYPE 1/ TYPE 2

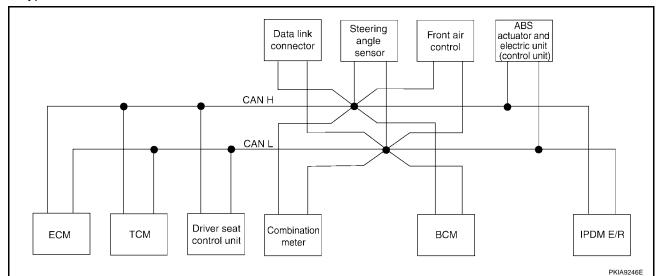
System diagram

Type 1



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Input/output signal chart

T: Transmit R: Receive

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Signals	ECM	ТСМ	Driver seat control unit	Combi- nation meter	ВСМ	Steer- ing angle sensor	Front air control	ABS actua- tor and electric unit (control unit)	IPDM E/ R
Engine speed signal	Т	R		R				R	
Engine status signal	Т				R		R		
Engine coolant temperature signal	Т			R			R		
A/T self-diagnosis signal	R	Т							
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				
P range signal		Т	R	R					
Stop lamp switch signal		R		Т					
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		
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

CAN COMMUNICATION

[CAN]

1			I						[CAN]
Signals	ECM	ТСМ	Driver seat control unit	Combi- nation meter	всм	Steer- ing angle sensor	Frontair control	ABS actuator and electric unit (control unit)	IPDM E/R
Day time running light request signal				R	Т				
Vehicle speed signal	R	R	R	R T	R		R R	Т	
Sleep wake up signal			R	R	Т				R
Door switch signal			R	R	Т				R
Turn indicator signal				R	Т				
Key fob ID signal			R		Т				
Key fob door unlock signal			R		Т				
Buzzer output signal				R	Т				
Fuel level sensor signal	R			Т					
ASCD SET lamp signal	Т			R					
ASCD CRUISE lamp signal	Т			R					
Malfunction indicator lamp signal	Т			R					
ASCD operation signal	Т	R							
ASCD OD cancel request	Т	R							
Front wiper request signal					Т				R
Front wiper stop position signal					R				Т
Rear window defogger switch signal					Т		R		R
Rear window defogger control signal	R								Т
Theft warning horn request signal					Т				R
Horn chirp signal					Т				R
Steering angle sensor signal						Т		R	
ABS warning lamp signal				R				Т	
VDC OFF indicator lamp signal				R				Т	
SLIP indicator lamp signal				R				Т	
Brake warning lamp signal				R				Т	
A/T CHECK indicator lamp signal		Т		R					
System setting signal			Т		R				
Cystem setting signal			R		Т				
A/T position indicator lamp signal		T		R					
1st position switch signal		R		Т					
4th position switch signal		R		Т					
Tow mode switch signal		R		Т					
A/T fluid temperature sensor signal		Т		R					

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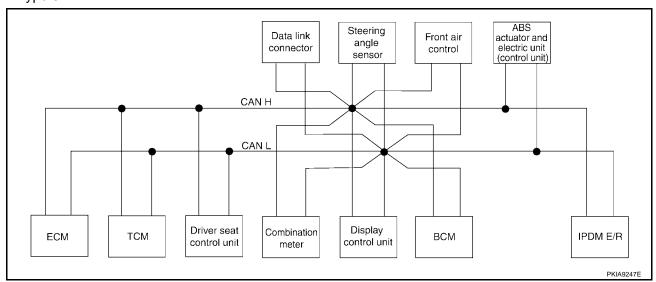
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TYPE 3 System diagram

Type 3



Input/output signal chart

T: Transmit R: Receive

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Signals	ECM	TCM	Driver seat control unit	Combi- nation meter	Dis- play control 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		
Engine coolant temperature signal	Т			R				R		
A/T self-diagnosis signal	R	Т								
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				
P range signal		Т	R	R						
Stop lamp switch signal		R		Т						
Fuel consumption monitor signal	Т			R						
ruei consumption monitor signal				Т	R					
Turbine revolution signal	R	Т								
Output shaft revolution signal	R	Т								
A/C switch signal	R					T				
A/C compressor request signal	Т							R		R
Blower fan motor switch signal	R					T		R		
A/C switch/indicator signal					Т			R		
AND SWILLT/ITIUICALUI SIGNAI					R			T		
Cooling fan speed request signal	Т							R		R

CAN COMMUNICATION

[CAN]

Signals	ECM	ТСМ	Driver seat control unit	Combination meter	Dis- play control unit	всм	Steer- ing angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Position light request signal				R		Т				R
Low beam request signal						Т				R
Low beam status signal	R									Т
High beam request signal				R		Т				R
High beam status signal	R									Т
Front fog light request signal						Т				R
Day time running light request signal				R		Т				
				R				R	Т	
Vehicle speed signal	R	R	R	Т	R	R		R		
Sleep wake up signal			R	R		Т				R
Door switch signal			R	R	R	Ţ				R
Turn indicator signal				R		Т				
Key fob ID signal			R			Т				
Key fob door unlock signal			R			Т				
Buzzer output signal				R		Т				
Fuel level sensor signal	R			Т						
Fuel level low warning signal				Т	R					
ASCD SET lamp signal	Т			R						
ASCD CRUISE lamp signal	Т			R						
Malfunction indicator lamp signal	Т			R						
Front wiper request signal						Т				R
Front wiper stop position signal						R				Т
Rear window defogger switch signal						Т		R		R
Rear window defogger control signal	R				R					Т
Theft warning horn request signal						Т				R
Horn chirp signal						Т				R
Steering angle sensor signal							Т		R	
ABS warning lamp signal				R					Т	
VDC OFF indicator lamp signal				R					Т	
SLIP indicator lamp signal				R					Т	
Brake warning lamp signal				R					Т	
			R		Т	R				
System setting signal			Т		R	Т				
Distance to empty signal				Т	R					
ASCD operation signal	Т	R								
ASCD OD cancel request	Т	R								
A/T CHECK indicator lamp signal		Т		R						
A/T position indicator lamp signal		Т		R						
Tire pressure signal					R	Т				
Tire pressure data signal					R	Т				
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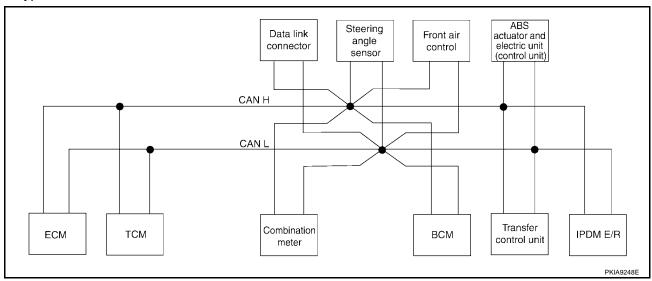
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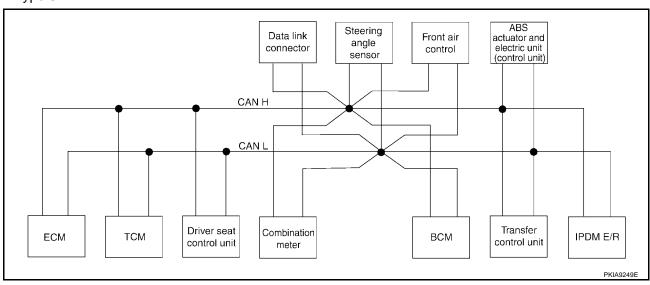
Signals	ECM	TCM	Driver seat control unit	Combination meter	Dis- play control unit	всм	Steer- ing angle sensor	Front air control	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
1st position switch signal		R		Т						
4th position switch signal		R		Т						
Tow mode switch signal		R		Т						
A/T fluid temperature sensor signal		Т		R						

TYPE 4/ TYPE 5 System diagram

Type 4



Type 5



CAN COMMUNICATION

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T: Transmit R: Receive

Input	output/	signal	chart
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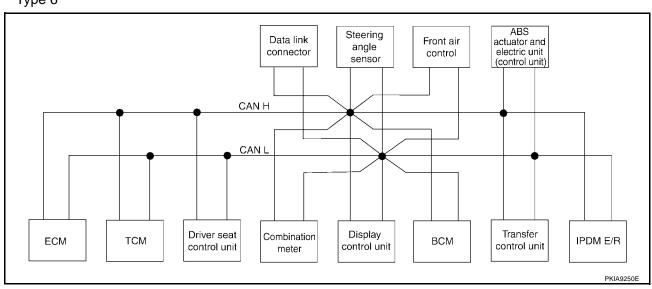
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Signals	ECM	TCM	Driver seat con- trol unit	Combination meter	ВСМ	Steer- ing angle sensor	Front air control	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
A/T self-diagnosis signal	R	Т							,	
Stop lamp switch signal		R		Т						
Battery voltage signal	Т	R								
Key switch signal			R		T					
Ignition switch signal			R		T					
P range signal		Т	R	R						
Closed throttle position signal	Т	R								
Wide open throttle position signal	Т	R								
Engine speed signal	Т	R		R				R	R	
Engine status signal	Т				R		R			
Engine coolant temperature signal	Т			R			R			
Accelerator pedal position signal	Т	R						R	R	
Turbine revolution signal	R	Т								
Output shaft revolution signal	R	Т						R		
A/C switch signal	R				Т					
A/C compressor request signal	Т						R			R
Blower fan motor switch signal	R				Т		R			
Cooling fan speed request signal	Т						R			R
Position light request signal				R	Т					R
Low beam request signal					Т					R
Low beam status signal	R									Т
High beam request signal				R	T					R
High beam status signal	R									Т
Front fog light request signal					Т					R
Day time running light request signal				R	Т					
				R			R	R	Т	
Vehicle speed signal	R	R	R	Т	R		R			
Sleep wake up signal			R	R	Т					R
Door switch signal			R	R	Т					R
Turn indicator signal				R	Т					
Key fob ID signal			R		Т					
Key fob door unlock signal			R		Т					
Buzzer output signal				R	Т					
Fuel level sensor signal	R			Т						
ASCD SET lamp signal	Т			R						
ASCD CRUISE lamp signal	Т			R						
Malfunction indicator lamp signal	Т			R						
Front wiper request signal					Т					R

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Signals	ECM	TCM	Driver seat con- trol unit	Combination meter	всм	Steer- ing angle sensor	Front air control	Trans- fer con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
Front wiper stop position signal					R					Т
Rear window defogger switch signal					Т		R			R
Rear window defogger control signal	R									Т
Theft warning horn request signal					Т					R
Horn chirp signal					Т					R
Steering angle sensor signal						Т			R	
ABS warning lamp signal				R					Т	
VDC OFF indicator lamp signal				R					Т	
SLIP indicator lamp signal				R					Т	
Brake warning lamp signal				R					Т	
System setting signal			R		R					
System setting signal			Т		Т					
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		
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 6 System diagram

Type 6



Input/output signal chart

T: Transmit R: Receive

CAN COMMUNICATION

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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
A/T self-diagnosis signal	R	Т									
Stop lamp switch signal		R		Т							
Battery voltage signal	Т	R									
Key switch signal			R			Т					
Ignition switch signal			R			Т					
P range signal		Т	R	R							
Closed throttle position signal	T	R									,
Wide open throttle position signal	Т	R									
Engine speed signal	Т	R		R	R				R	R	•
Engine status signal	T					R		R			
Engine coolant temperature signal	Т			R				R			,
Accelerator pedal position signal	Т	R							R	R	,
Fuel consumption monitor signal	Т			R T	R						
Turbine revolution signal	R	Т									
Output shaft revolution signal	R	Т							R		
A/C switch signal	R					Т					
A/C compressor request signal	T							R			R
Blower fan motor switch signal	R					Т		R			
A/C switch/indicator signal					T R			R T			
Cooling fan speed request signal	T							R			R
Position light request signal				R		Т					R
Low beam request signal						Т					R
Low beam status signal	R										
High beam request signal				R		Т					 R
High beam status signal	R										
Front fog light request signal	• •					Т					 R
Day time running light request signal				R		T					
= =-,s ramig ngitt roquost oighui				R				R	R	Т	<u> </u>
Vehicle speed signal	R	R	R	T	R	R		R			
Sleep wake up signal			R	R		Т					R
Door switch signal			R	R	R	T					R
Key fob ID signal			R		•	T					
Key fob door unlock signal			R			T					
Buzzer output signal				R		T					
Fuel level sensor signal	R			T							
ASCD SET lamp signal	T			R							

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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
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						T		R			R
Rear window defogger control signal	R				R						T
Theft warning horn request signal						Т					R
Horn chirp signal						T					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						T	
System setting signal			R		Т	R					
System setting signal			Т		R	Т					
Distance to empty signal				Т	R						
ASCD operation signal	Т	R									
ASCD OD cancel request	Т	R									
A/T CHECK indicator lamp signal		T		R							
A/T position indicator lamp signal		Т		R					R		
Tire pressure signal					R	T					
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		T		R							

CAN SYSTEM (TYPE 1)

PFP:23710

System Description

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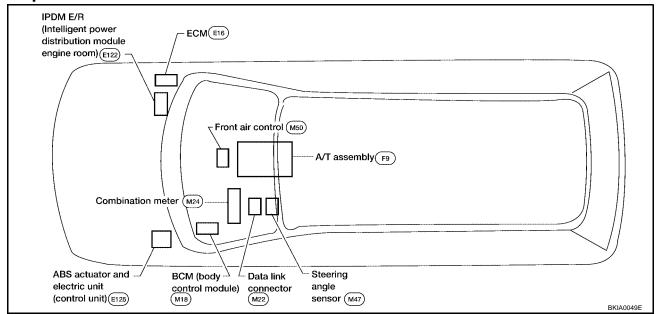
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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped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

Component Parts and Harness Connector Location

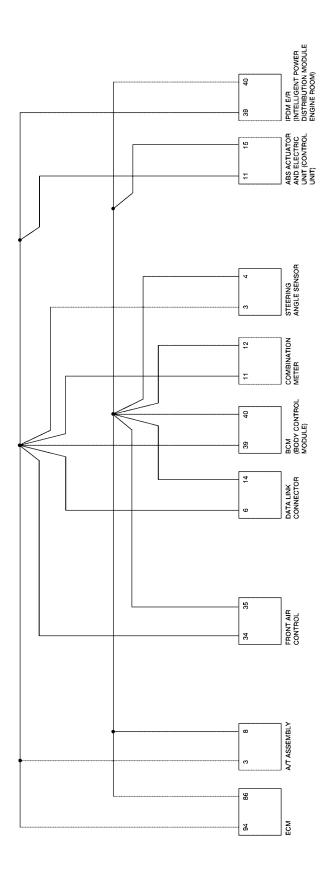
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Schematic UKSOOOYS



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Wiring Diagram - CAN -

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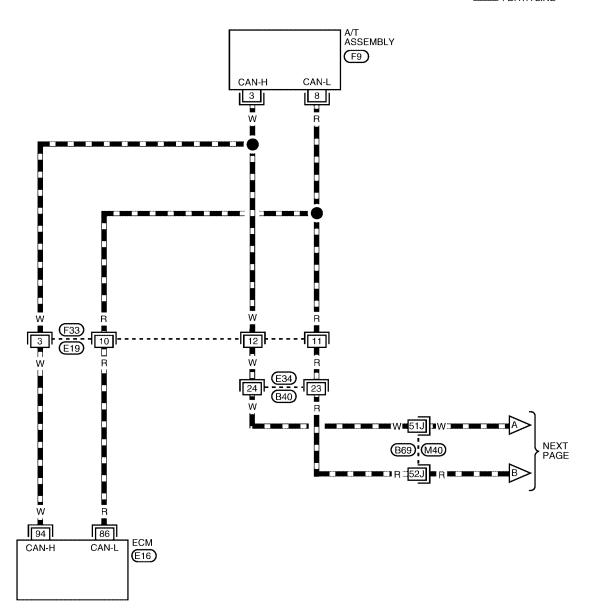
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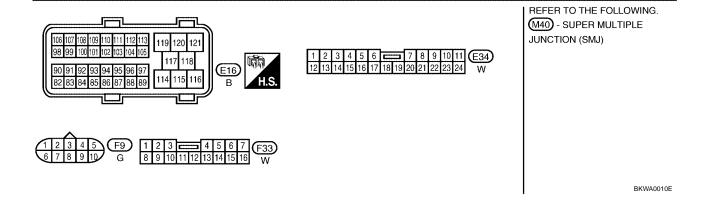
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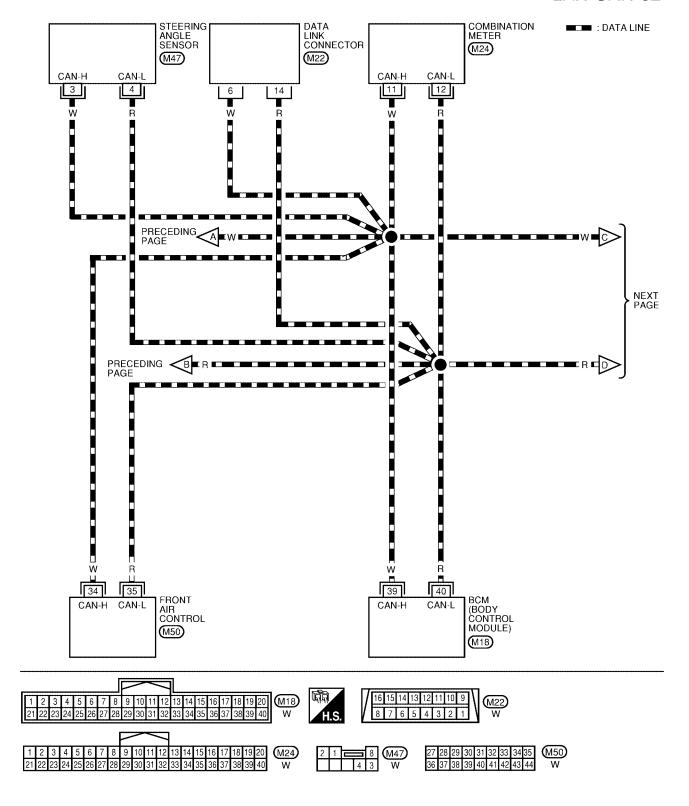
LAN-CAN-01

: DATA LINE





LAN-CAN-02



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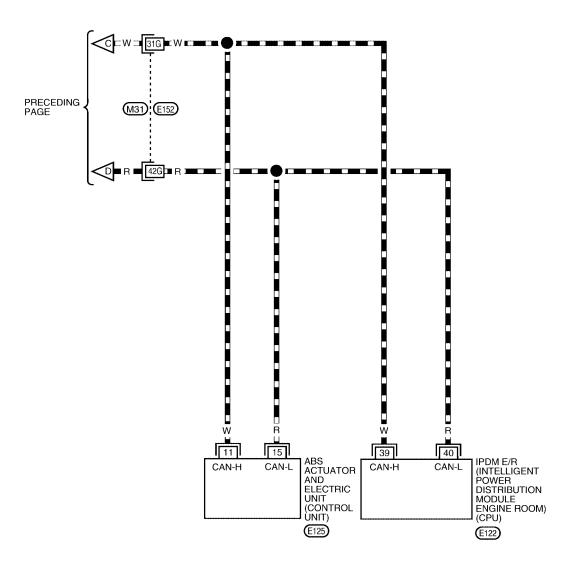
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LAN-CAN-03

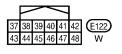
: DATA LINE

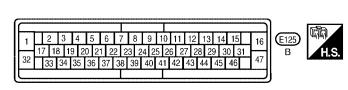


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REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE

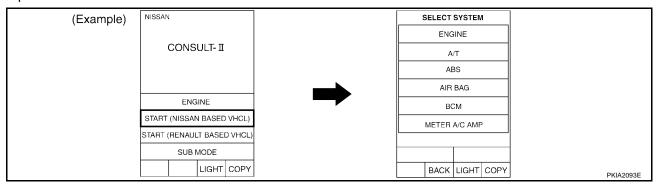
JUNCTION (SMJ)

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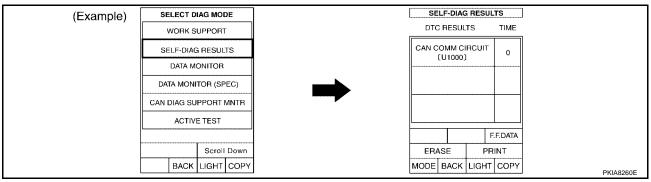
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Work Flow

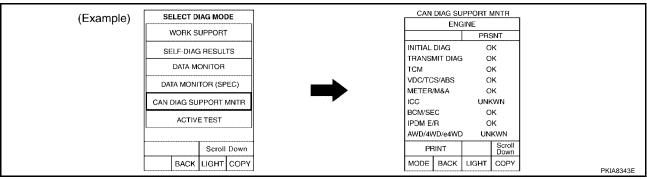
1. When there are no indications of "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-21, "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-21, "CHECK SHEET"</u>.

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 6. According to the check sheet results (example), start inspection. Refer to LAN-23, "CHECK SHEET RESULTS (EXAMPLE)".

CAN SYSTEM (TYPE 1)

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CHECK SHEET

NOTE:

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

					CAN DIA	G SUPPO				
SELECT SYS	STEM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	METER /M&A	BCM/SEC	osis STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_
		Attach (SELECT	copy of SYSTEM			Attach SELECT	copy of SYSTEM			

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of A/T 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 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)

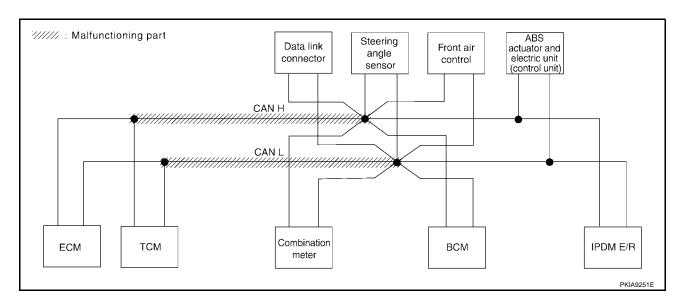
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-34, "Circuit Check Between TCM and Data Link Connector"</u>.

					CAN DIA	G SUPPO	RT MNTR				
SELECT S	YSTEM screen	Initial	Transmit			Red	ceive diagno	osis			
OLLEO1 O	TOTEM SCIECT	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE		NG NG		UNKWN	_	UNKWN	UNI WN	UNIMAN	_	UNKWN	UN K ₩N
A/T	_	NG	UNKWN	UNKWN	_	UNION	_	_	Ω ΝΚ /WN	_	
ВСМ	No indication	NG	UNKWN	UNK/WN	_	UNKWN	_	_	_	UNKWN	
ABS	_	NG	UNKWN	UNI W N	UNKWN	_	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNION	_	_	UNKWN	_	_	_	



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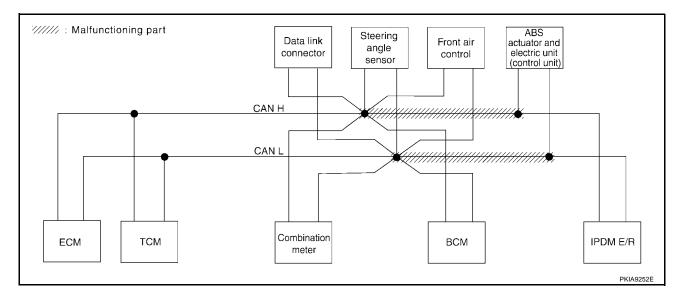
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Case 2

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-35</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

					CAN DIA	G SUPPO	RT MNTR			
SELECT SY	STEM screen	Initial	Transmit			Re	ceive diagno	osis		
02220101	1012W 00100H	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNK WN	∩ NK WN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UN K ₩N	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNK WN
ABS	_	NG	UNKWN	NUK WN	UNK/WN	_	_	UNK WN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



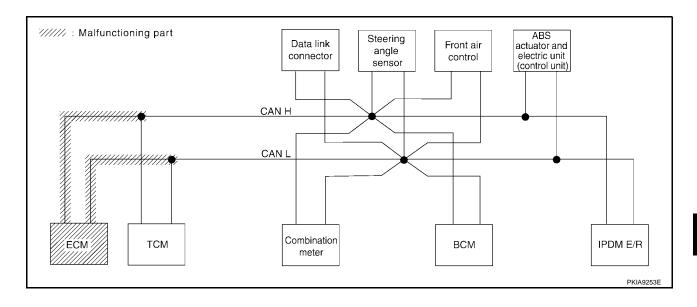
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Case 3
Check ECM circuit. Refer to <u>LAN-36</u>, "ECM Circuit Check".

					CAN DIA	G SUPPO	RT MNTR			
SELECTS	SYSTEM screen	Initial	Transmit			Re	ceive diagno	osis		
	TOTEM SOICET		Transmit diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNIONN	_	UNKWN	UNION	UNI WN	_	UNK WN	UNK WN
A/T	_	NG	UNKWN	UNIMN	_	UNKWN	_	_	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNION	_	_	UNKWN	_	_	_



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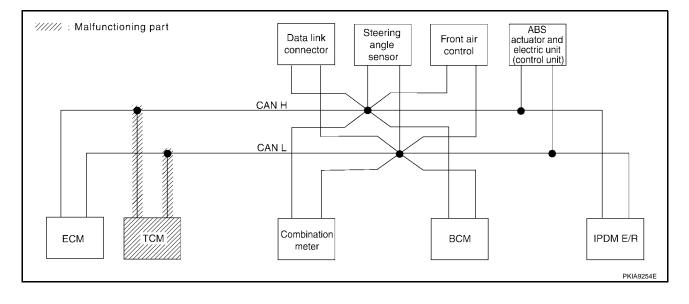
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Case 4
Check TCM circuit. Refer to <u>LAN-37</u>, "TCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
SELECT S	YSTEM screen	Initial	Transmit			Re	ceive diagno	osis		
OLLLO1 O	TOTEW SCICCI	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNIMAN	_	UNK/WN	_	_	UNK/WN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNK/WN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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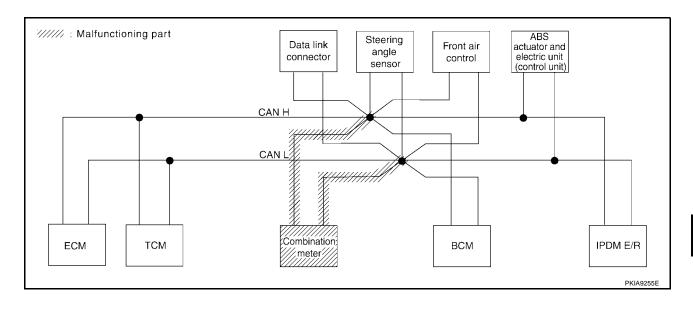
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Case 5

Check combination meter circuit. Refer to LAN-37, "Combination Meter Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
SELECT S	YSTEM screen	1-141-1	T			Re	ceive diagno	osis		
OLLEO1 O	TOTEW SCIECT	Initial diagnosis	Transmit diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNIMAN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_

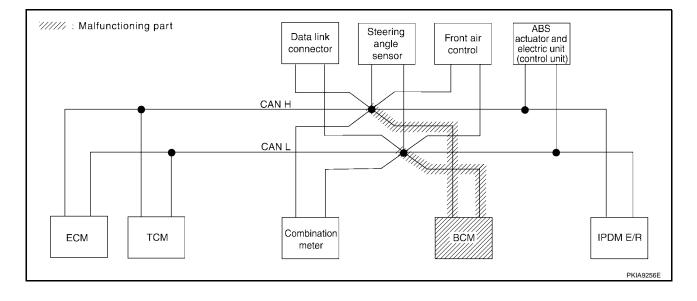


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Case 6
Check BCM circuit. Refer to <u>LAN-38</u>, "BCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
SELECT S	YSTEM screen	Initial	Transmit			Re	ceive diagno	osis		
OLLEO1 O	TOTEW SCICCI	diagnosis	Transmit diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	ING.	UNKWN	_	UNKWN	UNKWN	UN W WN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNK/WN	_	_	_



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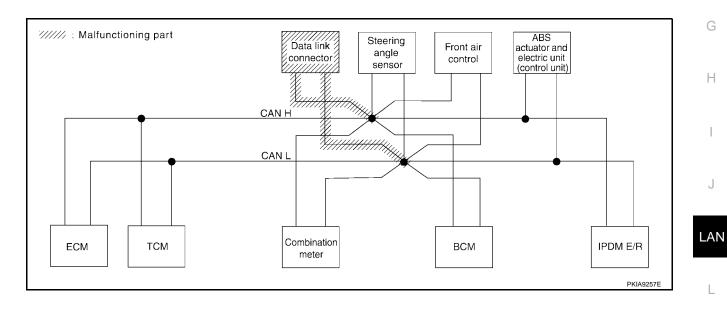
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Case 7

Check data link connector circuit. Refer to LAN-38, "Data Link Connector Circuit Check".

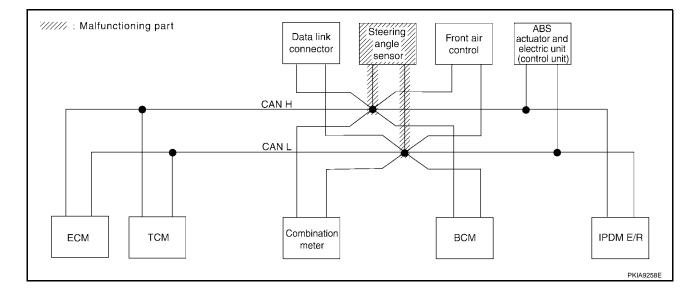
					CAN DIA	G SUPPO	RT MNTR			
SELECT SV	/STEM screen	Initial	Transmit			Red	ceive diagno	osis		
OLLEGI O	OTEN SCICET	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN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



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Case 8
Check steering angle sensor circuit. Refer to <u>LAN-39</u>, "<u>Steering Angle Sensor Circuit Check</u>" .

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



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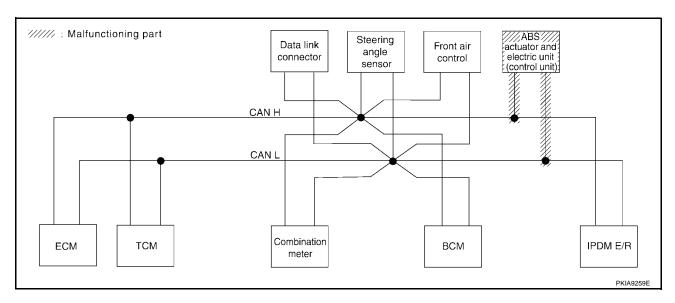
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Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-39</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

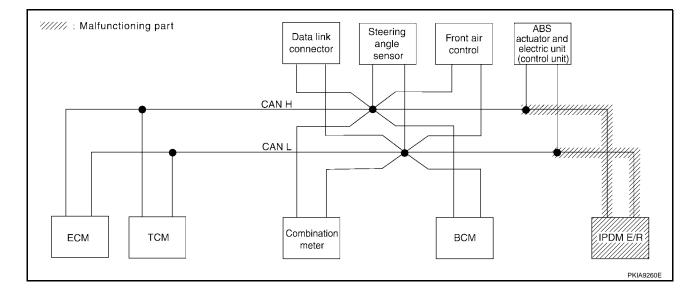
					CAN DIA	G SUPPO	RT MNTR			
SELECT SY	/STEM screen	Initial	Transmit			Re	ceive diagno	osis		
02220101	1012M 00100H	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNI WN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	W	UNR WN	NURW N	UNK/WN	_	_	UNK WN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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Case 10
Check IPDM E/R circuit. Refer to LAN-40, "IPDM E/R Circuit Check" .

			CAN DIAG SUPPORT MNTR								
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNK WN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_	
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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Case 11

Check CAN communication circuit. Refer to LAN-41, "CAN Communication Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial	Transmit diagnosis	Receive diagnosis								
		diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNIONN	_	UNION	UNWWN	UN K ₩N	_	∩ NR WN	UNION		
A/T	_	NG	UNKWN	UNIMAN	_	UNKWN	_	_	UNK WN	_		
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN		
ABS	_	W	UNIMN	UNI W N	UN K ₩N	_	_	UNIXWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-41</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen			Transmit diagnosis	Receive diagnosis								
				ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNION	UNKWN	UNKWN	_	UNK WN	UNKWN		
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_		
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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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-41, "IPDM E/R Ignition Relay Circuit Check"</u>.

	CAN DIAG SUPPORT MNTR											
SELECT SYS	SELECT SYSTEM screen		Transmit	Receive diagnosis								
322231313	. 2.11 001 0011	Initial diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN		
A/T	_	NG	UNKWN	UNK WN	_	UNIVWN	_	_	UNKWN	_		
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN		
ABS	_	NG	UNKWN	NUK WN	UNKWN	_	_	UNK WN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		

Circuit Check Between TCM and Data Link Connector

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1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect A/T assembly connector and harness connector F33.
- 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.

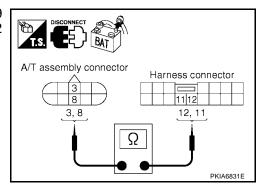
8 (R) - 11 (R)

: 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.

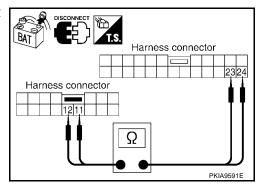
11 (R) - 23 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B69.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and harness connector B69 terminals 51J (W), 52J (R).

24 (W) - 51J (W)

: Continuity should exist.

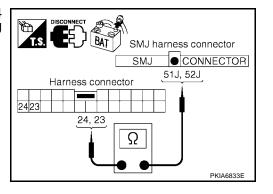
23 (R) - 52J (R)

: Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness.



5. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M40 terminals 51J (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.

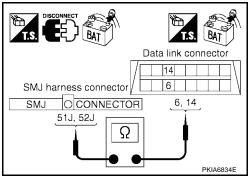
OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to

LAN-20, "Work Flow"

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

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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.

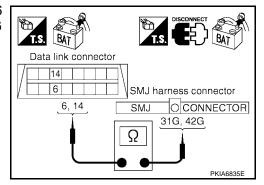
2. CHECK HARNESS FOR OPEN CIRCUIT

- 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

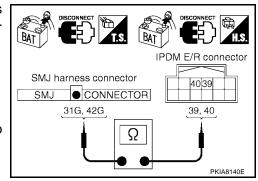
- 1. Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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 <u>LAN-20, "Work Flow"</u>.

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

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

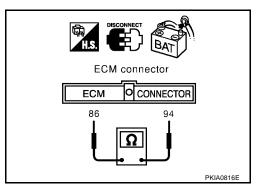
94 (W) - 86 (R)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



UKS0017Q

TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect the negative battery terminal.

Check terminals and connector of A/T assembly for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

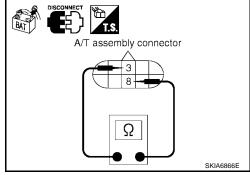
OK or NG

OK

>> Replace A/T assembly.

NG

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



UKS0017S

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

: Approx. 54 - 66 Ω

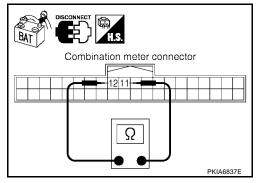
OK or NG

OK

>> Replace combination meter.

NG

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



UKS0017T

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

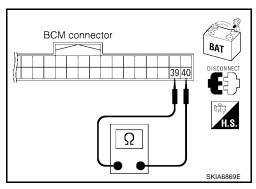
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace BCM. Refer to <u>BCS-21</u>, "Removal and Installation of <u>BCM"</u>.

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



UKS0017R

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

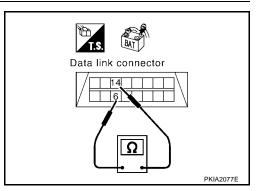
OK or NG

OK >

>> Diagnose again. Refer to LAN-20, "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.

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

: Approx. 54 - 66 Ω

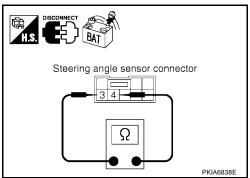
OK or NG

OK :

>> Replace steering angle sensor.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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).

LAN-39

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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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).

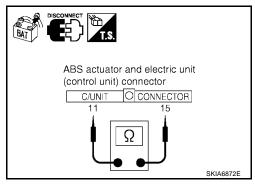
11 (W) - 15 (R) : Approx. 54 -
$$66\Omega$$

OK or NG

NG

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

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



UKS0017W

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

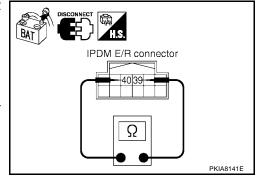
- Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

39 (W) - 40 (R) : Approx.
$$108 - 132\Omega$$

OK or NG

OK >> Replace IPDM E/R.

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



CAN SYSTEM (TYPE 1)

[CAN]

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
- Combination meter
- **BCM**
- Steering angle sensor
- Front air control
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

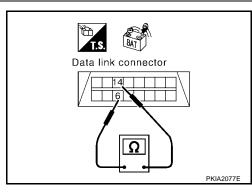
2. CHECK HARNESS FOR SHORT CIRCUIT

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

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-42, "ECM/

IPDM E/R INTERNAL CIRCUIT INSPECTION".

NG >> Repair harness.

Data link connector 114 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-26, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START" .

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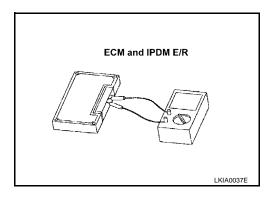
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Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



CAN SYSTEM (TYPE 2)

PFP:23710

System Description

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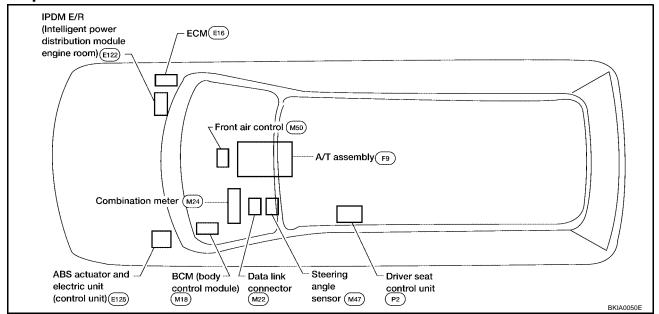
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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped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

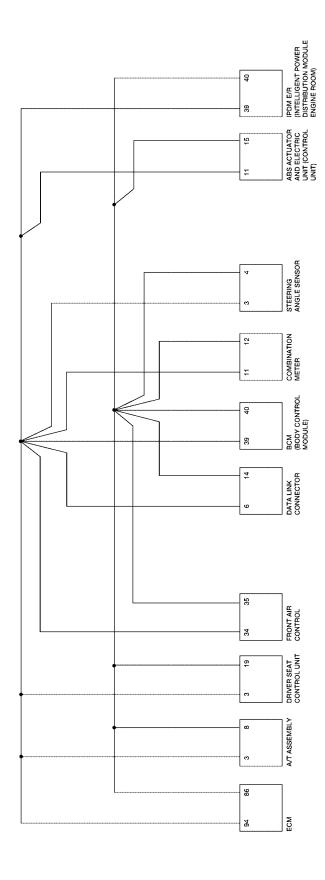
Component Parts and Harness Connector Location

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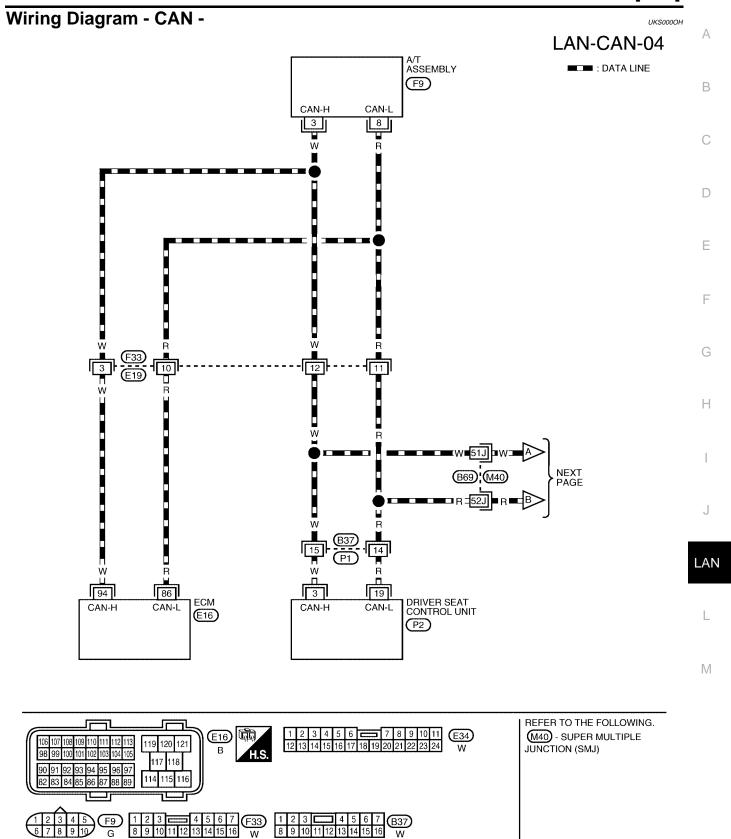


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Schematic UKSOOOYT



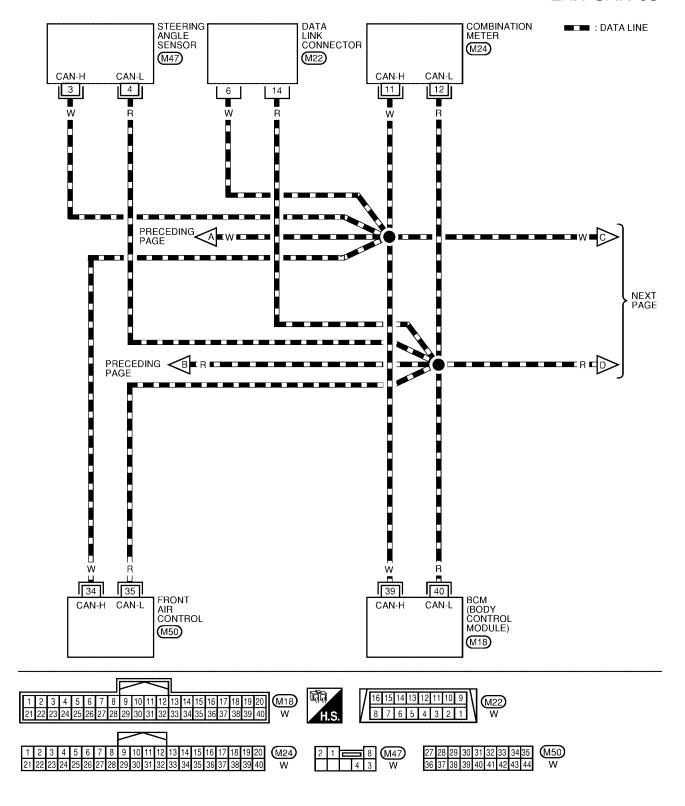
BKWA0186E



Revision: January 2005 LAN-45 2004 Pathfinder Armada

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

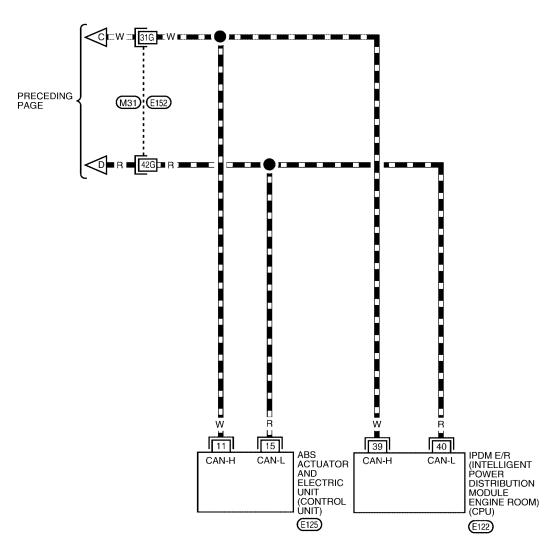
LAN-CAN-05



BKWA0187E

LAN-CAN-06

: DATA LINE



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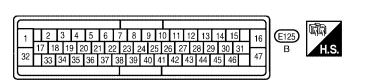
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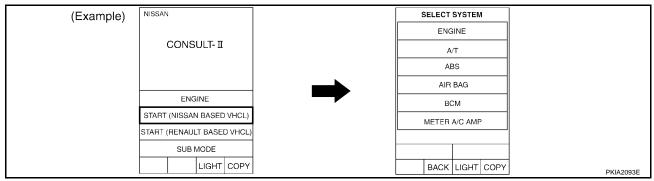


REFER TO THE FOLLOWING. M31) - SUPER MULTIPLE JUNCTION (SMJ)

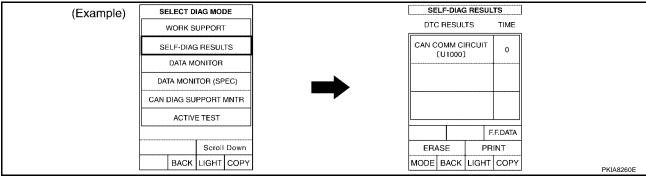
BKWA0021E

Work Flow

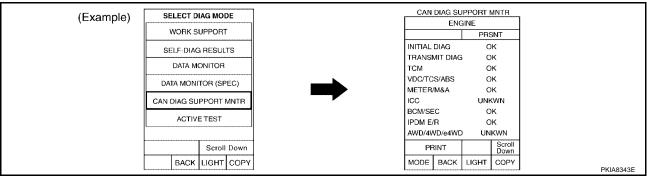
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 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.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-49, "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-49</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.
- 6. According to the check sheet results (example), start inspection. Refer to <u>LAN-51</u>, "CHECK SHEET <u>RESULTS (EXAMPLE)"</u>.

CAN SYSTEM (TYPE 2)

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CHECK SHEET

NOTE:

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

					CAN DIA	G SUPPOI				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	METER	eive diagno BCM/SEC	osis STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	/M&A UNKWN	UNKWN	_	/ABS UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN		UNKWN	— —	_	UNKWN	
AUTO DRIVE POS.			UNKWN	— — —	UNKWN	UNKWN	UNKWN	_	_	_
BCM	No indication		UNKWN	UNKWN	-	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication		UNKWN	UNKWN	_	_	UNKWN	_	_	_
		Attach SELECT	copy of SYSTEM			Attach SELECT	n copy of SYSTEM			

PKIA9136E

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)

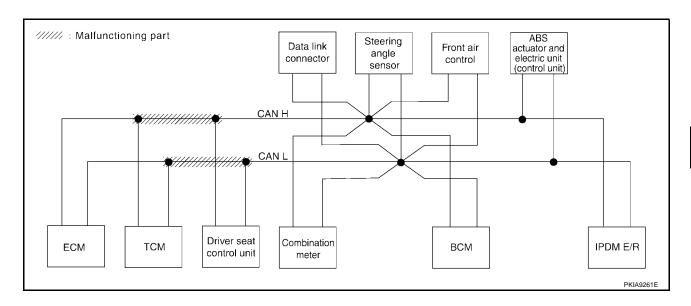
NOTE:

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

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-64, "Circuit Check Between TCM and Driver Seat Control Unit"</u>.

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Red	ceive diagno	osis		
JEECT STOT	LIVI 3010011	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UN W WN	UN W WN	_	UNKWN	UNK WN
A/T	_	NG	UNKWN	UNKWN	_	UN W WN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN K ₩N	UNKWN	UNKWN	<u> </u>	_	_
всм	No indication	NG	UNKWN	∩ NR WN	_	UNKWN	_		_	UNKWN
ABS	_	NG	UNKWN	UNK/WN	UNK/WN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	_



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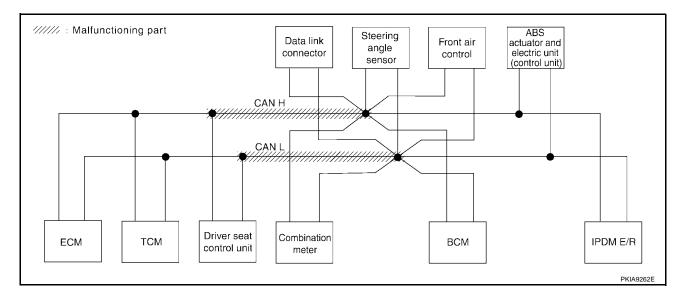
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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-65</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Red	ceive diagno	osis		
OLLLOT GTOT	EIVI GOICOII	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNWWN	UNIONN	_	n uk wu	UNK WN
A/T	_	NG	UNKWN	UNKWN	_	UN W WN	_	_	UNK/WN	-
AUTO DRIVE POS.	No invecation	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_
всм	No indication	NG	UNKWN	UNK/WN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNK/WN	UN K ₩N	_	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	_



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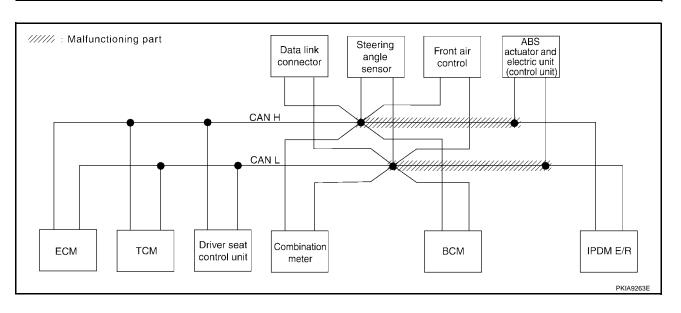
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Case 3

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-66</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

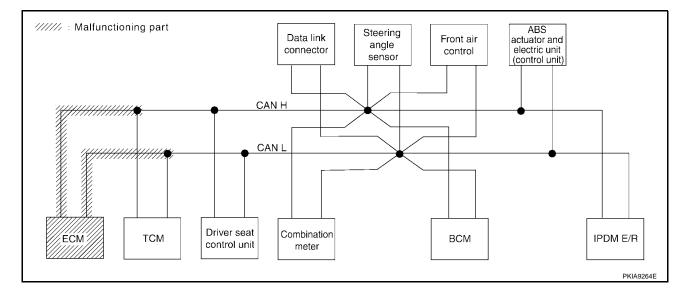
					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Red	eive diagno	osis		
OLLLOT STOT	LIVI SCIECII		diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	n uk wu	UN K ₩N
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNK/WN	UNK/WN	_	_	UNK WN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_



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Case 4
Check ECM circuit. Refer to <u>LAN-67</u>, "ECM Circuit Check".

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Red	ceive diagno	osis		
OLLLOT GTOT	EIVI GOICOII	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNK/WN	_	UNKWN	UN W WN	UN W WN	-	n uk wu	UNK WN
A/T	_	NG	UNKWN	UNK WN	_	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNK/WN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	_



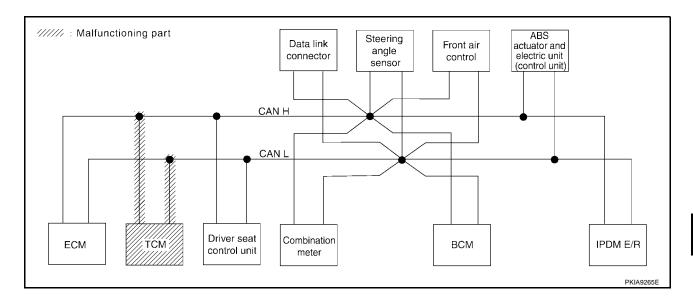
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Case 5
Check TCM circuit. Refer to <u>LAN-67</u>, "TCM Circuit Check".

					CAN DIA	G SUPPO	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Red	ceive diagno	osis		
OLLLOT GTOT	LIVI SCIECTI	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNK/WN	_	UNIONN	_	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN W WN	UNKWN	UNKWN	_	_	_
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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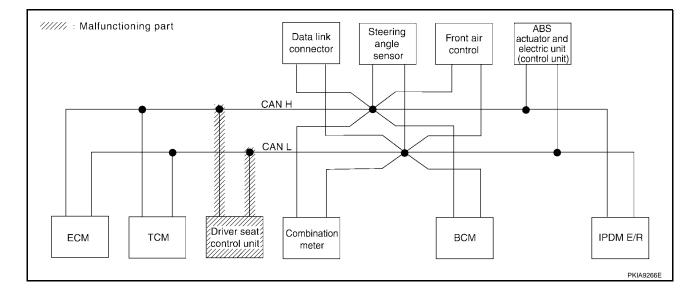
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Case 6
Check driver seat control unit circuit. Refer to <u>LAN-68</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Red	ceive diagno	osis		
OLLLOT GTOT	LIVI SCIECTI	diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_



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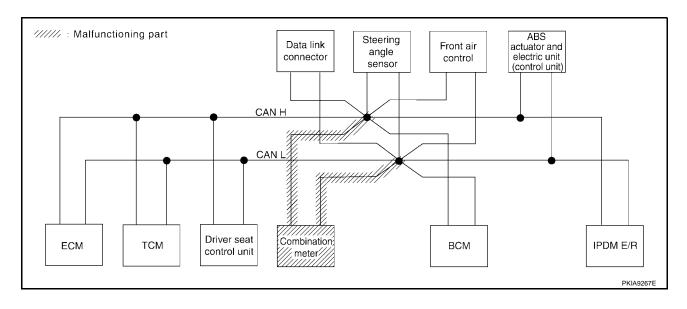
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Case 7

Check combination meter circuit. Refer to LAN-68, "Combination Meter Circuit Check" .

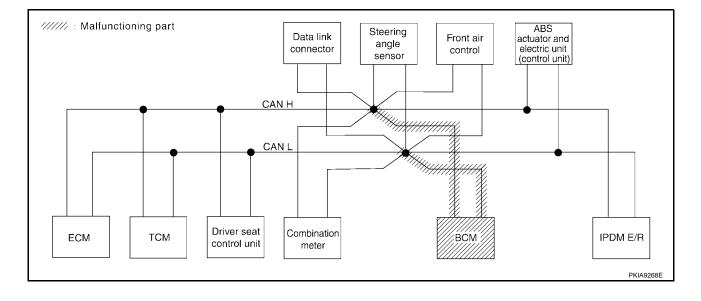
					CAN DIA	G SUPPOI	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Red	ceive diagno	osis		
022201 0101	2111 0010011	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNIOWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	ı	UNYWN	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNWWN	UNKWN	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UN K WN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN		_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_



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Case 8
Check BCM circuit. Refer to <u>LAN-69</u>, "BCM Circuit Check" .

					CAN DIA	G SUPPO	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Red	ceive diagno	osis		
OLLLOT GTGT	LIVI SCIECTI	diagnosis		ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNIAMN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNI W WN	_	_	-
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNK WN	_	_	_



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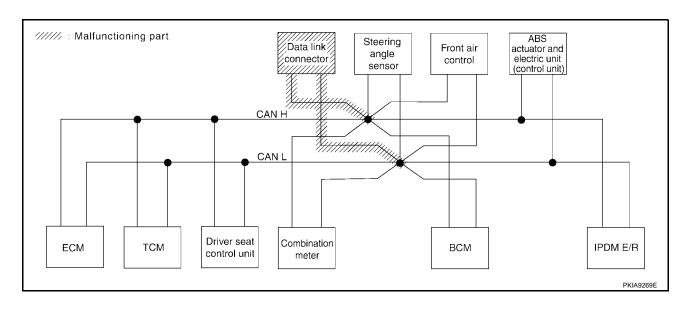
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Case 9

Check data link connector circuit. Refer to LAN-69, "Data Link Connector Circuit Check".

					CAN DIA	G SUPPO	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Red	ceive diagno	osis		
022201 0101	LIVI SCICCII	diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	-
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_

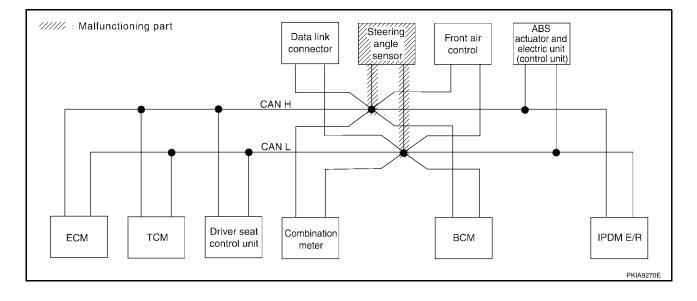


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					CAN DIA	G SUPPO	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis							
OLLLOT GTOT			diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	-	
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	_	_	UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UN K WN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_	



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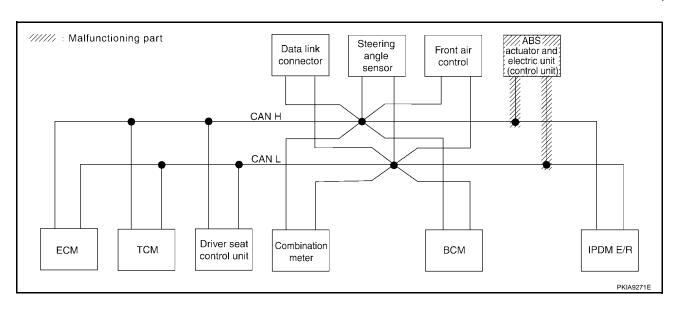
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Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-70</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

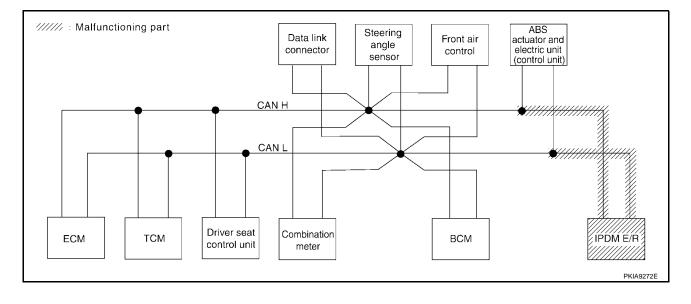
					CAN DIA	G SUPPOI	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis							
OLLLOT STOT	OLLEGI GTOTEM SCICCIT			ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	n uk wu	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNK/WN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	
ABS	_	W	UNION	UNKWN	UNKWN	_	_	UNKWN	_	-	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	



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Case 12
Check IPDM E/R circuit. Refer to <u>LAN-71, "IPDM E/R Circuit Check"</u>.

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



CAN SYSTEM (TYPE 2)

[CAN]

Case 13

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

					CAN DIA	G SUPPOI	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit diagnosis	Receive diagnosis							
		diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNK WN	_	UNK WN	UNIO	UNIONN	_	Π ΛΚ ΜΝ	Π Μ ΜΝ	
A/T	_	NG	UNKWN	NMAMN	_	UN W WN	_	_	UN K WN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	-	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	
ABS	_	V ≦	UNIMWN	UN K ∕WN	UN K WN	_	_	UNI S WN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to $\underline{\text{LAN-72}}$, "IPDM E/R Ignition Relay $\underline{\text{Circuit Check"}}$.

	CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis									
OLLLOT GTGT	LIVI SCIECTI	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	n uk wu	UNKWN			
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNIONN	UNKWN	UNKWN	1	_	_			
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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Revision: January 2005 LAN-63 2004 Pathfinder Armada

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Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-72</u>, "IPDM E/R Ignition Relay Circuit Check".

					CAN DIA	G SUPPOI	RT MNTR					
SELECT SYSTEM screen		Initial	Transmit diagnosis	Receive diagnosis								
		diagnosis		ECM	ТСМ	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN		
A/T	_	NG	UNKWN	UNK WN	_	UNI W WN	_	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_		
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	-	_	_	UNKWN		
ABS	_	NG	UNKWN	UNK WN	UNKWN	=	_	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_		

Circuit Check Between TCM and Driver Seat Control Unit

UKS0018E

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.

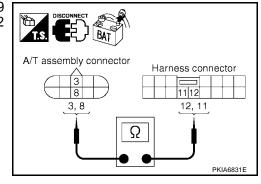
8 (R) - 11 (R)

: 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)

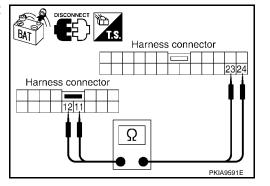
: Continuity should exist.

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.

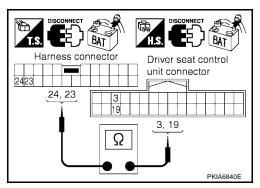
23 (R) - 19 (R)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-48, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS00181

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 B69
- Harness connector M40

OK or NG

>> Repair terminal or connector.

OK >> GO TO 2. NG

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 51J (W)

: Continuity should exist.

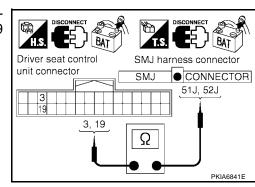
19 (R) - 52J (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

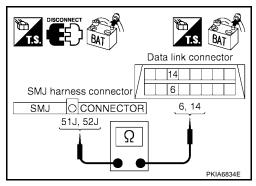
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-48, "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.
- 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.

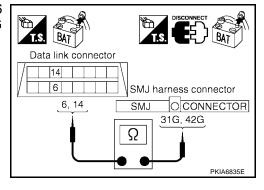
2. CHECK HARNESS FOR OPEN CIRCUIT

- 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

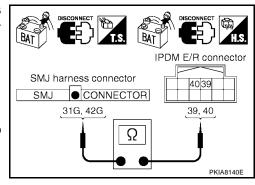
- Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 19 (W), 40 (R).

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 <u>LAN-48, "Work Flow"</u>.

NG >> Repair harness.



UKS00183

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

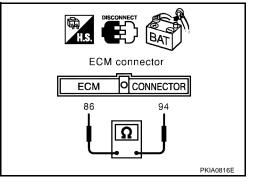
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector E16 terminals 94 (W) and 86 (R).

: 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

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

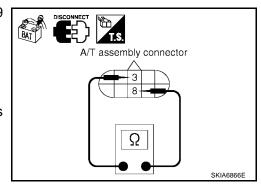
- Disconnect A/T assembly connector.
- Check resistance between A/T assembly harness connector F9 terminals 3 (W) and 8 (R).

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

OK or NG

OK >> Replace A/T assembly.

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



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

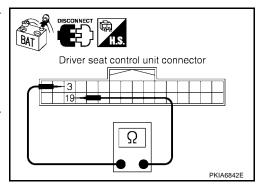
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B40.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter 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.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

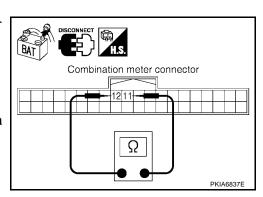
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace combination meter. NG

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



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BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

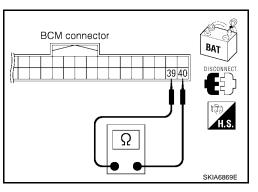
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-21, "Removal and Installation of BCM"</u>.

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



UKS00185

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

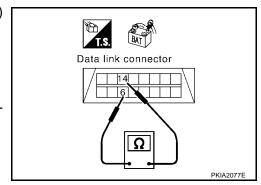
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

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

OK or NG

OK >> Diagnose again. Refer to LAN-48, "Work Flow".

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



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UKS00188

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- Disconnect the negative battery terminal. 2.
- 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

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

: Approx. 54 - 66 Ω

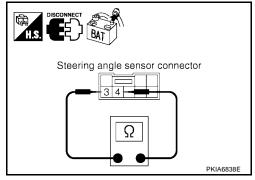
OK or NG

OK

>> Replace steering angle sensor.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS00189

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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

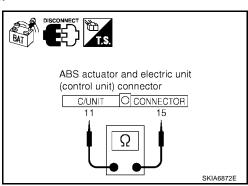
OK or NG

OK

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

NG

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



CAN SYSTEM (TYPE 2)

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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

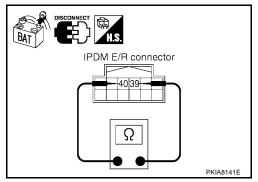
OK or NG

OK

>> Replace IPDM E/R.

NG

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



UKS0018B

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
- Driver seat control unit
- Combination meter
- BCM
- Steering angle sensor
- Front air control
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

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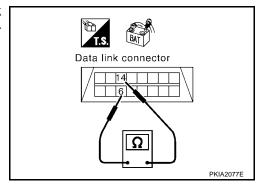
2. check harness for short circuit

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

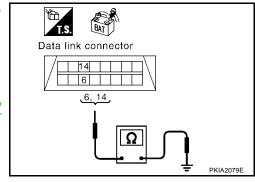
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-72</u>, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION".

NG >> Repair harness.



UKS0018C

IPDM E/R Ignition Relay Circuit Check

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

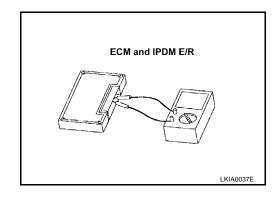
- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-13</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

UKS0018D

- 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



CAN SYSTEM (TYPE 3)

PFP:23710

System Description

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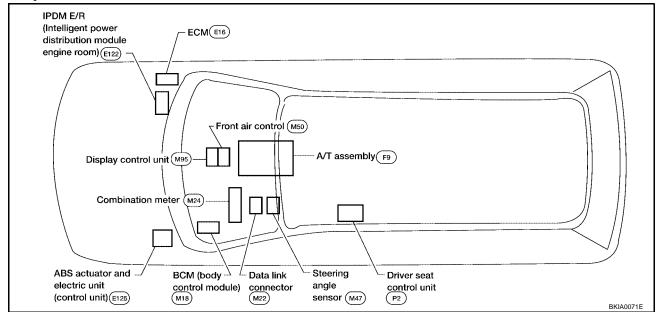
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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped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

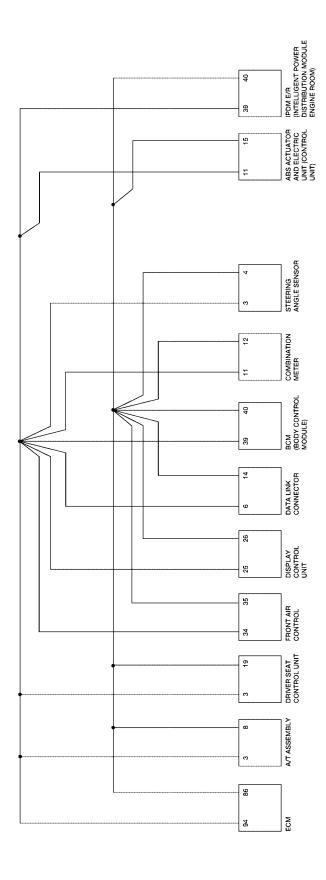
Component Parts and Harness Connector Location

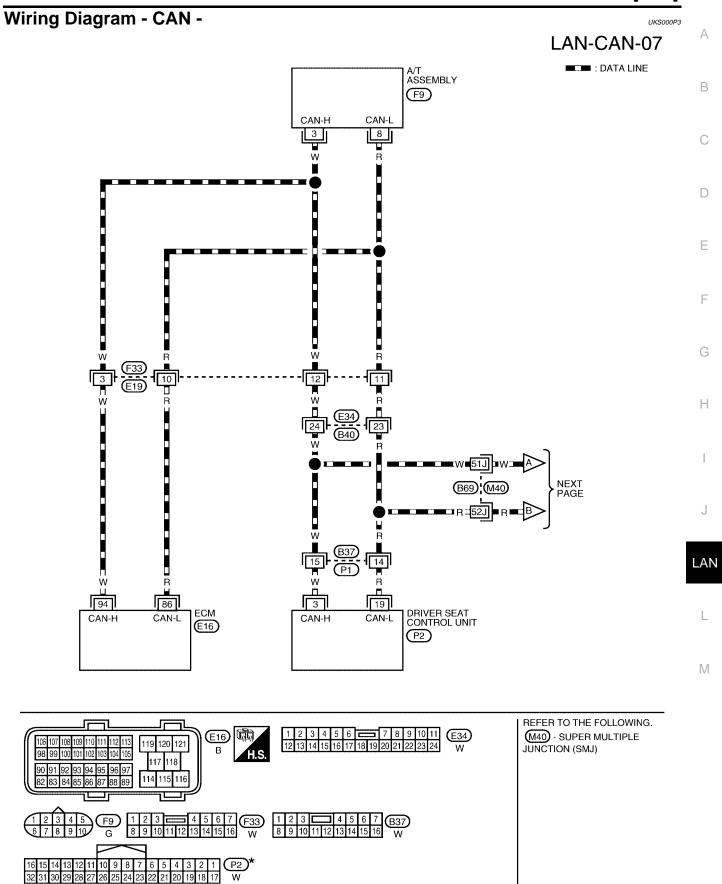
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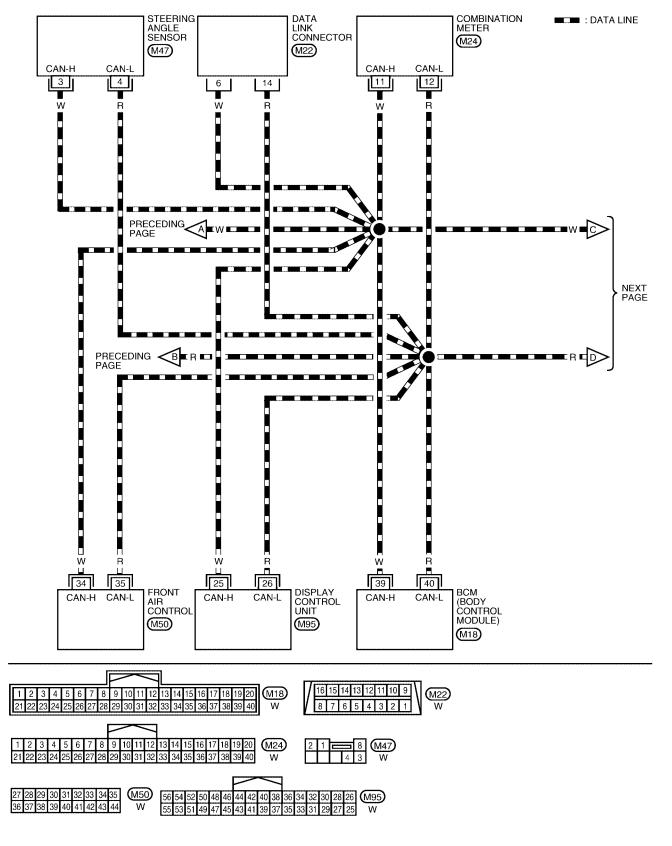
Schematic UKS000P2





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

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LAN-CAN-09

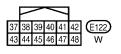
: DATA LINE

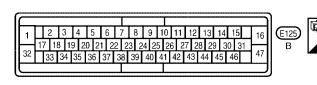
CEW∃31G**E**W**□** PRECEDING PAGE M31 E152 W W 11 15 39 40 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (CPU) ABS ACTUATOR AND ELECTRIC UNIT CAN-H CAN-L CAN-H CAN-L (CONTROL UNIT) (E125) (E122)

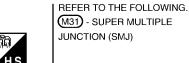
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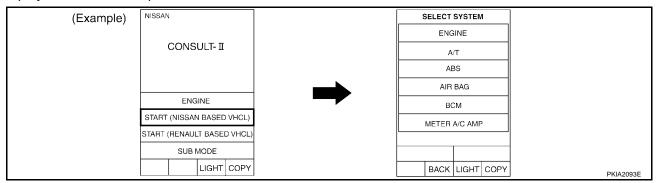




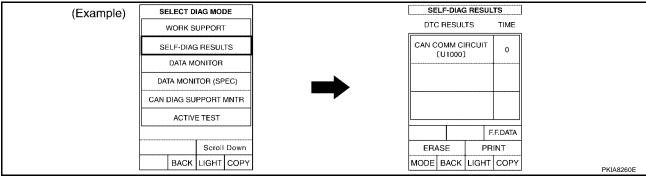
BKWA0022E

Work Flow

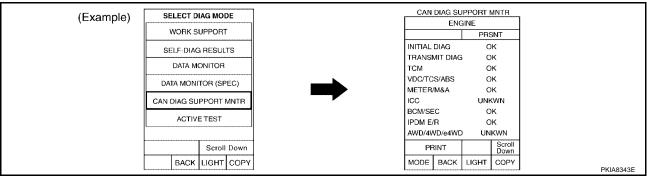
 When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 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.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-80, "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-80, "CHECK SHEET"</u>.

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-148, "CAN Communication Line Check"</u>.
- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-80</u>, <u>"CHECK SHEET"</u>.

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-80</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-148, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-82, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

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CHECK SHEET

NOTE:

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

SELECT SYSTE	EM screen	1		I	CA	N DIAG SU					
		Initial	Transmit			METER	Receive of	-	Frank -:-	VDC/TCC	
		diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/
VT	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
	_	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
BCM I	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	-
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
		A SEI	ttach copy _ECT SYS`	of TEM		SE	Attach copy LECT SYS	of TEM			
			CAN	dis	Attach copy play contro PORT MON	of I unit IITOR checl	k sheet				

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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

Revision: January 2005 LAN-81 2004 Pathfinder Armada

CHECK SHEET RESULTS (EXAMPLE)

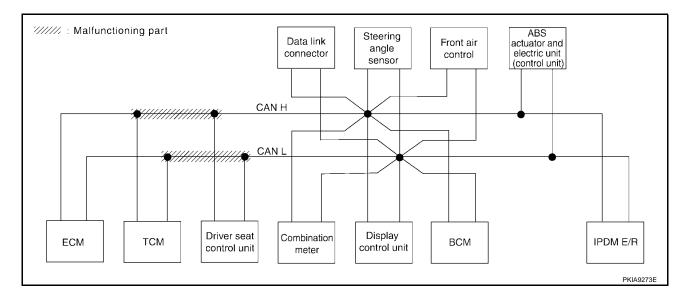
NOTE:

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-97</u>, "Circuit Check Between TCM and <u>Driver Seat Control Unit"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
0222010101	LIW GOLGGII	diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	∩ NK WN	UNK WN	_	_	Π ΝΚ ΜΝ	UNK WN
A/T	_	NG	UNKWN	UNKWN	_	∩ NK WN	_	_	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKANN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN TRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNION	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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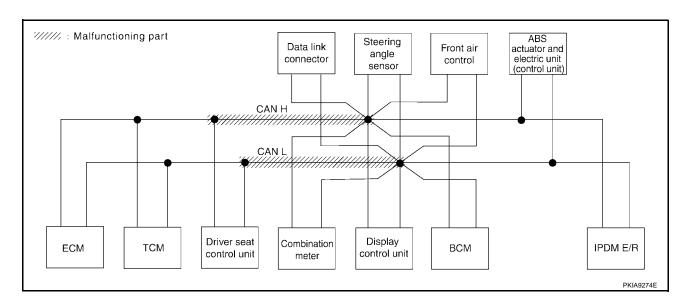
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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-98</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
		diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNK WN	_	_	Π ΝΚ ΜΝ	UNK/WN
A/T	_	NG	UNKWN	UNKWN	_	∩ νΚ ⁄γνν	_	_	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	=
Display control unit	-	CAN COMM	CAN CIRC 1	CAN TRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UN W WN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNI X WN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	_	_

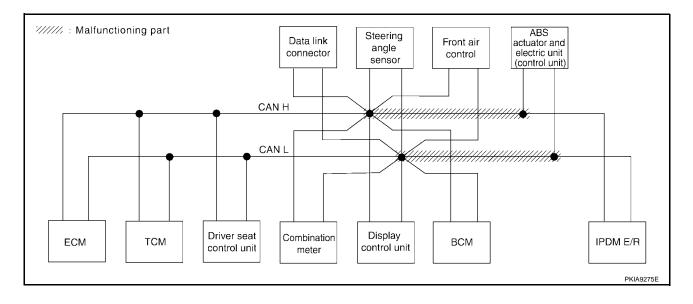


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Case 3

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-99</u>, "Circuit Check Between Data <u>Link Connector and IPDM E/R"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
322231 3131	ZIVI GOTOGIT	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	_	_	Π ΝΚ ΜΝ	UNK WN
A/T	_	NG	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 T
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNK/WN
ABS	_	NG	UNKWN	UNI X WN	UNKWN	_	_	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN		_	UNKWN	_	_	_	_



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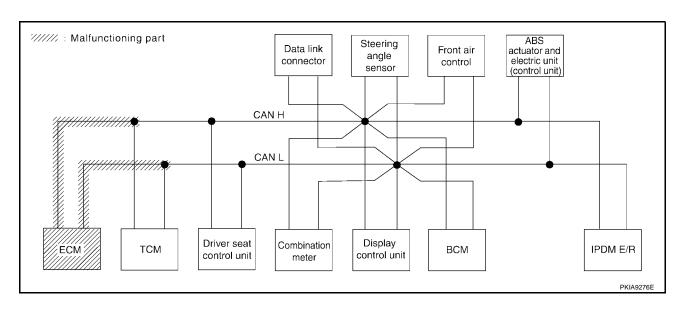
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Case 4
Check ECM circuit. Refer to LAN-100, "ECM Circuit Check".

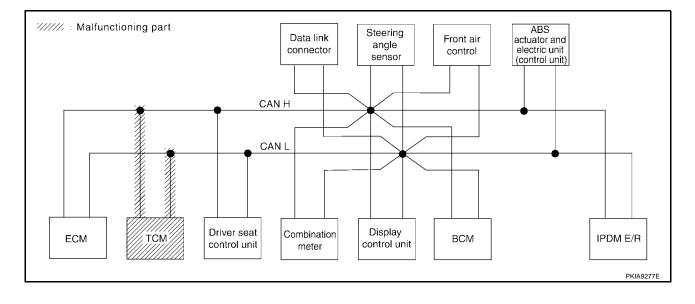
					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive o	liagnosis			
		diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNK WN	∩ NK WN	UNKWN	_	_	Π ΝΚ ΜΝ	UN K ₩N
A/T	_	NG	UNKWN	∩ ик /wи	_	UNKWN	_	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN RC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	-	NG	UNKWN	UNIXWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNK/WN	_	_	UNKWN	_	_	_	_



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Case 5
Check TCM circuit. Refer to <u>LAN-100, "TCM Circuit Check"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	ZIVI GGI GGI	diagnosis	diagnosis	ECM	ТСМ	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	∩ NN WN	_	∩ NK WN	_	_	_	UNKANN	_
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
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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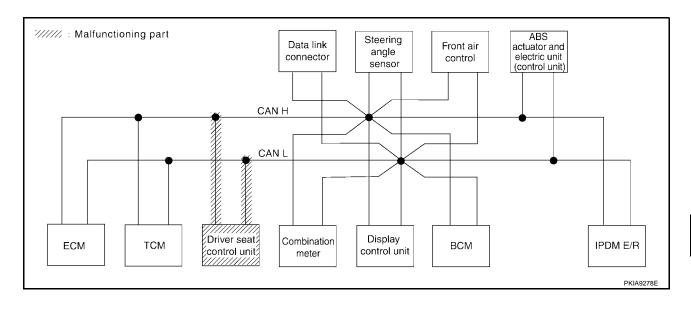
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Case 6
Check driver seat control unit circuit. Refer to <u>LAN-101</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive o	liagnosis			
		diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/P
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	_	_	_	_

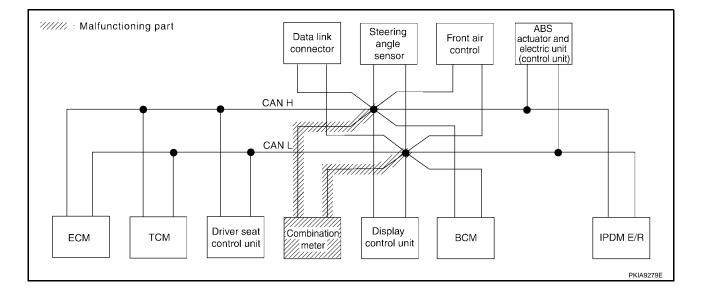


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Case 7
Check combination meter circuit. Refer to <u>LAN-101</u>, "Combination Meter Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive o	liagnosis			
022201 0101	LIVI SOFCOTI	diagnosis	diagnosis	ECM	ТСМ	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UN ™ WN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNK WN	-	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	Ω ΝΚ ₩Ν	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	_	UNK\\\	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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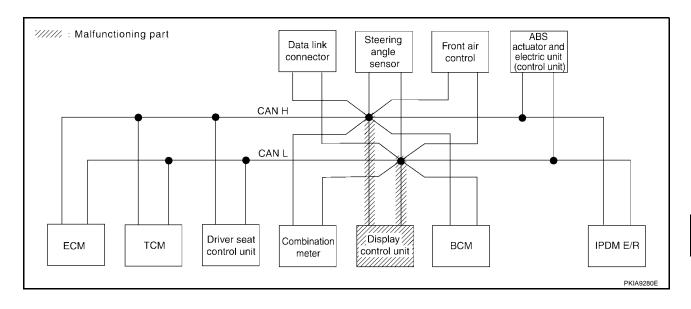
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Case 8
Check display control unit circuit. Refer to <u>LAN-102</u>, "<u>Display Control Unit Circuit Check</u>".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
		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	CANORC 1	CAN ORC 3	_	CAN ORC 5	CANORC 2	_	CANORC 4	_	CANORC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

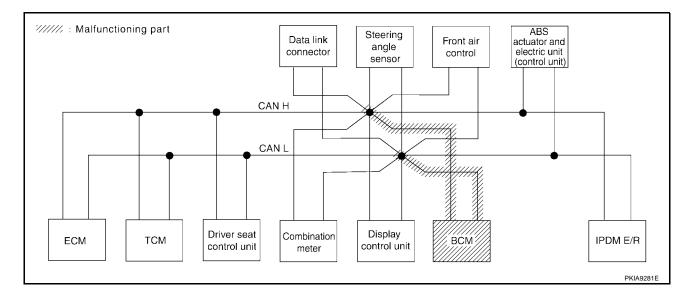


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Case 9
Check BCM circuit. Refer to <u>LAN-102</u>, "BCM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
0222010101	ZIVI GGI GGI	diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNIMU	_	_	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	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 WN	_	_	_	_



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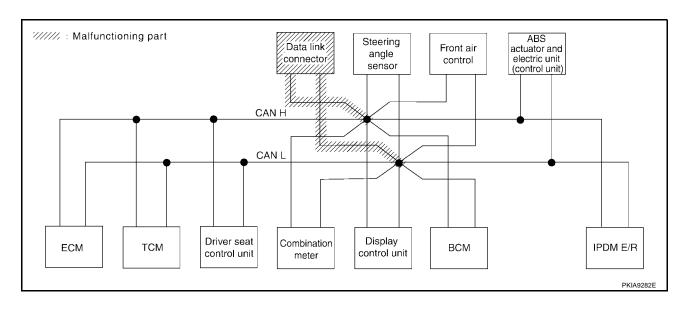
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Case 10

Check data link connector circuit. Refer to LAN-103, "Data Link Connector Circuit Check" .

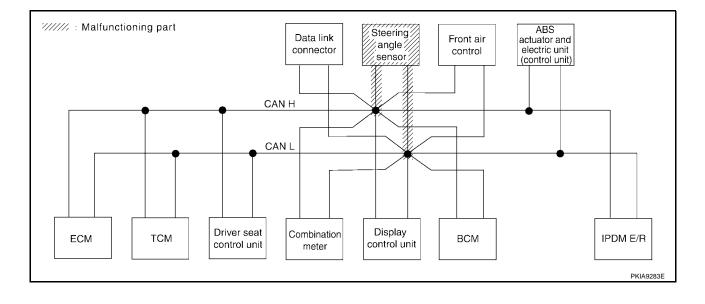
					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI SOFCCIT	diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	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	_	_	_	_



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Case 11
Check steering angle sensor circuit. Refer to <u>LAN-103</u>, "Steering Angle Sensor Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI SOLCOIT	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	_	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	_	_	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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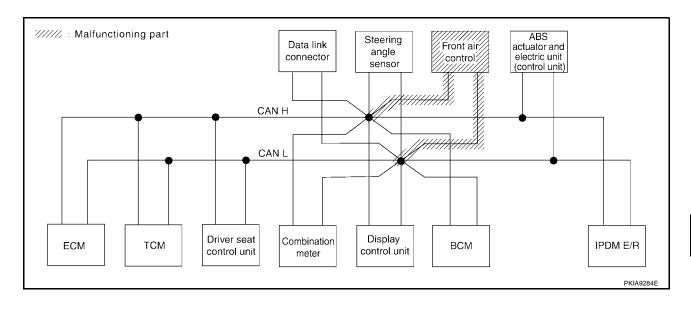
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Case 12
Check front air control circuit. Refer to <u>LAN-104</u>, "Front Air Control Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
0222010101	LIW GOLGGII	diagnosis	diagnosis	ECM	TCM	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/P
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	_	CANORC 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	_	_	_	_



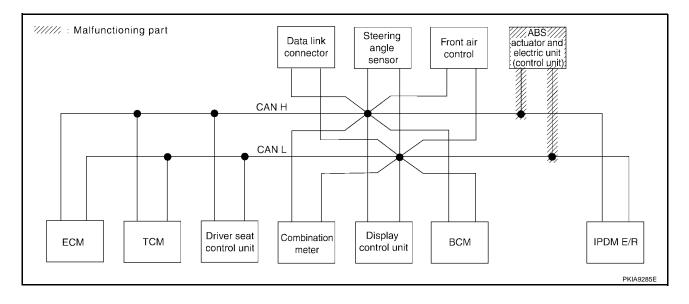
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Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-104</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	EIVI SOICCII	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	_	UNKWN	_	_	_	Π ΝΚ (ΜΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	_	CAN CIRC 4	_	CAN CIRC 7
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	N/s	UNI W N	UN K WN	UNK/WN	_	_	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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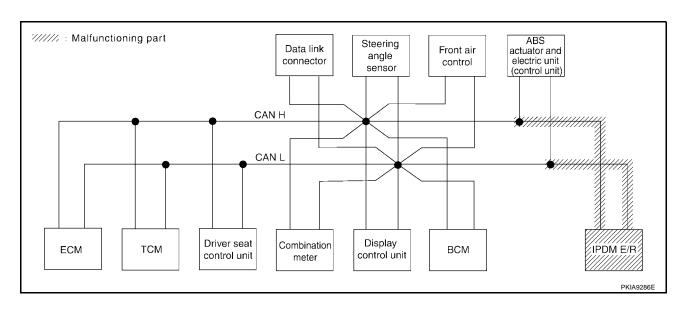
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Case 14
Check IPDM E/R circuit. Refer to LAN-105, "IPDM E/R Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI SOLCOII	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	UN A WN
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	_	_	_	_	UN W NN
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-105, "CAN Communication Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	2111 0010011	diagnosis		ECM	тсм	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	Ω ΝΚ ⁄⁄ΝΝ	∩ NK WN	UN K ₩N	_	_	Π ΝΚ ΜΝ	UNI WN
A/T	-	NG	UNKWN	UNK/WN	_	UNK/WN	_	=	_	UNK/WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CANAIRC 1	CAN CRC 3	_	CANORC 5	CANATRC 2	-	CAN ORC 4	-	CANORC 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NØ	UNK\WN	UNK/WN	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 <u>LAN-106, "IPDM E/R Ignition Relay Circuit Check"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	ΓΕΜ screen Initial		Transmit				Receive of	liagnosis			
0222010101	ZIVI GGI GGI	diagnosis	diagnosis	ECM	тсм	METER /M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Ω ΝΚ ⁄⁄ΩΝ	UNKWN	UNKWN	_	_	Π ИΚ ΜИ	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	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 7
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-106, "IPDM E/R Ignition Relay Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI SOLCOIT	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	UNK WN	_	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	UNI W N	UNKWN	_	_	UN K ₩N	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

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.

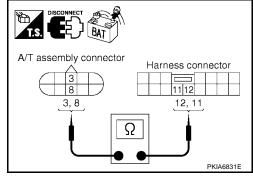
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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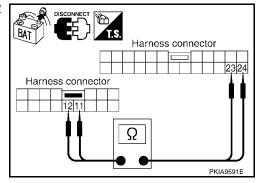
3. CHECK HARNESS FOR OPEN CIRCUIT

- 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

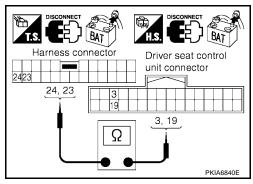
- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and driver seat control unit harness connector P2 terminals 3 (W), 19 (R).

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 <u>LAN-78, "Work Flow"</u>.

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 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.

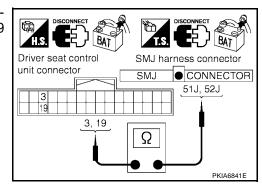
2. CHECK HARNESS FOR OPEN CIRCUIT

- 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

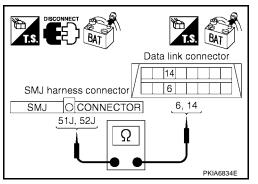
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

> 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-78, "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

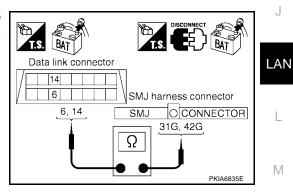
- Disconnect harness connector M31.
- Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

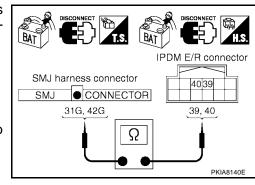
- Disconnect IPDM E/R connector. 1.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-78, "Work Flow".

NG >> Repair harness.



LAN-99 Revision: January 2005 2004 Pathfinder Armada

ECM Circuit Check

1. CHECK CONNECTOR

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

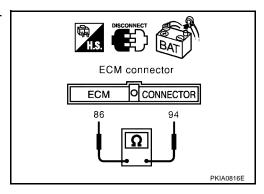
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector E16 terminals 94 (W) and 86 (R).

: 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

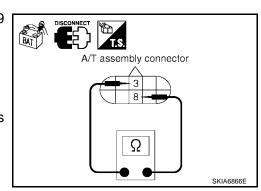
- Disconnect A/T assembly connector.
- Check resistance between A/T assembly harness connector F9 terminals 3 (W) and 8 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace A/T assembly.

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



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

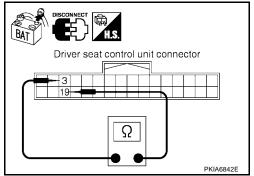
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B40.



Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

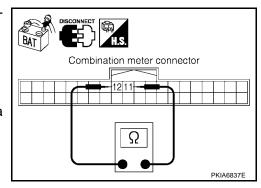
- Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

: 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

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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 - 66Ω

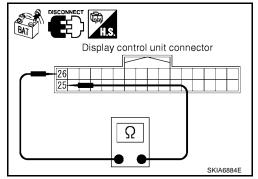
OK or NG

OK >

>> Replace display control unit.

NG

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



BCM Circuit Check

UKS0018Q

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

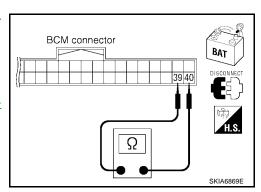
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-21, "Removal and Installation of 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 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

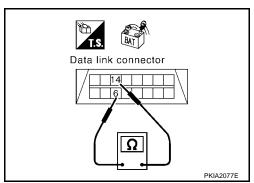
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

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

OK or NG

OK >> Diagnose again. Refer to LAN-78, "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).

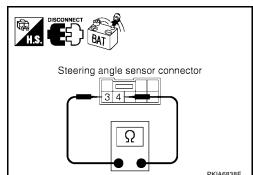
3 (W) - 4 (R) : Approx. 54 -
$$66\Omega$$

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

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

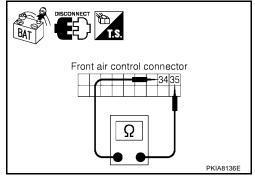
OK or NG

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

UKS0018U

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

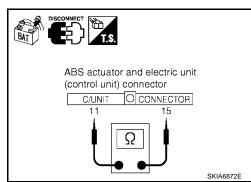
: Approx. 54 - 66 Ω

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.



CAN SYSTEM (TYPE 3)

[CAN]

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 108 - 132 Ω

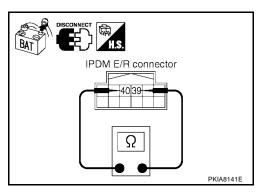
OK or NG

OK

>> Replace IPDM E/R.

NG

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



CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

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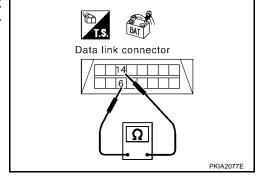
2. check harness for short circuit

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

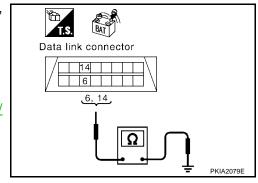
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-106</u>, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION".

NG >> Repair harness.



UKS0018X

IPDM E/R Ignition Relay Circuit Check

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

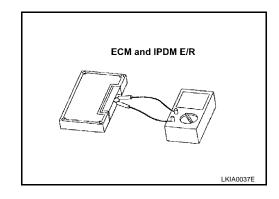
- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-13</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

UKS0018Y

- 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



CAN SYSTEM (TYPE 4)

PFP:23710

System Description

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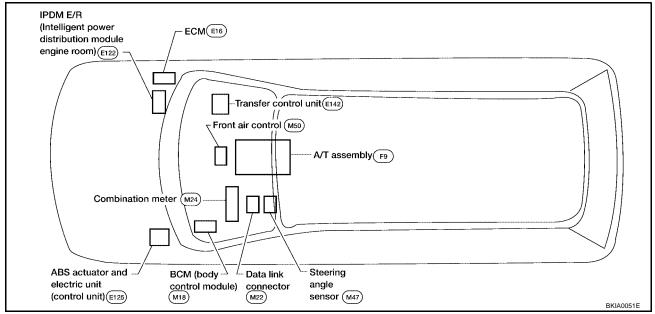
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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped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

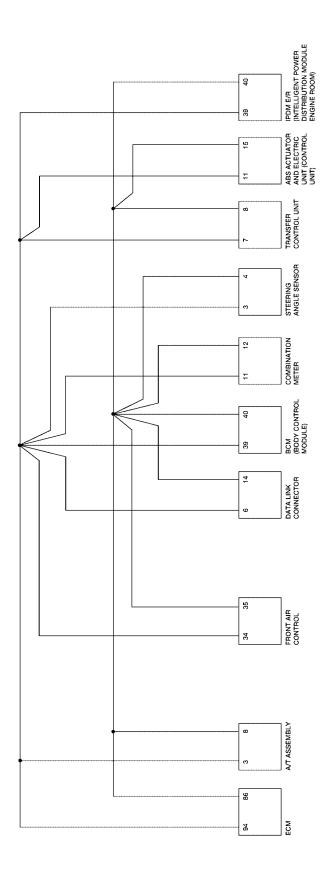
Component Parts and Harness Connector Location

UKS000PR



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Schematic UKSOODPS



BKWA0188E

Wiring Diagram - CAN -

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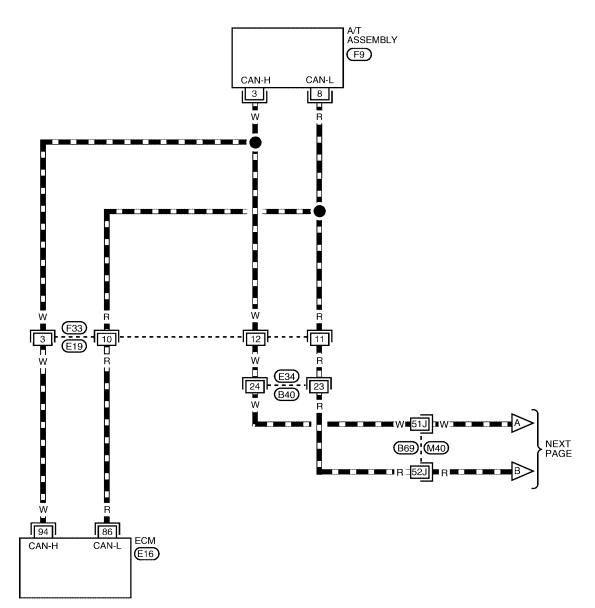
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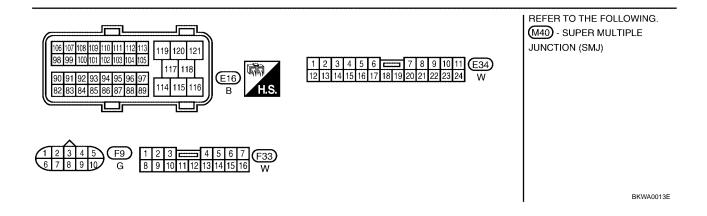
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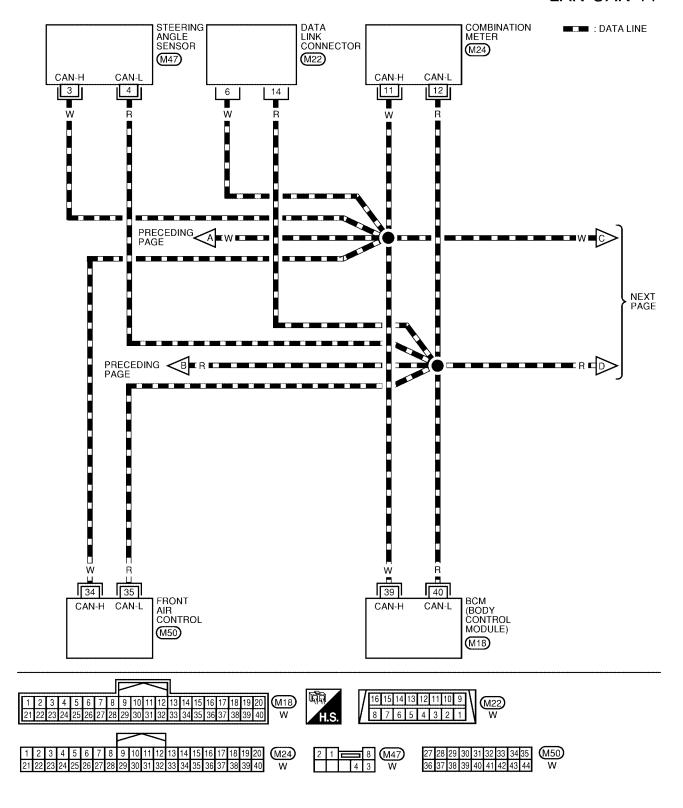
LAN-CAN-10

: DATA LINE

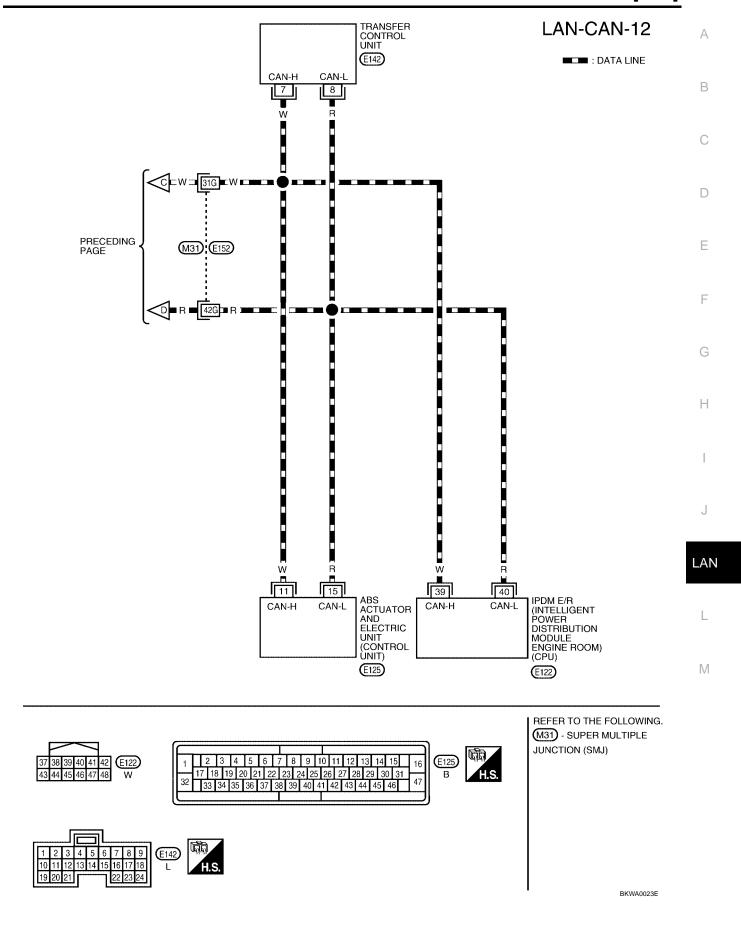




LAN-CAN-11



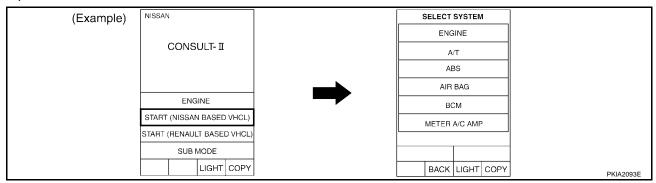
BKWA0189E



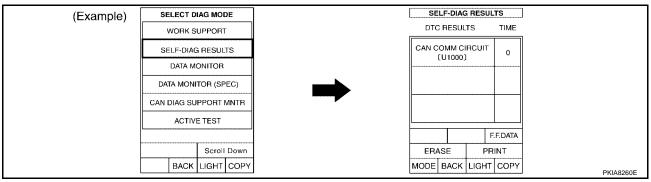
[CAN]

Work Flow

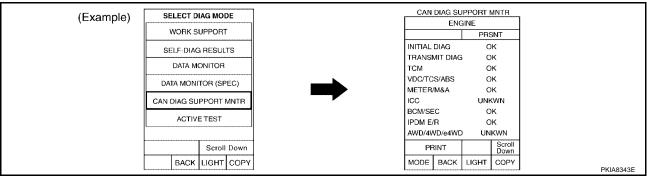
1. When there are no indications of "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-113, "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-113</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.
- 6. According to the check sheet results (example), start inspection. Refer to <u>LAN-115</u>, "CHECK SHEET <u>RESULTS</u> (EXAMPLE)".

CAN SYSTEM (TYPE 4)

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CHECK SHEET

NOTE:

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

						CAN DIA	G SUPPOF				
SELECT SYST	EM screen	 Initial	Transmit			,	Receive of	ziagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
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	_	-	_	_
Symptoms :											

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

PKIA9140E

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of A/T 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 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

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CHECK SHEET RESULTS (EXAMPLE)

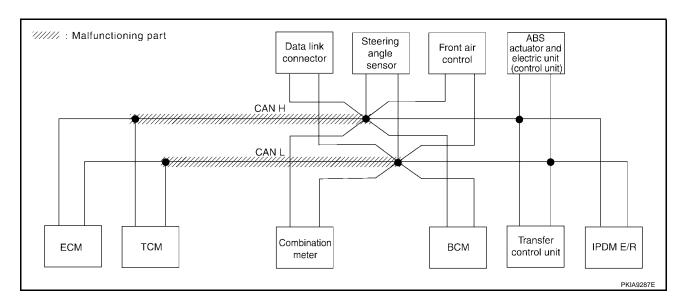
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-127</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	 Initial	Transmit				Receive	diagnosis			
0222010101		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	∩ M MN	_	UNK WN	∩ NK WN	UN K ₩N
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNK WN	UNIAMN	_
ВСМ	No indication	NG	UNKWN	UNK WN	-	UNKWN	-	-	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	Π ИΚ (MN	UNKWN	_	_	-	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	1	_	UNKWN	_	_	_	_



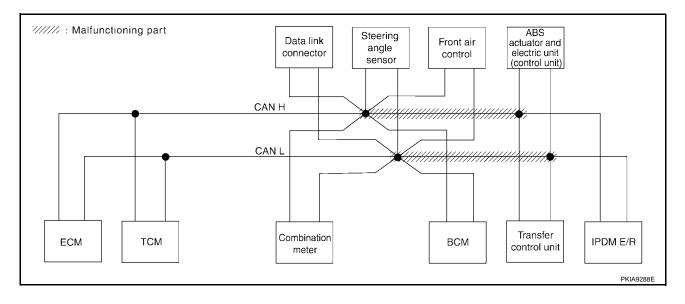
LAN-115

2004 Pathfinder Armada

Case 2

Check harness between data link connector and IPDM E/R. Refer to $\underline{\text{LAN-128}}$, "Circuit Check Between Data $\underline{\text{Link Connector}}$ and $\underline{\text{IPDM E/R}}$ ".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
02220101011	EN GOLGON		diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNK WN	∩ NK WN	UN K WN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNIAMN	_
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	_	_	_	UNIONN
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	UNION	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKANN	UNK WN	_	-	UNION	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



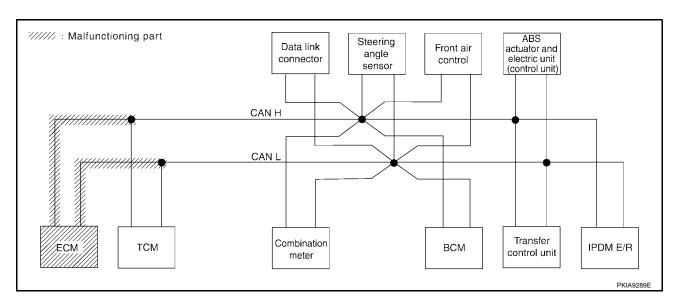
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Case 3
Check ECM circuit. Refer to LAN-129, "ECM Circuit Check".

						CAN DIA	.G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			• • • • • • • • • • • • • • • • • • • •	Receive				
OLLLOT STOT	LIW SCIECTI	diagnosis	Transmit diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNK WN	UNK WN	∩ M WN	_	UNK WN	UNK WN	UN K ₩N
A/T	_	NG	UNKWN	UNK WN	_	UNKWN	_	_	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	NAK WN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_

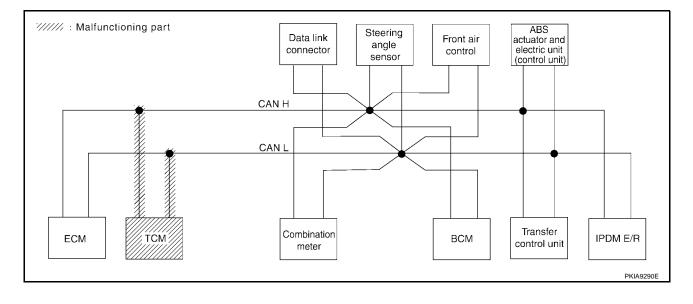


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Case 4
Check TCM circuit. Refer to <u>LAN-130, "TCM Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
322201 31311	EIVI 0010011	diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	=	NG	UNKWN	UNK WN	_	UNIOWN	_	_	UNKWN	UNIA WN	=
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNIONN	_	_	_	_	UNKWN	=
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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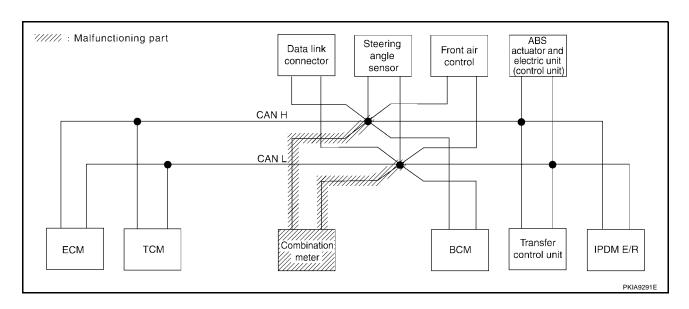
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Case 5
Check combination meter circuit. Refer to <u>LAN-130</u>, "Combination Meter Circuit Check" .

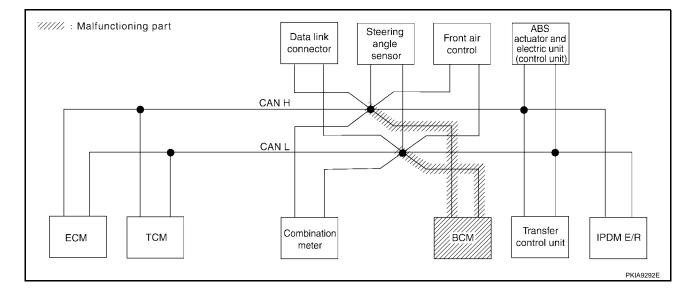
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
OLLLOT GTOT	LIVI SOICCII	diagnosis		ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	-	UNKWN	UNK WN	UNKWN		UNKWN	UNKWN	UNKWN
A/T		NG	UNKWN	UNKWN	_	UNIONN			UNKWN	UNKWN	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNK WN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_		UNKWN	
ABS		NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		_	_	



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Case 6
Check BCM circuit. Refer to <u>LAN-131</u>, "BCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
322201 3131	LIVI GOLGOTI	diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	Π ΜΑ ΜΝ	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
BCM	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	-	_	UNI W WN	_	_	_	_



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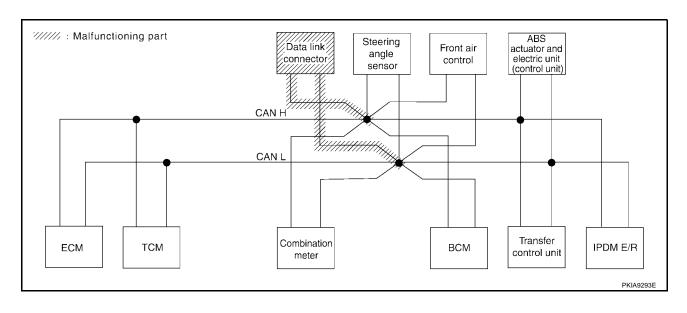
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Case 7

Check data link connector circuit. Refer to LAN-131, "Data Link Connector Circuit Check" .

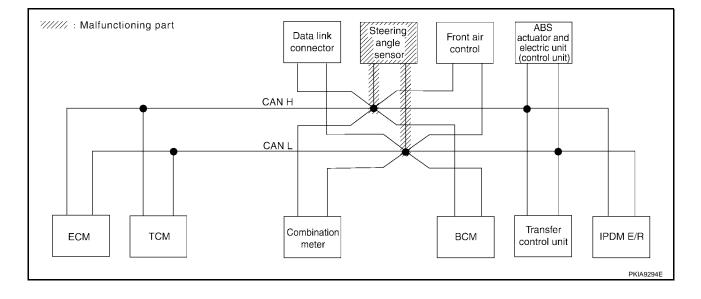
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
322201 31311	LIW GOI GOII	diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
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 steering angle sensor circuit. Refer to <u>LAN-132</u>, "Steering Angle Sensor Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
322201 3131	LIW GOIGGII	diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UMAWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_



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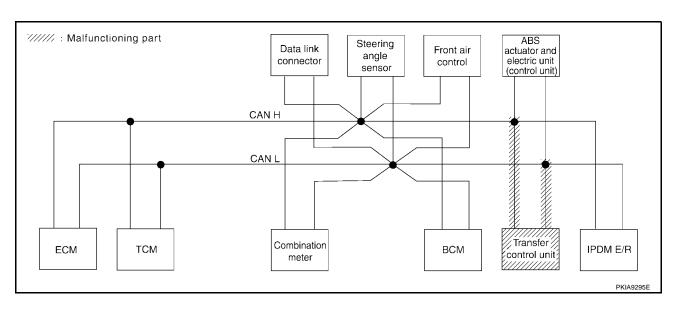
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Case 9

Check transfer control unit circuit. Refer to LAN-132, "Transfer Control Unit Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
322201 3131	EN CONCON	diagnosis		ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNK WN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	ı
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UN K WN	UNK WN	UNI W N	_	_	_	_	UNK WN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNK/WN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_



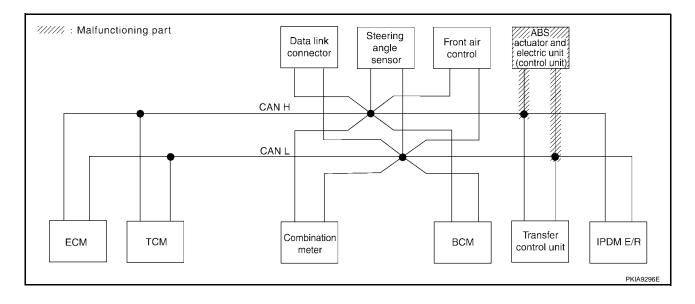
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Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-133</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	EN GOLGON	diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNK WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	_	_	UNKWN	UNIO	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	-	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNK/WN	_
ABS	_	V s	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	-	_



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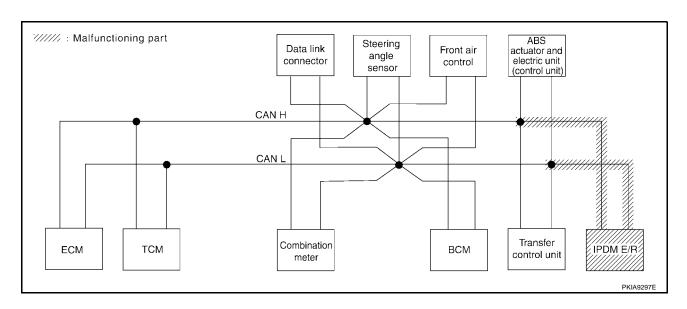
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Case 11 Check IPDM E/R circuit. Refer to <u>LAN-133</u>, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit - diagnosis	Receive diagnosis								
				ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UN K ₩N	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	
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 12

Check CAN communication circuit. Refer to LAN-134, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNK WN	_	UNKWN	UNK WN	∩ M MN	_	UNK WN	UNK WN	UN K ₩N	
A/T	_	NG	UNKWN	UNK WN	_	UNKWN	_	_	UNKWN	UNIONN	_	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN	
ALL MODE AWD/4WD	_	NG	NMA WN	UNK WN	UNI W N	_	_	_	_	UNK WN	_	
ABS	_	W s	UNIXWN	UNKWN	UNKWN	_	_	UMAWN	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to $\underline{\text{LAN-135}}$, "IPDM E/R Ignition Relay $\underline{\text{Circuit Check}}$ ".

						CAN DIA	.G SUPPOF					
SELECT SYST	EM screen	Initial	Transmit - diagnosis	Receive diagnosis								
		diagnosis		ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	UNKWN	Π Μ ΜΝ	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNIONN	_	_	_	_	UNK WN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_	
											PKIA9203E	

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-135, "IPDM E/R Ignition Relay Circuit Check"</u>.

						CAN DIA	G SUPPOF					
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis								
		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	-	UNIXWN	-	_	UNKWN	UNKWN	_	
ВСМ	No indication	NG	UNKWN	UNKWN	-	UNKWN	_	_	_	_	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UN W WN	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	

Circuit Check Between TCM and Data Link Connector

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
- Harness connector E34
- Harness connector B40
- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 12 (W)

: Continuity should exist.

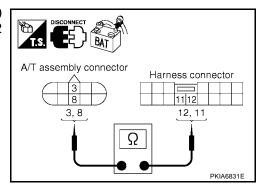
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



2004 Pathfinder Armada

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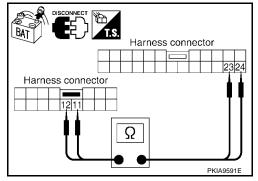
3. CHECK HARNESS FOR OPEN CIRCUIT

- 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.



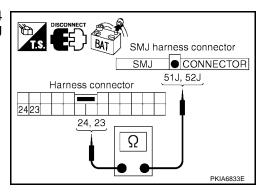
4. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector B69.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and harness connector B69 terminals 51J (W), 52J (R).

24 (W) - 51J (W) : Continuity should exist. 23 (R) - 52J (R) : Continuity should exist.

OK or NG

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



5. CHECK HARNESS FOR OPEN CIRCUIT

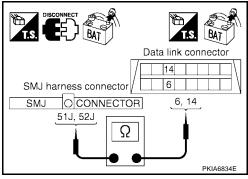
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-112</u>, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS00191

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.

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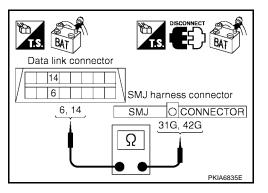
2. CHECK HARNESS FOR OPEN CIRCUIT

- 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

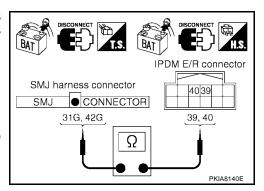
- 1. Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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 <u>LAN-112</u>, "Work Flow".

NG >> Repair harness.



UKS00192

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

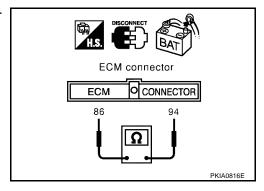
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector E16 terminals 94 (W) and 86 (R).

94 (W) - 86 (R) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



UKS00193

TCM Circuit Check

CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

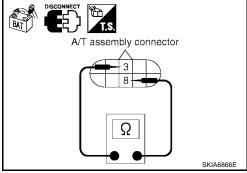
- 1. Disconnect A/T assembly connector.
- Check resistance between A/T assembly harness connector F9 terminals 3 (W) and 8 (R).

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

OK or NG

OK >> Replace A/T assembly.

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



Combination Meter Circuit Check

1. CHECK CONNECTOR

- 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. UKS00194

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2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66Ω

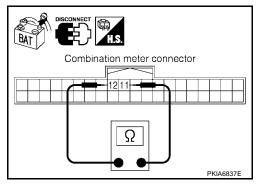
OK or NG

OK

>> Replace combination meter.

NG

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



UKS00195

BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

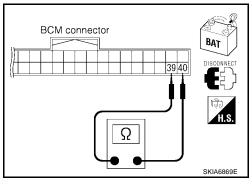
: Approx. 54 - 66 Ω

OK or NG

OK >> Rep

>> Replace BCM. Refer to <u>BCS-21, "Removal and Installation of BCM"</u>.

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



UKS00196

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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 -
$$66\Omega$$

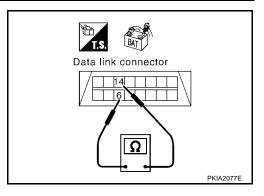
OK or NG

OK >

>> Diagnose again. Refer to LAN-112, "Work Flow".

NG

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



UKS00197

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

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

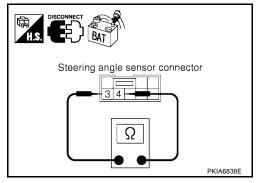
OK or NG

OK >> Repla

>> Replace steering angle sensor.

NG

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



UKS00198

Transfer Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

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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

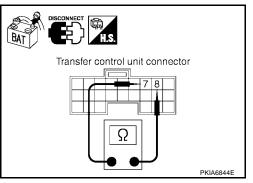
OK or NG

OK

>> Replace transfer control unit.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS00199

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose 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.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

: Approx. 54 - 66 Ω

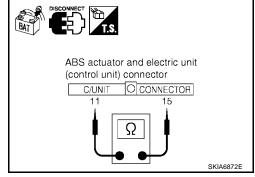
OK or NG

OK

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

NG

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



UKS0019A

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

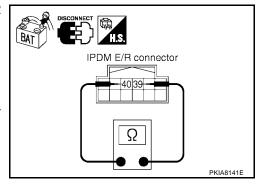
- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

39 (W) - 40 (R) : Approx.
$$108 - 132\Omega$$

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
- Combination meter
- BCM
- Steering angle sensor
- Front air control
- Transfer control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

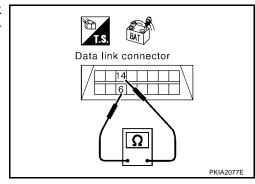
2. CHECK HARNESS FOR SHORT CIRCUIT

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR SHORT CIRCUIT

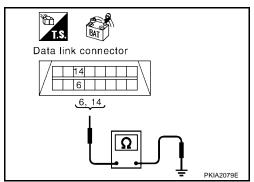
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-135, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>.

NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

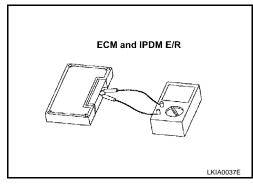
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-13, "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	100 - 132



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CAN SYSTEM (TYPE 5)

PFP:23710

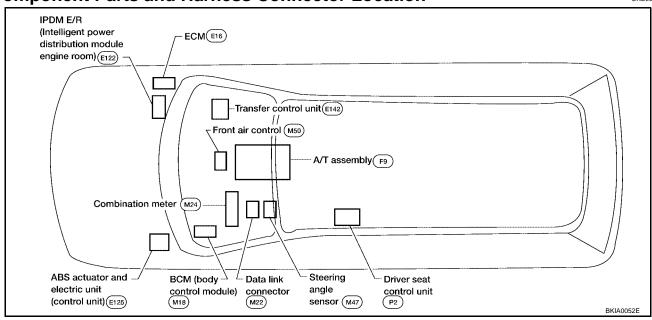
System Description

UKS000QB

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

Component Parts and Harness Connector Location

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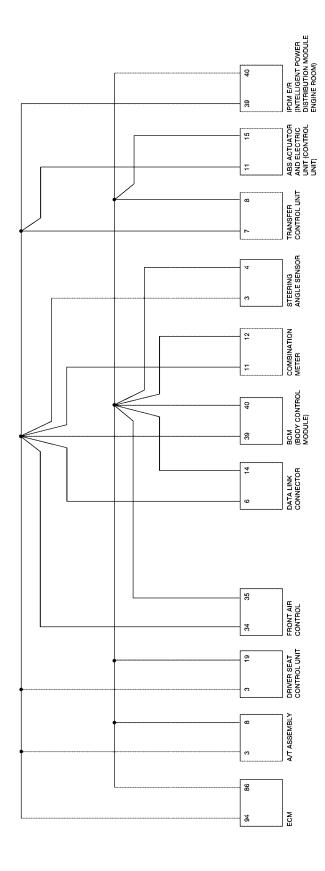
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Schematic UKS000QD



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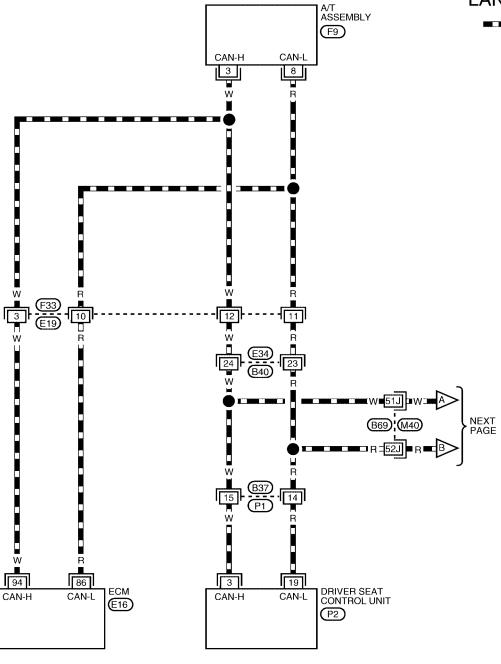
M

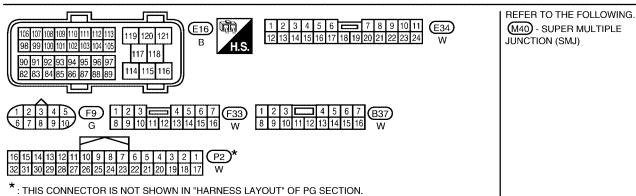
BKWA0190E

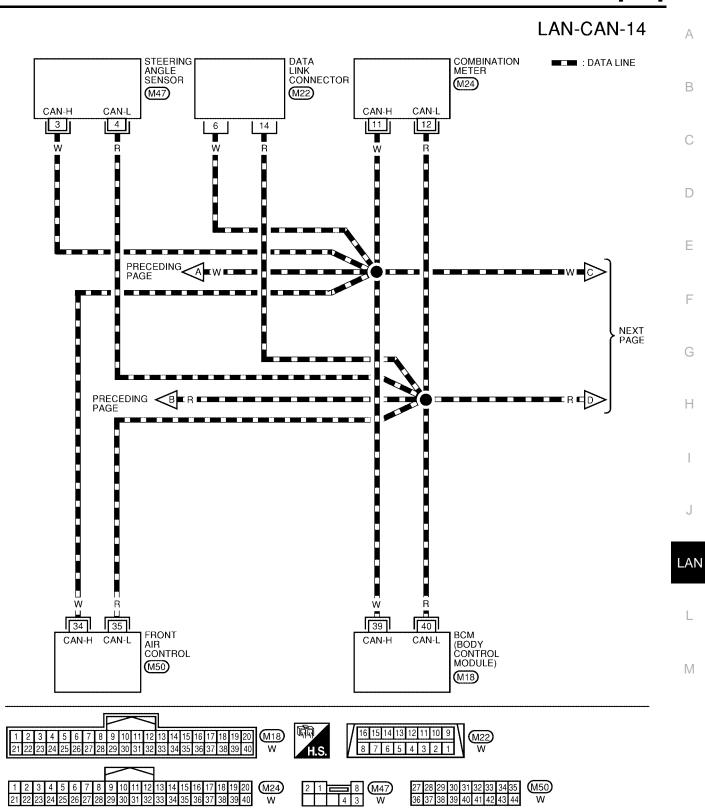
Wiring Diagram - CAN -



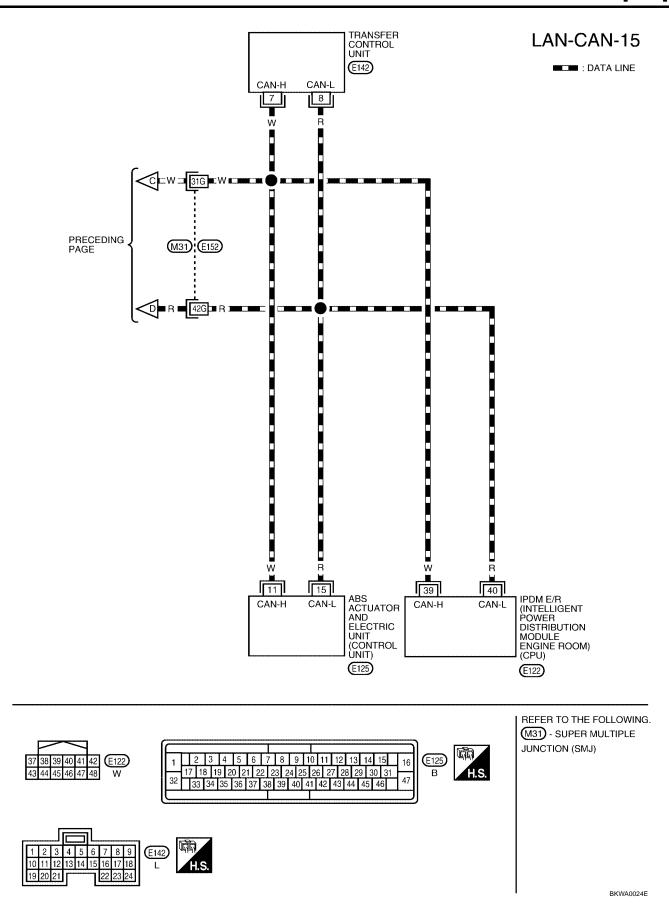
: DATA LINE





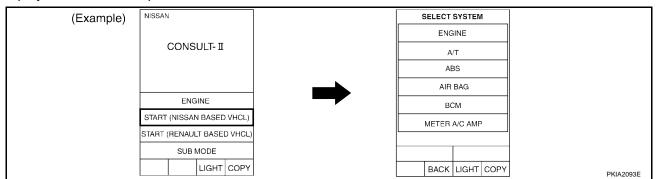


BKWA0191E

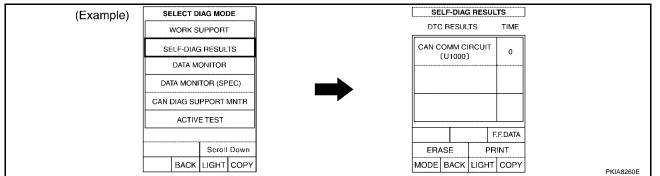


Work Flow

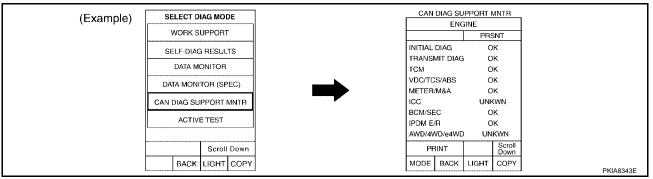
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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.



Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "AUTO DRIVE POS.", "BCM", 3. "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-142, "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 LAN-142, "CHECK SHEET".

NOTE:

Revision: January 2005

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- According to the check sheet results (example), start inspection. Refer to LAN-144, "CHECK SHEET RESULTS (EXAMPLE)".

LAN-141

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2004 Pathfinder Armada

CHECK SHEET

NOTE:

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

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	
VT	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	ı	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN	
LL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	
Symptoms :												

SELECT SYSTEM

SELECT SYSTEM

LAN-142 Revision: January 2005 2004 Pathfinder Armada

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

Revision: January 2005 LAN-143 2004 Pathfinder Armada

CHECK SHEET RESULTS (EXAMPLE)

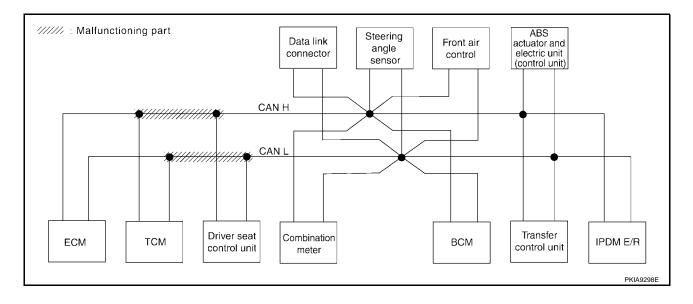
NOTE:

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

Case 1

Check harness between TCM and driver seat control unit. Refer to <u>LAN-158</u>, "Circuit Check Between TCM and Driver Seat Control Unit".

						CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
02220101011		diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	η νκ γνν	_	UNKWN	UNKWN	UN K ₩N	
A/T	_	NG	UNKWN	UNKWN	_	UNI WN	_	-	UNK WN	UNK/WN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK/WN	UNKWN	UNKWN	_	_	_	-	
всм	No indication	NG	UNKWN	∩ иК /ми	_	UNKWN	_	_	_	_	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	Π ИΚ /ΜИ	UNKWN	_	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNIKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	



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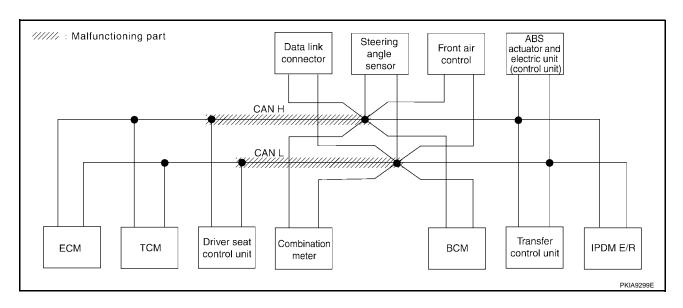
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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-159</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	n uk wu	_	UNI WN	UNIXWN	Π ΝΚ ΜΝ
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	n uk wu	Π ИΚ /ΜИ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
всм	No indication	NG	UNKWN	Π ΛΚ ΜΝ	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	Π ΜΑ ΜΝ	_	-	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNIVWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNIVAN	_	_	UNKWN	_	_	_	_

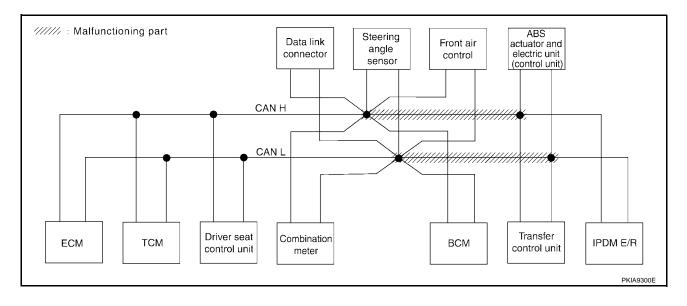


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Case 3

Check harness between data link connector and IPDM E/R. Refer to $\underline{\text{LAN-160}}$, "Circuit Check Between Data $\underline{\text{Link Connector and IPDM E/R"}}$.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
SELECT STST	LIVI SCIECTI	diagnosis	Transmit diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNIX WN	Π ΝΚ ΜΝ
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNK\\\	UNK/WN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNK/WN
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	UNK/WN	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNIKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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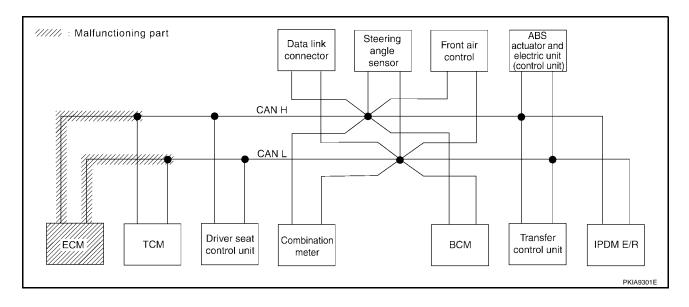
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Case 4
Check ECM circuit. Refer to LAN-161, "ECM Circuit Check".

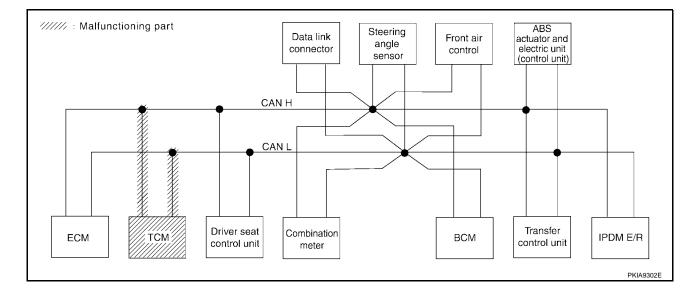
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
02220101011	LIVI GOLGGII	diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	Π ΜΑ ΜΝ	UNK W N	ΠΝ Κ ΙΝΝ	_	UN A WN	UNIXWN	UNK WN
A/T	_	NG	UNKWN	UNIONN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNIXWN	UNKWN	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNIVWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 5
Check TCM circuit. Refer to <u>LAN-161</u>, "TCM Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
011101		diagnosis	diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	Π ΜΑ ΜΝ	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNI WN	_	UNK WN	_	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	_	_	-
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	NAM WN	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK/WN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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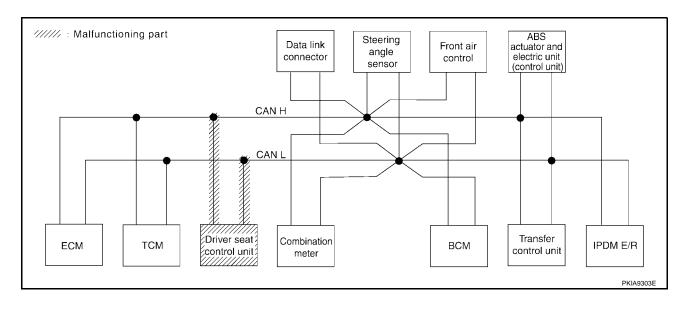
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Case 6
Check driver seat control unit circuit. Refer to <u>LAN-162</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive (diagnosis			
022201 01011	LIVI SCIECTI			ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

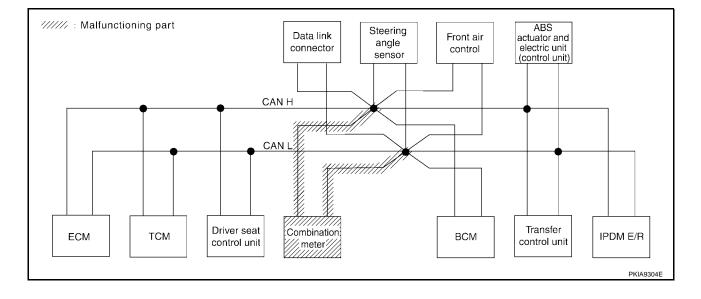


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Case 7
Check combination meter circuit. Refer to <u>LAN-162</u>, "Combination Meter Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0===0.0.0.		diagnosis		ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UN W WN	UNKWN	_	_	_	-
всм	No indication	NG	UNKWN	UNKWN	_	UNK/WN	_	_	_	_	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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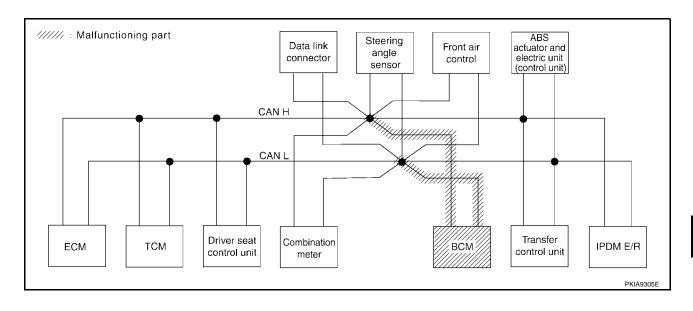
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Case 8
Check BCM circuit. Refer to <u>LAN-163</u>, "BCM Circuit Check" .

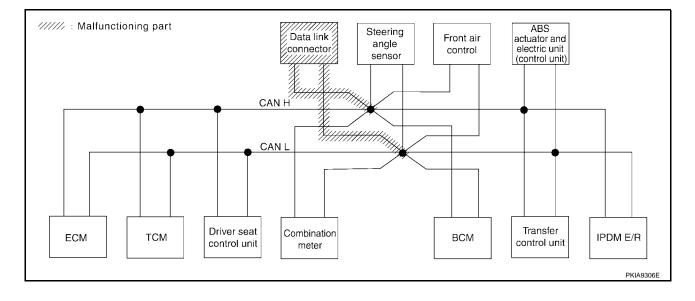
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
022201 0101	LIVI SCIECTI	diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UN W WN	_	_	_	-
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 9
Check data link connector circuit. Refer to <u>LAN-163</u>, "<u>Data Link Connector Circuit Check"</u>.

						CAN DIA	G SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
011101			diagnosis	ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
BCM	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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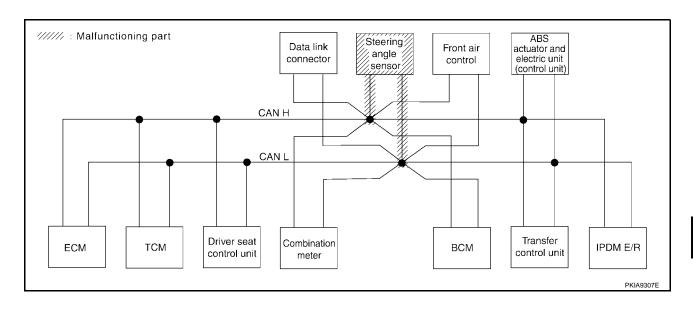
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Case 10

Check steering angle sensor circuit. Refer to LAN-164, "Steering Angle Sensor Circuit Check" .

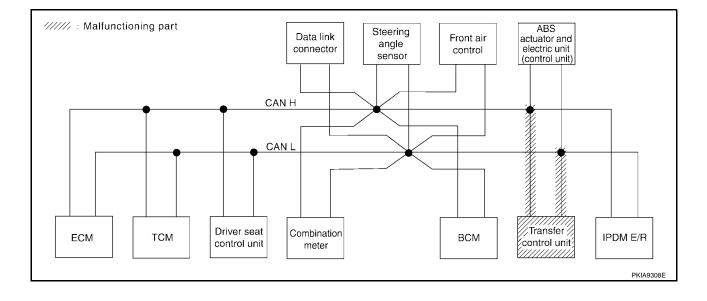
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
SELECT STOT	LIVI SCIECTI	diagnosis	Transmit diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VN UNKWN	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	-
BCM	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 11
Check transfer control unit circuit. Refer to <u>LAN-164, "Transfer Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SCICCII	diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	Π ΛΚ ΜΝ	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	∩ M MN	UNKWN	_	_	_	_	UNK/WN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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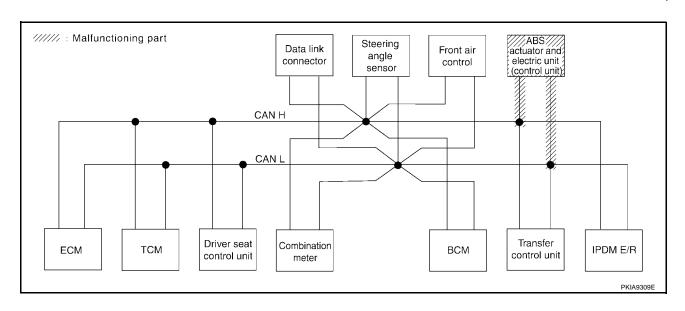
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Case 12

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

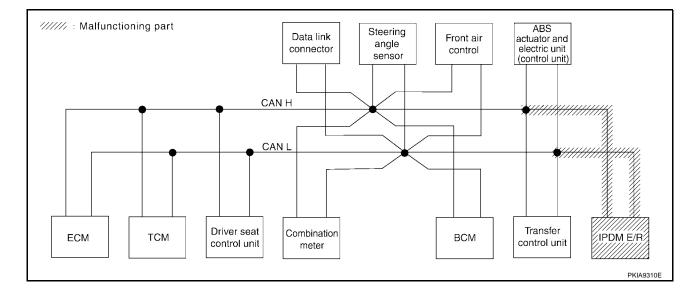
						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYSTE	FM screen	Initial	Transmit				Receive of	diagnosis			
02220101011			diagnosis	ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNIVAN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	NUK WN	_
ABS	_	N	UNIXWN	UNKWN	UNK WN	_	_	UNWWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



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Case 13
Check IPDM E/R circuit. Refer to <u>LAN-165</u>, "IPDM E/R Circuit Check" .

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
011101		diagnosis		ECM	ТСМ	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	∩ иК (МИ
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UN K ₩N
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Case 14

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

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
02220101011	LIVI SCIECTI	diagnosis		ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UN K ₩N	UNRWN	η νκ ⁄νν	_	UN K ₩N	UNI WN	UNK WN
A/T	_	NG	UNKWN	UNK WN	_	UNIX WN	_	_	NNN	UNION	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNK WN	UNK WN	UNKWN	_	_	_	_	UNK WN	_
ABS	_	NS	UNK/WN	UNK/WN	UNKWN	_	_	UNKAN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

Case 15

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

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit Receive diagnosis								
022201 01011	LIVI SCICCII	diagnosis	diagnosis	ECM	TCM	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE		NG	UNKWN	_	UN K ∕VN	UNKWN	UNKWN	_	UNKWN	UNIXWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	_	_	_	-
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	Π ΝΚ (ΛΝ	_	_	_	_	UN K ₩N	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_

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Revision: January 2005 LAN-157 2004 Pathfinder Armada

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Case 16

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

						CAN DIA	G SUPPOF	RT MNTR			
SELECT SYSTI	EM screen	Initial	Transmit	Receive diagnosis							
32220131311		diagnosis		ECM	тсм	METER/ M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNIWN	_	UNKWN	_	-	UNK/WN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK/WN	UNKWN	_	_	UNKWN	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

Circuit Check Between TCM and Driver Seat Control Unit

UKS0019F

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.

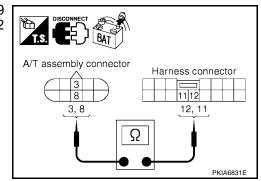
8 (R) - 11 (R)

: 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.

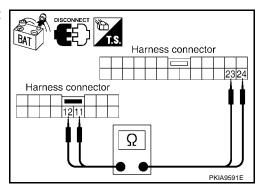
11 (R) - 23 (R)

: 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.

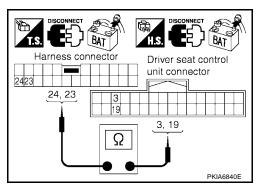
23 (R) - 19 (R)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-141, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0019G

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 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.

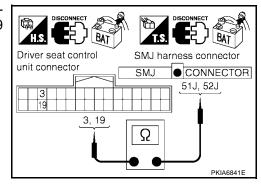
19 (R) - 52J (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

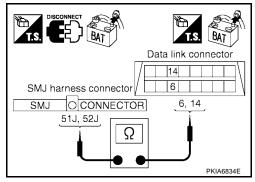
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-141, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0019H

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.

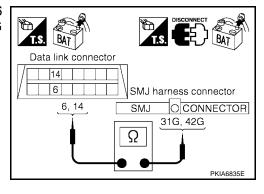
2. CHECK HARNESS FOR OPEN CIRCUIT

- 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

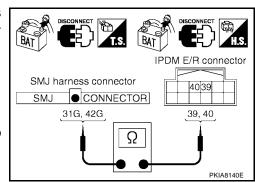
- Disconnect IPDM E/R connector.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 19 (W), 40 (R).

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 <u>LAN-141</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

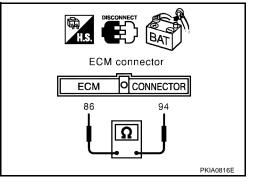
- Disconnect ECM connector.
- Check resistance between ECM harness connector E16 termi-2. nals 94 (W) and 86 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



TCM Circuit Check

1. CHECK CONNECTOR

- 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

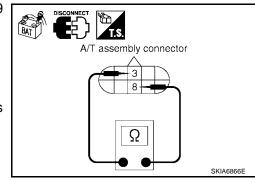
- Disconnect A/T assembly connector. 1.
- Check resistance between A/T assembly harness connector F9 terminals 3 (W) and 8 (R).

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

OK or NG

OK >> Replace A/T assembly.

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



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UKS0019K

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66Ω

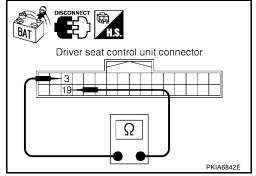
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B40.



Combination Meter Circuit Check

UKS0019L

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).

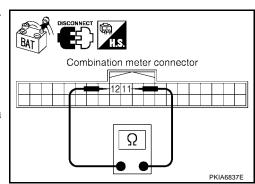
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.

NG >> Repair harness between of

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



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BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 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

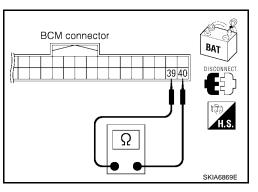
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-21, "Removal and Installation of BCM"</u>.

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



UKS0019N

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

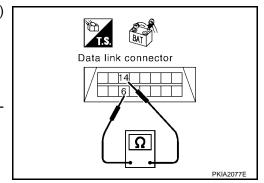
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

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

OK or NG

OK >> Diagnose again. Refer to <u>LAN-141</u>, "Work Flow".

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



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Revision: January 2005

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

UKS0019O

- 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).

: Approx. 54 - 66 Ω

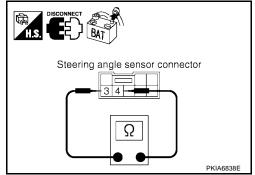
OK or NG

OK

>> Replace steering angle sensor.

NG

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



Transfer Control Unit Circuit Check

UKS0019P

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

: Approx. 54 - 66Ω

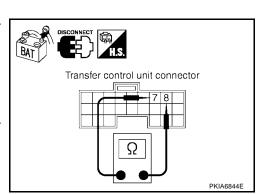
OK or NG

OK :

>> Replace transfer control unit.

NG

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



2004 Pathfinder Armada

ABS Actuator and Electric Unit (Control Unit) Circuit Check

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

: Approx. 54 - 66 Ω

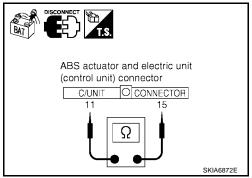
OK or NG

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

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

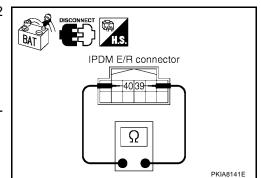
- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

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



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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
- **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

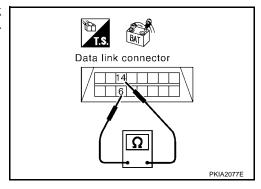
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR SHORT CIRCUIT

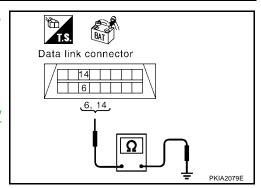
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

> 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-167, "ECM/ IPDM E/R INTERNAL CIRCUIT INSPECTION".

NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

UKS0019T

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

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

LAN-166 Revision: January 2005 2004 Pathfinder Armada

CAN SYSTEM (TYPE 5)

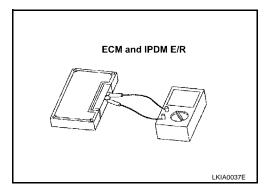
[CAN]

UKS0019U

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 6)

PFP:23710

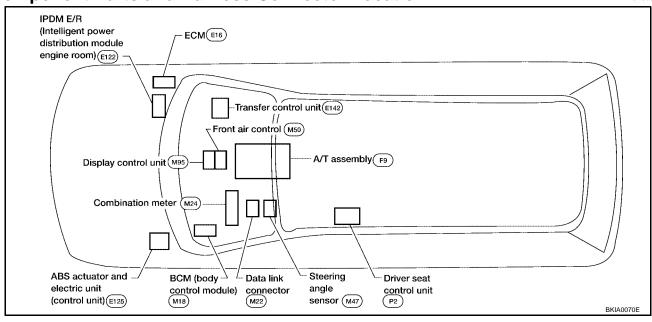
System Description

UKS000QY

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

UKS000QZ



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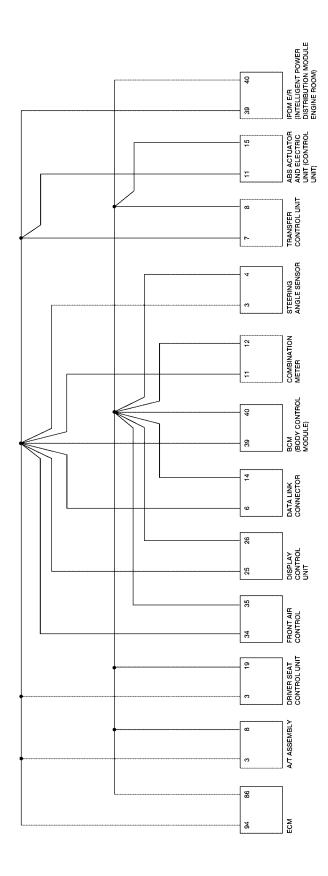
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Schematic



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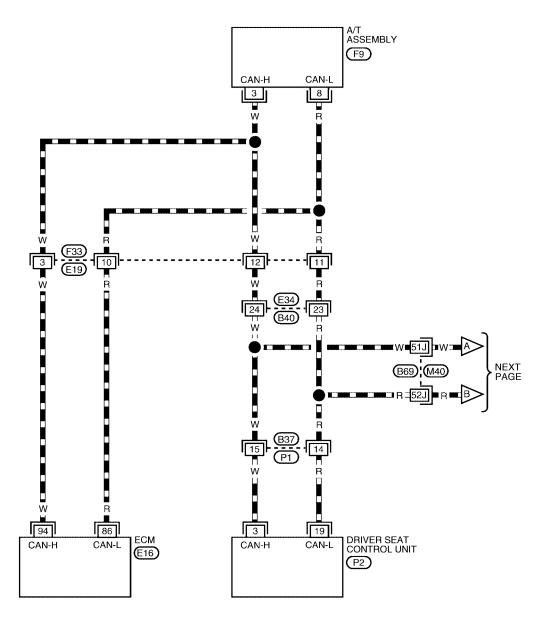
BKWA0001E

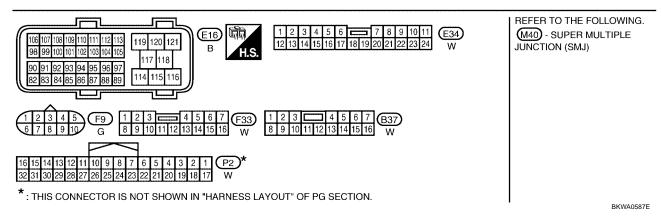
Wiring Diagram - CAN -

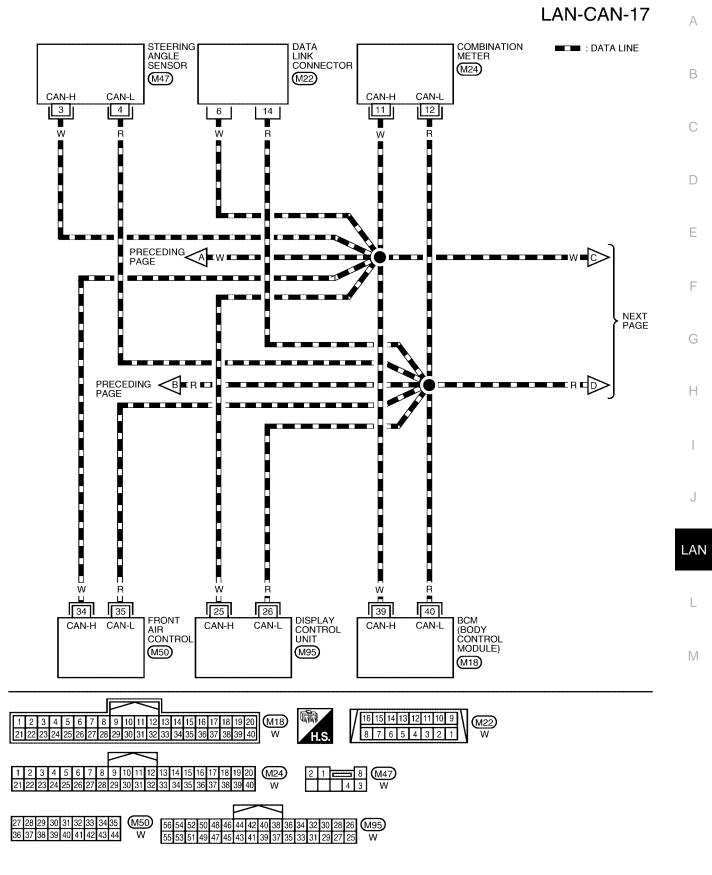
JKS000R1

LAN-CAN-16

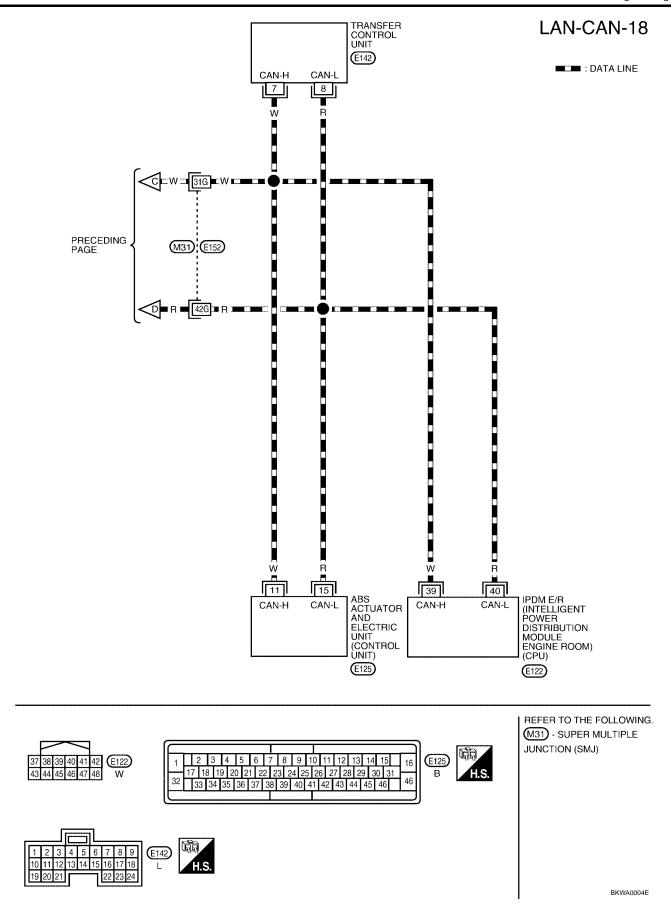
: DATA LINE





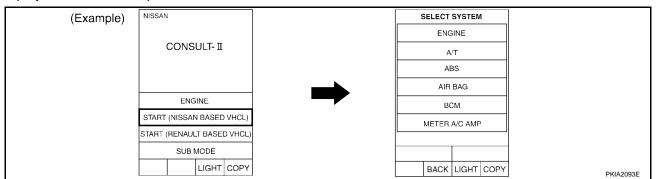


BKWA0003E

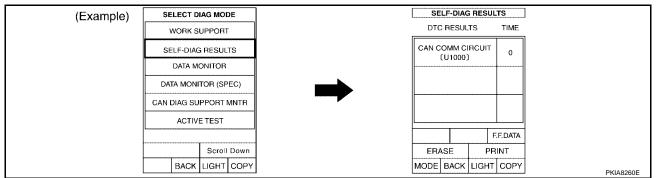


Work Flow

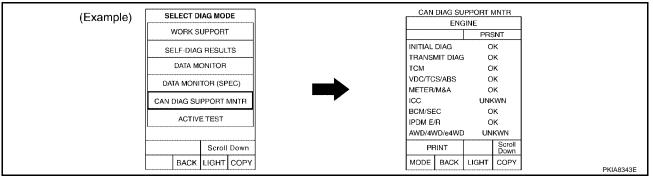
1. When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 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-175, "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-175</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-148, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-175</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 6)

[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-175</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-148, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-177, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CAN SYSTEM (TYPE 6)

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CHECK SHEET

NOTE:

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

						CAN DIA	G SUPPOI					
SELECT SYST	EM screen	Initial	Transmit			METER	Rec BCM	eive diagr	nosis Eront air	AMD/AMD	VDC/TCS	
		diagnosis	diagnosis	ECM	TCM	/M&A	/SEC	STRG	control	/e4WD	/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	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_
		SE	Attach cop	y of STEM			Attach SELEC	n copy of FSYSTEM	<i>A</i>			
			CAN		Attach o display co JPPORT M	ntrol unit	check she	et				

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

CHECK SHEET RESULTS (EXAMPLE)

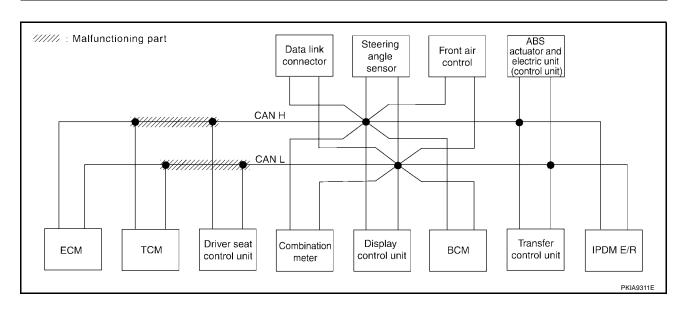
NOTE:

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 driver seat control unit. Refer to <u>LAN-193</u>, "Circuit Check Between TCM and Driver Seat Control Unit".

						CAN DIAG	3 SUPPO	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
322231 3131	LIVI GOLGGII		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	UNI W WN	∩ NK WN	1	_	Ω ΝΚ /WΝ	UNI Y WN	UNK VN	
A/T	1	NG	UNKWN	UNKWN	_	Π ИΚ ΜИ	_	-	_	Ω ΝΚW N	Ω ΝΚ ⁄ΜΝ	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNI WN	UNKWN	UNKWN	-	_	_	-	_	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ARC 3	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	-	CAN CIRC 7	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	-	UNKWN	
ALL MODE AWD/4WD	1	NG	UNKWN	UNKWN	UNI WN	_	_	-	_	_	UNKWN	_	
ABS	1	NG	UNKWN	∩ NK WN	UNKWN	_	_	UNKWN	_	UNKWN	-	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_	



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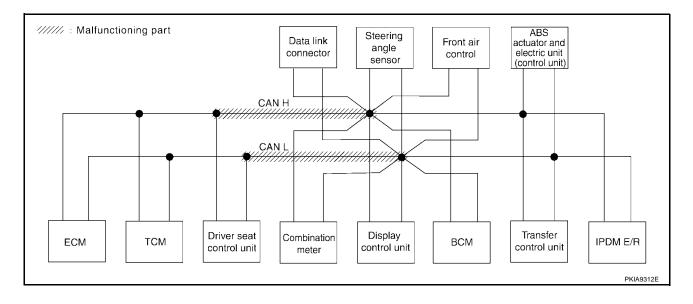
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Case 2

Check harness between driver seat control unit and data link connector. Refer to <u>LAN-194</u>, "Circuit Check <u>Between Driver Seat Control Unit and Data Link Connector"</u>.

						CAN DIAG	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
022201 0101	2111 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	UNIONN	Ω ΝΚ ΜΝ	_	_	UNK WN	UNI WN	UN K AN
A/T	_	NG	UNKWN	UNKWN	_	υ νκ⁄ ΜΝ	_	-	_	UN K ₩N	∩ NK WN	_
AUTO DRIVE POS.	No invication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN TRC 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	UNI W WN	UN W WN	-	_	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	∩ NK WN	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_	_



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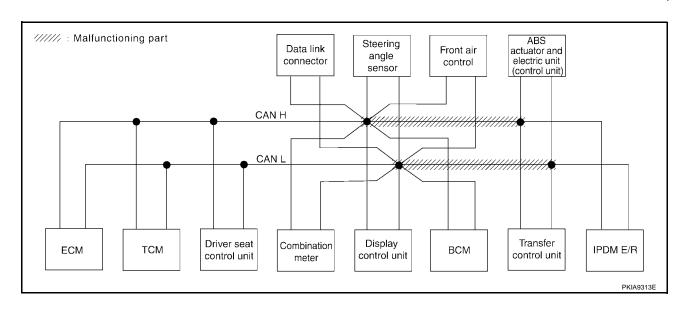
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Case 3

Check harness between data link connector and IPDM E/R. Refer to <u>LAN-195</u>, "Circuit Check Between <u>Data Link Connector and IPDM E/R"</u>.

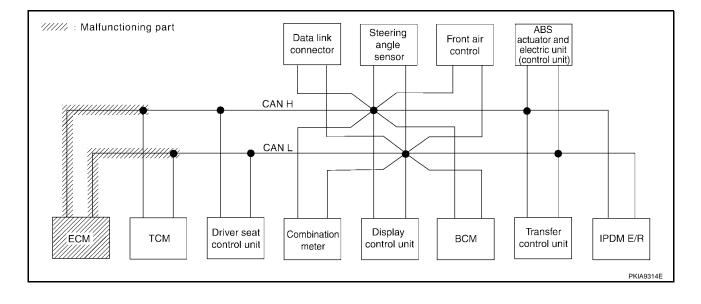
						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	2111 0010011	diagnosis		ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	UNK ∕ WN	UNI W WN	UNK VI
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	1	1	_	UN K ∕\N	Π ИΚ (ΛΙΝ	_
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	-	_	_	_	_	UNION
ALL MODE AWD/4WD	_	NG	UNKWN	UNION	UNIV	_	-	-	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	-	UN K ∕WN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN		_	UNKWN	-	_	_	_	_



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Case 4
Check ECM circuit. Refer to <u>LAN-196</u>, "ECM Circuit Check" .

						CAN DIA	SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	LIVI GOLGGII	l	diagnosis	ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNK WN	_	Π ИΚ ΜИ	UNK WN	∩ NK WN	ı	_	UN K ₩N	UN A MN	UNK VN
A/T	Í	NG	UNKWN	UNK WN	_	UNKWN	-	l	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	_	_	-	_
Display control unit	-	CAN COMM	CAN CIRC 1	CANAIRC 3	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNION	_	UNKWN	_	_	_	_	-	UNKWN
ALL MODE AWD/4WD	1	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_



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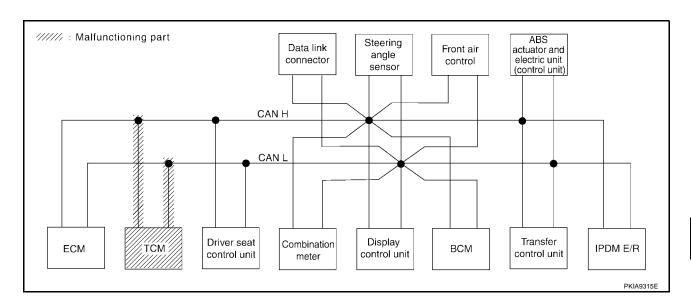
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Case 5
Check TCM circuit. Refer to <u>LAN-196, "TCM Circuit Check"</u>.

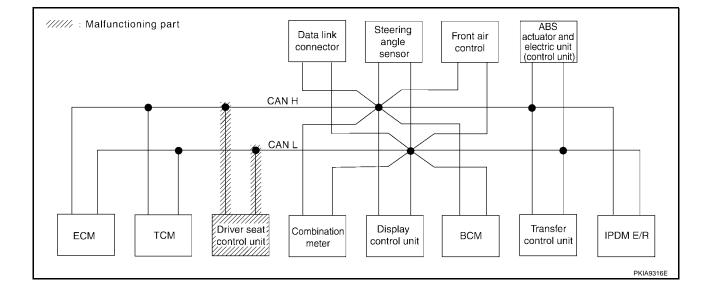
						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	LIW GOICGII		diagnosis	ECM	ТСМ	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	-	∩ NR WN	UNKWN	UNKWN	1	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UN K WN	-	UNK WN	-	_	_	UN K ₩N	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	ļ	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
BCM	No indication	NG	UNKWN	UNKWN	ı	UNKWN	1	_	_	_	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	1	UNKWN	_	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	-	_	_	_	_



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Case 6
Check driver seat control unit circuit. Refer to <u>LAN-197</u>, "<u>Driver Seat Control Unit Circuit Check</u>" .

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
322237 3737	EIW GOICGII	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
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	_	-	_	_	-	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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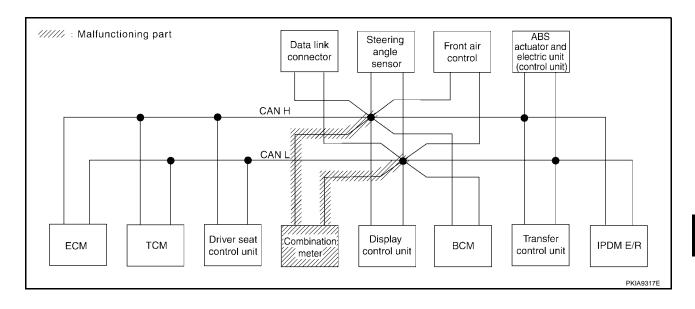
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Case 7
Check combination meter circuit. Refer to <u>LAN-197</u>, "Combination Meter Circuit Check" .

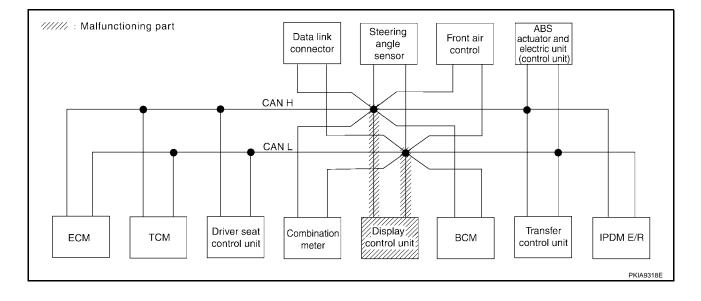
						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	EIW GOICGII	diagnosis		ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	_	UNKWN	UNK/WN	UNKWN	_	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	ı	Π ΝΚ /ΜΝ	-	-	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	UNKWN	UNKWN	-	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CANORC 5	CAN CIRC 2	-	CAN CIRC 4			CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNK WN	_	_	_	_	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	I	_	_	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_



LAN

Case 8
Check display control unit circuit. Refer to <u>LAN-198</u>, "<u>Display Control Unit Circuit Check"</u>.

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101		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
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	1	-	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	_	_	_	_
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	_	CANCERC 5	CAN CRC 2	_	CAN CRC 4	_	_	CANCAC
BCM	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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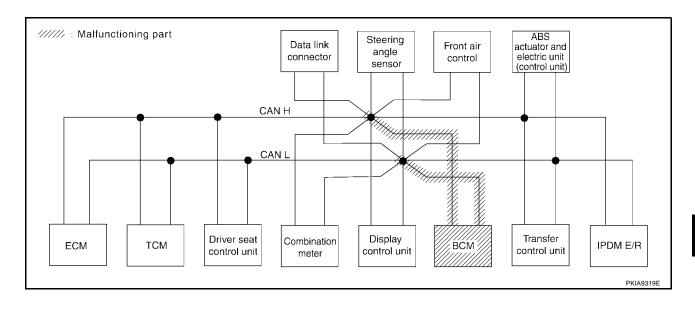
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Case 9
Check BCM circuit. Refer to <u>LAN-198, "BCM Circuit Check"</u>.

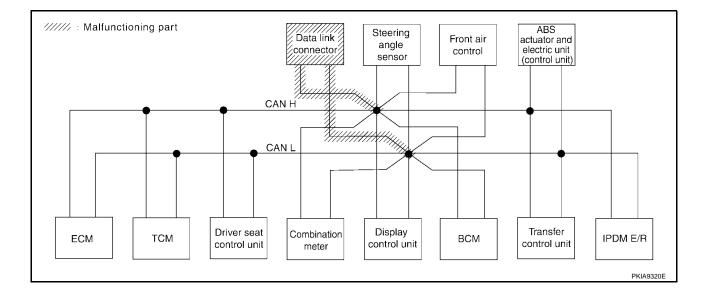
						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	EIW GOICGII	diagnosis		ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN	UN WN	-	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	1	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	UNKWN	UNK WN	_	_	_		_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN ARC 2	_	CAN CIRC 4	_	_	CAN CIRC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKWI
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	ı	ı	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNK WN	_	_	_	-	_



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Case 10
Check data link connector circuit. Refer to LAN-199, "Data Link Connector Circuit Check" .

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
322237 3737		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
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	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	_	_
IPDM E/R	No indication		UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_



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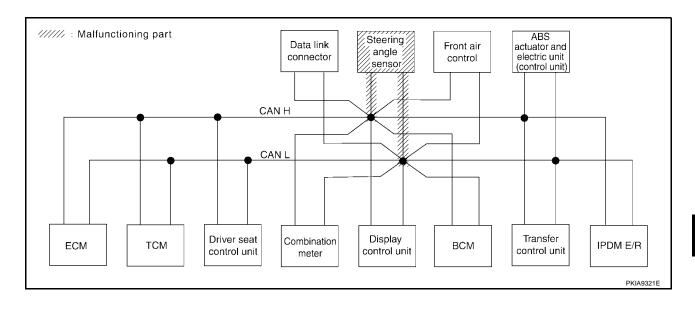
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Case 11
Check steering angle sensor circuit. Refer to <u>LAN-199</u>, "Steering Angle Sensor Circuit Check".

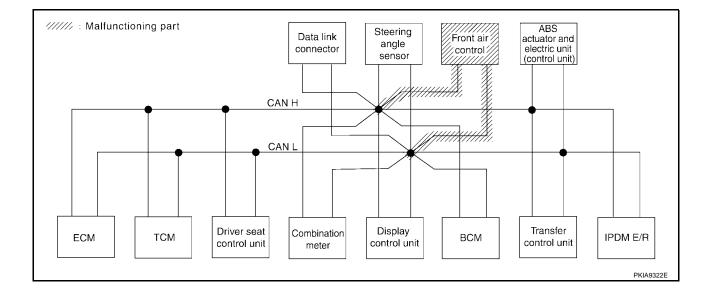
						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	EIW GOICGII	diagnosis		ECM	ТСМ	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	ı	UNKWN	1	-	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	ļ	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
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 12
Check front air control circuit. Refer to <u>LAN-200</u>, "Front Air Control Circuit Check" .

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
322237 3737	LIW SOFCOII		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	_	-	_	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 3
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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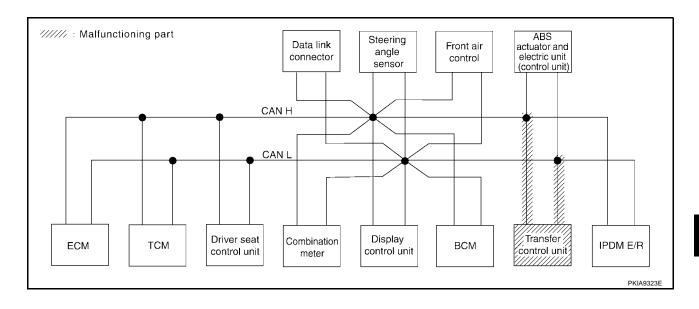
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Case 13
Check transfer control unit circuit. Refer to <u>LAN-200, "Transfer Control Unit Circuit Check"</u>.

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	EIW GOICGII	diagnosis		ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	-	_	UN K ₩N	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	-	_	_	Ω ΝΚ ⁄⁄γΝ	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	İ	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	-	_	_	_	1	UNKWI
ALL MODE AWD/4WD	_	NG	UNK WN	UNKWN	UNI W WN	1	_	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	ı	-	UNKWN	_	UNR WN	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_	_



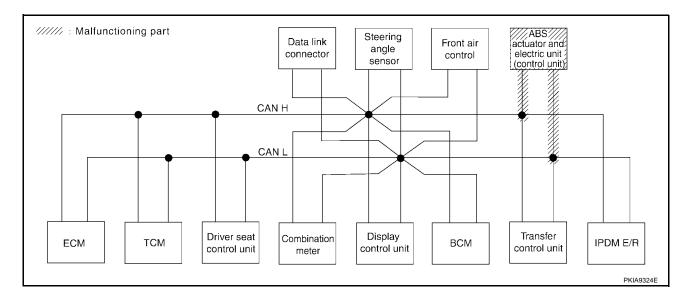
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Case 14

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-201</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	LIW SOFCOII	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	UNION	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	_	-	_	UNKWN	UN K ₩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 7
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	-	_	-	_	_	UNK WN	_
ABS	_	N∕€	UNKWN	UNK WN	UN WN	-	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	UNKWN	_	_	_	_	_



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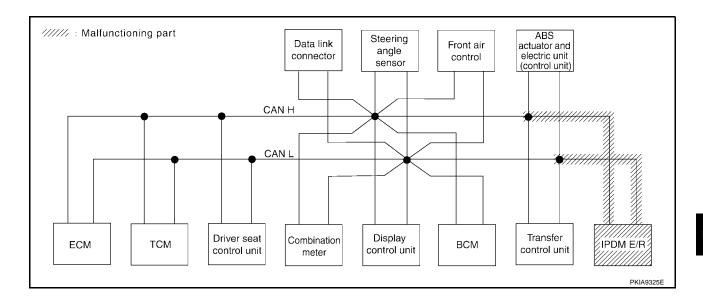
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Case 15
Check IPDM E/R circuit. Refer to LAN-201, "IPDM E/R Circuit Check" .

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 0010011	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	UNK WI
A/T	_	NG	UNKWN	UNKWN	-	UNKWN	1	_	_	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 CAC
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNK
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	UNKWN	I	ı	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	-	_



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Case 16

Check CAN communication circuit. Refer to LAN-202, "CAN Communication Circuit Check" .

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
GELEGI GIGI	LIVI SCICCII	diagnosis		ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKW N		UN K ₩N	UNIKWN	UNK WN	1	_	Ω ΝΚ ⁄ΜΝ	UNI W WN	UNK A VN
A/T	_	NG	UNKWN	UNK WN	_	UN K ₩N	_	_	_	Ω ΝΚ ⁄⁄ΝΝ	Π ΝΚ ΜΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	-	_	_	_	_
Display control unit	_	CAN COMM	CAN CAC 1	CAN CRC 3	_	CAN CAC 5	CAN CRC 2	-	CAN CAC 4	_	_	CAN CRC
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	-	_	UNKWN
ALL MODE AWD/4WD	_	NG	UNK WN	UNKWN	UNI W WN	_	_	_	_	_	UNION	_
ABS	_	N ≜	UNK VN	UNK WN	UNK WN	-	-	UNK WN	_	UN K ₩N	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN		_	_	_	_

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-202, "IPDM E/R Ignition Relay Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UN K ₩N	UNKWN	UNKWN	ı	_	UNKWN	UNK WN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	UNKWN	ı	ı	_	UNKWN	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	-	_	_	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 4	_	_	CAN CIRC 7	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	ı	I	ı	_	_	UNK WN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_	
												PKIA9237E	

Case 18

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-202, "IPDM E/R Ignition Relay Circuit Check".

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial T diagnosis di	Transmit	Receive 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	Ω ΝΚ /WN	-	ΠΝ έγ ΝΝ	_	ı	_	UNK WN	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	1	CAN CIRC 4	_	-	CAN CIRC	
BCM	No indication	NG	UNKWN	UNKWN	ı	UNKWN	_	ı	_	_	1	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UN K ₩N	UNKWN	_	_	UN K WN	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_	_	

Circuit Check Between TCM and Driver Seat Control Unit

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
- 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.

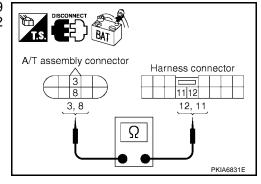
8 (R) - 11 (R)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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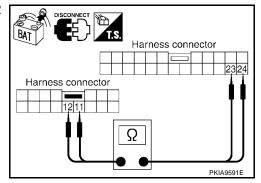
3. CHECK HARNESS FOR OPEN CIRCUIT

- 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

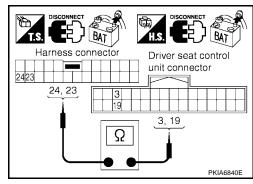
- 1. Disconnect driver seat control unit connector.
- Check continuity between harness connector B40 terminals 24 (W), 23 (R) and driver seat control unit harness connector P2 terminals 3 (W), 19 (R).

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 <u>LAN-173, "Work Flow"</u>.

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.

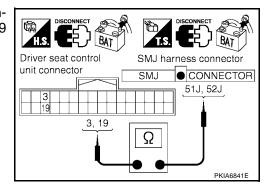
2. CHECK HARNESS FOR OPEN CIRCUIT

- 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

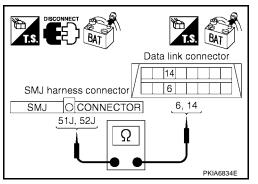
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

> 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-173, "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

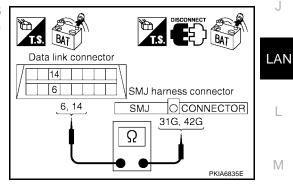
- Disconnect harness connector M31.
- Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

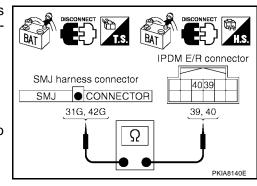
- Disconnect IPDM E/R connector. 1.
- Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-173, "Work Flow".

NG >> Repair harness.



LAN-195 Revision: January 2005 2004 Pathfinder Armada

ECM Circuit Check

1. CHECK CONNECTOR

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

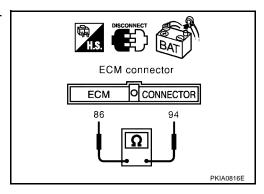
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector E16 terminals 94 (W) and 86 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

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



TCM Circuit Check

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

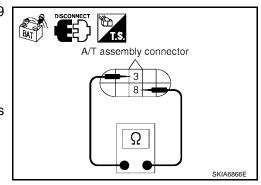
: Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace A/T assembly.

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



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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 terminals and connector of driver seat control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

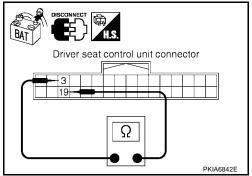
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B40.



Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

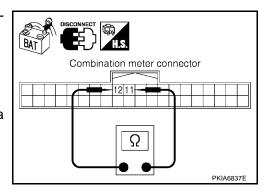
- Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 11 (W) and 12 (R).

: 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

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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 - 66Ω

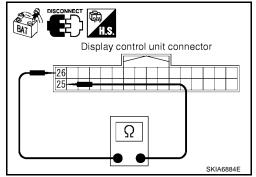
OK or NG

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

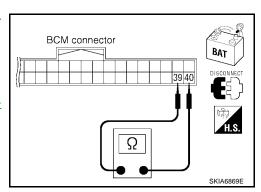
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (W) and 40 (R).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-21, "Removal and Installation of 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 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

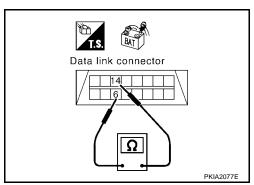
Check resistance between data link connector M22 terminals 6 (W) and 14 (R).

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

OK or NG

OK >> Diagnose again. Refer to LAN-173, "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.

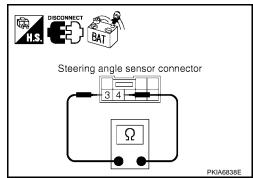
Check resistance between steering angle sensor harness connector M47 terminals 3 (W) and 4 (R).

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

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

: Approx. 54 - 66 Ω

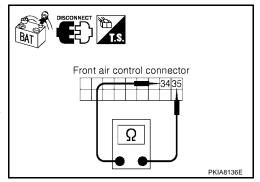
OK or NG

OK

>> Replace front air control.

NG

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



Transfer Control Unit Circuit Check

1. CHECK CONNECTOR

- 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).

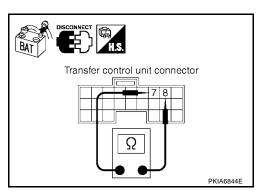
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace transfer control unit.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

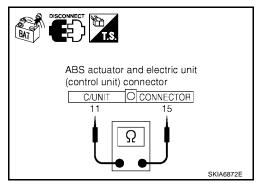
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

: 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.



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

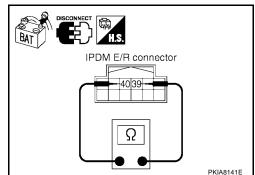
- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

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



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Revision: January 2005

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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

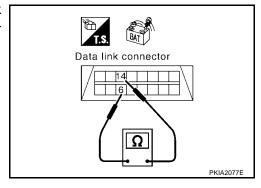
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

> 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-203, "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-26, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-13, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

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CAN SYSTEM (TYPE 6)

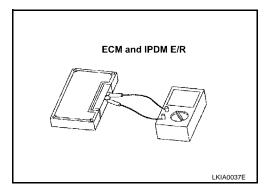
[CAN]

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Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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