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ABS Actuator and Electric Unit (Control Unit) .		Driver Seat Control Unit	
ECM Circuit Check		Circuit Check Between Driver Seat Control Un	
TCM Circuit Check		ABS Actuator and Electric Unit (Control Unit	
Display Unit Circuit Check		ECM Circuit Check	
Data Link Connector Circuit Check		TCM Circuit Check	
BCM Circuit Check		Low Tire Pressure Warning Control Unit Circ	
Unified Meter and A/C Amp. Circuit Check		Check	
Steering Angle Sensor Circuit Check		Display Unit Circuit Check	
Driver Seat Control Unit Circuit Check		Data Link Connector Circuit Check	
AWD Control Unit Circuit Check		BCM Circuit Check	
ABS Actuator and Electric Unit (Control Unit) Circ		Unified Meter and A/C Amp. Circuit Check	
Check		Steering Angle Sensor Circuit Check	
IPDM E/R Circuit Check		Driver Seat Control Unit Circuit Check	
CAN Communication Circuit Check		AWD Control Unit Circuit Check	
IPDM E/R Ignition Relay Circuit Check		ABS Actuator and Electric Unit (Control Unit) C	
Component Inspection		Check	
ECM/IPDM E/R INTERNAL CIRCUIT INSPE		IPDM E/R Circuit Check	
TION		CAN Communication Circuit Check	
CAN SYSTEM (TYPE 29)		IPDM E/R Ignition Relay Circuit Check	
System Description		Component Inspection	
Component Parts and Harness Connector Local		ECM/IPDM E/R INTERNAL CIRCUIT INS	
Schematic		TION	
Wiring Diagram - CAN		CAN SYSTEM (TYPE 31)	
Work Flow		System Description	
CHECK SHEET	983	Component Parts and Harness Connector Loc	ation 050

Schematic1088

Wiring Diagram - CAN -1089

Work Flow1092

CHECK SHEET1094

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Schematic1051

Wiring Diagram - CAN -1052

Work Flow1055

CHECK SHEET1057

CHECK SHEET RESULTS (EXAMPLE)1059

Driver Seat Control Unit1074

ABS Actuator and Electric Unit (Control Unit)1075

ECM Circuit Check1076

TCM Circuit Check1076

Display Control Unit Circuit Check1077

Data Link Connector Circuit Check1077

BCM Circuit Check1078

Unified Meter and A/C Amp. Circuit Check1078

Driver Seat Control Unit Circuit Check1079

AWD Control Unit Circuit Check1080

CAN Communication Circuit Check1082

IPDM E/R Ignition Relay Circuit Check1086

Component Inspection1086

TION1086

ECM/IPDM E/R INTERNAL CIRCUIT INSPEC-

CAN SYSTEM (TYPE 32)1087

System Description1087
Component Parts and Harness Connector Location 1087

ABS Actuator and Electric Unit (Control Unit) Circuit

Circuit Check Between TCM and Data Link Con-

Circuit Check Between Data Link Connector and

Circuit Check Between Driver Seat Control Unit and

[CAN]

PRECAUTIONS PFP:00001

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

KSOOZPK

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

AKS004YM

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

- 1. Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle?
- If YES, GO TO 2.
- If NO, GO TO 5.
- 2. Is there any indication other than indications relating to CAN communication system in the self-diagnosis results?
- If YES, GO TO 3.
- If NO, GO TO 4.
- Based on self-diagnosis results unrelated to CAN communication, carry out the inspection.
- 4. Malfunctions may be detected in self-diagnosis depending on control units carrying out CAN communication. Therefore, erase the self-diagnosis results.
- Diagnose CAN communication system. Refer to <u>LAN-12</u>, "<u>CAN Communication Unit For 2WD Models</u>" or <u>LAN-23</u>, "<u>CAN Communication Unit For AWD Models</u>".

Precautions For Trouble Diagnosis CAN SYSTEM

AKS004YN

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

PRECAUTIONS

[CAN]

Precautions For Harness Repair CAN SYSTEM

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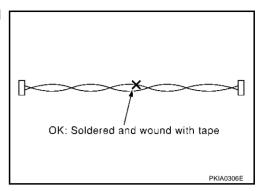
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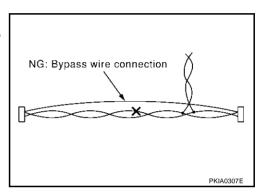
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Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in)]



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



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PFP:23710

System Description

AKS004YE

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 For 2WD Models

AKS004YQ

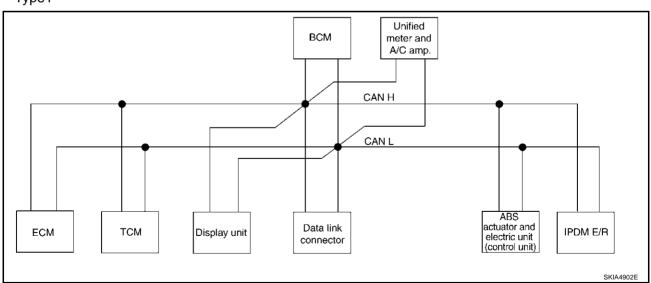
Go to CAN system, when selecting your CAN system type from the following table.

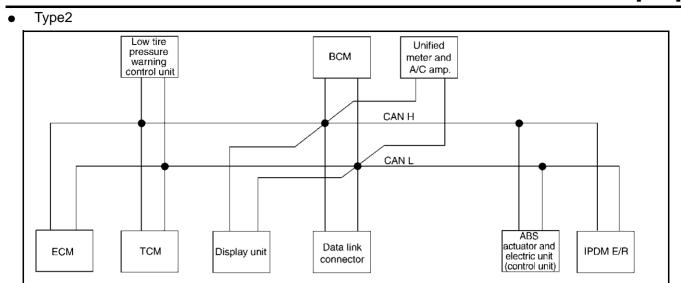
Body type								Wa	igon							
Axle								2۱	WD							
Engine								VQ	35DE							
Transmission		CVT														
Brake control		ABS VDC														
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN communication type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CAN system trouble diagnosis	<u>LAN</u> -34	<u>LAN</u> -63	<u>LAN</u> -94	LAN = 123	LAN = 157	<u>LAN</u> = 188	LAN = 224	LAN = 258	LAN = 293	LAN = 324	LAN = 356	<u>LAN</u> <u>=</u> <u>387</u>	LAN = 423	LAN = 455	LAN = 492	LAN = 527

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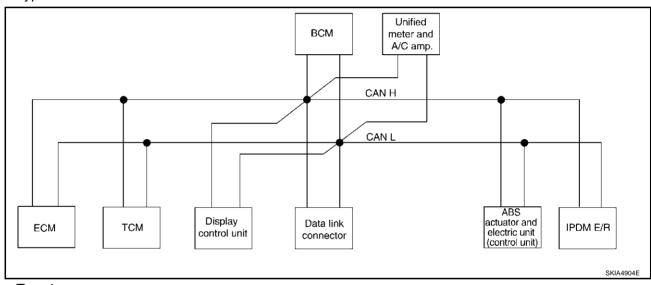
TYPE 1/TYPE 2/TYPE 3/TYPE 4/TYPE 5/TYPE 6/TYPE 7/TYPE 8 System Diagram

Type1

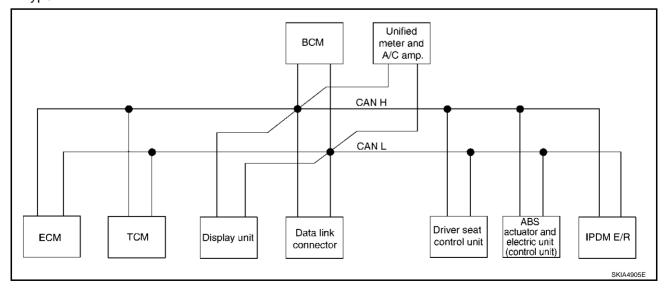




• Type3



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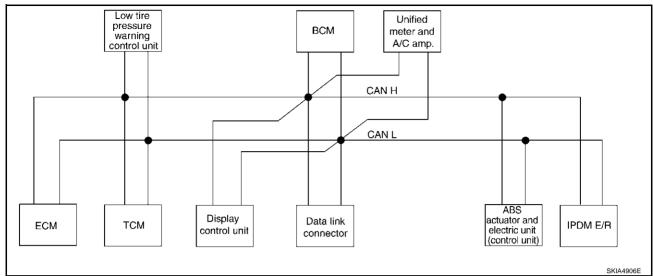
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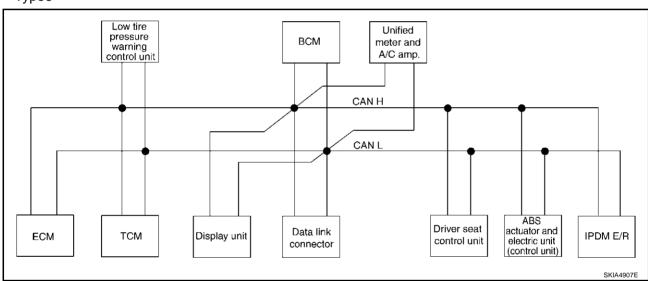
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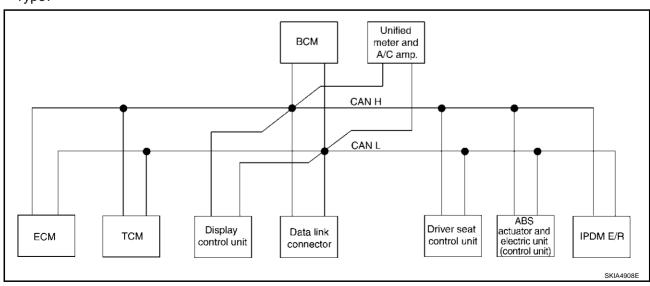




Type6



• Type7



[CAN]

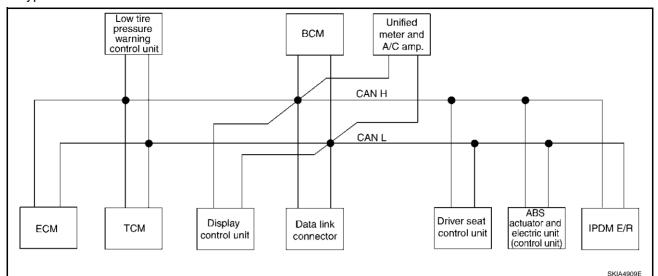
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Input/output Signal Chart

T: Transmit R: Receive

	1		1 - 1					ı: ıra	nsmit R:	Keceive
Signals	ECM	ТСМ	Low tire pres- sure warn- ing control unit	Dis- play unit	Dis- play control unit	всм	Unified meter and A/C amp.	Driver seat control unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Engine speed signal	T	R			R	R	R			
Engine status signal	Т					R				
Engine coolant temperature signal	Т						R			
CVT position indicator signal		Т					R			
Second position signal		R					Т			
Second position indicator signal		Т					R			
Engine and CVT integrated control signal	T R	R T								
Accelerator pedal position signal	T									
· · · · · · · · · · · · · · · · · · ·		R R								
Closed throttle position signal	T	R								
Wide open throttle position signal	ı	ĸ								
Key switch signal						T		R		
Ignition switch signal		-				Т		R		R
P range signal		T					-	R		
Stop lamp switch signal	-	R					T			
Fuel consumption monitor signal	T	.					R			
CVT self-diagnosis signal	R	T								
ABS operation signal		R							Т	
Air conditioner switch signal	R					Т				
A/C compressor request signal	T									R
A/C compressor feedback signal	T						R			
Blower fan motor switch signal	R					Т				
A/C control signal				Т	Т		R			
				R	R		Т			
Cooling fan speed request signal	Т									R
Position lights request signal						T	R			R
Low beam request signal						Т				R
Low beam status signal	R									Т
High beam request signal						Т	R			R
High beam status signal	R									Т
Front fog lights request signal						Т				R
Vehicle speed signal	R	R	R		R	R	R T	R	Т	
Sleep request 1 signal						T	R			
Sleep request 2 signal						 				R
						R	Т			
Door switch signal				R	R	T	R	R		R
Turn indicator signal						T	R			

[CAN]

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Signals	ECM	ТСМ	Low tire pres- sure warn- ing control unit	Dis- play unit	Dis- play control unit	ВСМ	Unified meter and A/C amp.	Driver seat control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Key fob ID signal						Т		R		
Key fob door unlock signal						Т		R		
Seat belt buckle switch signal						R	Т			
Oil pressure switch signal						R				Т
Oii pressure switch signal						Т	R			
Buzzer output signal						Т	R			
Fuel level sensor signal	R						Т			
Fuel level low warning signal				R	R		Т			
Malfunction indicator lamp signal	Т						R			
ASCD SET lamp signal	Т						R			
ASCD CRUISE lamp signal	Т						R			
Input shaft revolution signal	R	Т								
Output shaft revolution signal	R	Т								
Front wiper request signal						Т				R
Front wiper stop position signal						R				Т
Rear window defogger switch signal						Т				R
Rear window defogger control signal	R			R	R					T
Hood switch signal						R				Т
Theft warning horn request signal						Т				R
Horn chirp signal						Т				R
Tire pressure signal			Т				R			
Tire pressure data signal			Т	R	R					
ABS warning lamp signal							R		Т	
Brake warning lamp signal							R		Т	
System setting signal				Т	Т			R		
Parking brake switch signal						R	Т			

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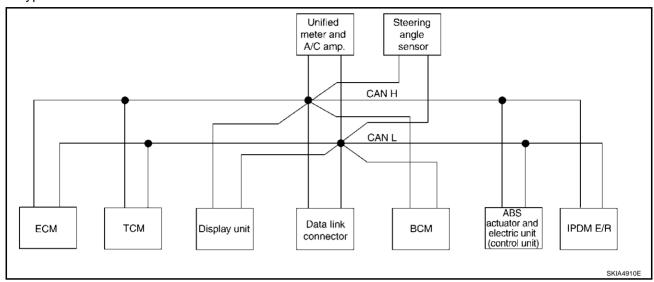
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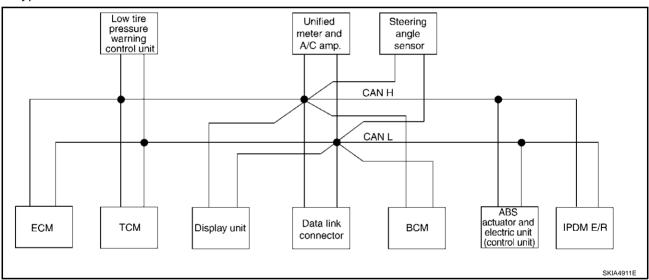
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TYPE 9/TYPE10/TYPE 11/TYPE 12/TYPE 13/TYPE 14/TYPE 15/TYPE 16 System Diagram

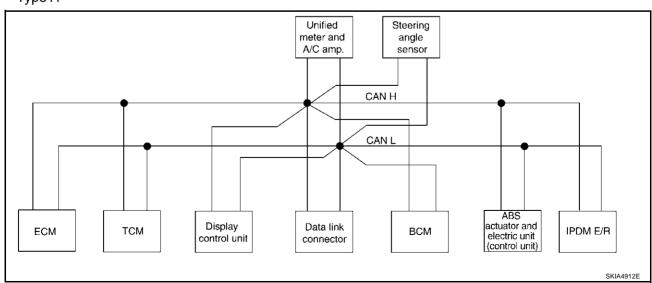
• Type9



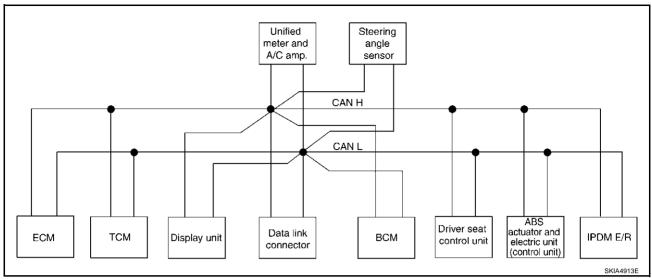
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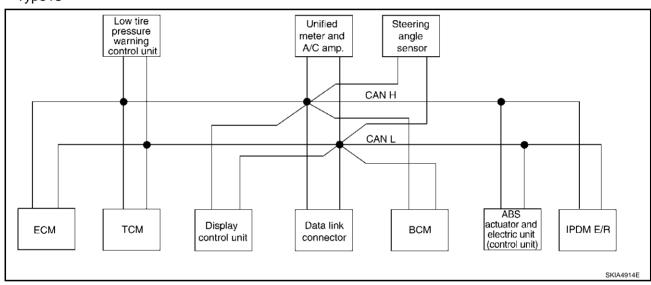
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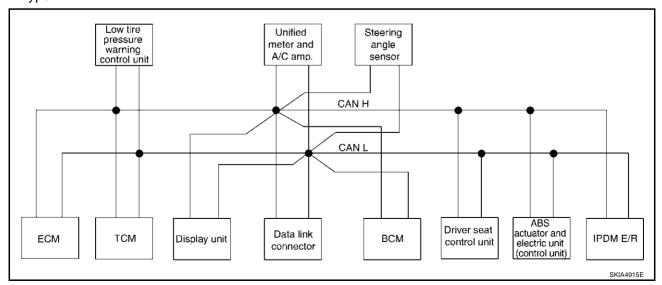


• Type13



Type14

Revision; 2004 April



LAN-19 2003 Murano

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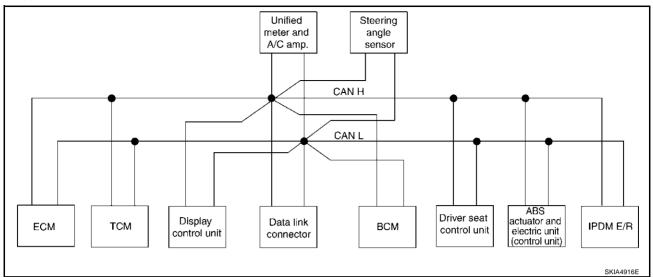
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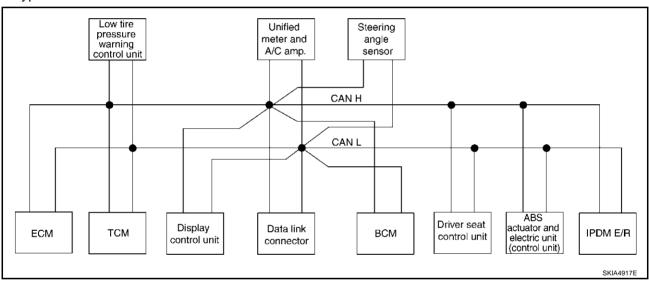
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• Type15



• Type16



[CAN]

nput/output Signal Chart									T: Tran	nsmit R:	Receive	
Signals	ECM	ТСМ	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Steer- ing angle sen- sor	Driver seat con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R	
Engine speed signal	Т	R			R	R	R			R		
Engine status signal	Т					R						
Engine coolant temperature signal	Т						R					
Engine and CVT integrated control signal	T R	R T										
Accelerator pedal position signal	Т	R								R		
Closed throttle position signal	T	R										
Wide open throttle position signal	T	R										
Key switch signal						Т			R			
Ignition switch signal						T			R		R	
P range signal		Т							R	R	.,	
Stop lamp switch signal		R					Т					
VDC operation signal		R					-			Т		
Second position indicator signal		Т					R			R		
Second position signal		R					Т					
Fuel consumption monitor signal	Т						R					
CVT self-diagnosis signal	R	Т										
Input shaft revolution signal	R	Т								R		
Output shaft revolution signal	R	Т								R		1
Air conditioner switch signal	R					Т						
A/C compressor request signal	Т										R	
A/C compressor feedback signal	Т						R					
Blower fan motor switch signal	R					Т						
A/Ot -i				Т	Т		R					
A/C control signal				R	R		Т					
Cooling fan speed request signal	Т										R	
Position lights request signal						Т	R				R	
Low beam request signal						Т					R	
Low beam status signal	R										Т	
High beam request signal						Т	R				R	
High beam status signal	R										Т	
Front fog lights request signal		R				Т	R			Т	R	
Vehicle speed signal	R	11	R		R	R	T		R	'		
Sleep request 1 signal						Т	R					
Sleep request 2 signal						Т					R	

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Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Steer- ing angle sen- sor	Driver seat con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal						R	Т				
				R	R	Т	R		R		R
Turn indicator signal						Т	R				
Key fob ID signal						Т			R		
Key fob door unlock signal						T			R		
Seat belt buckle switch signal						R	T				
Oil pressure switch signal						R					T
on process of one of one						Т	R				
Buzzer output signal						Т	R				
Fuel level sensor signal	R						T				
Fuel level low warning signal				R	R		Т				
Malfunction indicator signal	Т						R				
ASCD SET lamp signal	Т						R				
ASCD CRUISE lamp signal	Т						R				
Front wiper request signal						Т					R
Front wiper stop position signal						R					T
Rear window defogger switch signal						Т					R
Rear window defogger control signal	R			R	R						Т
Hood switch signal						R					Т
Theft warning horn request signal						Т					R
Horn chirp signal						Т					R
Steering angle sensor signal								Т		R	
Tire pressure signal			Т				R				
Tire pressure data signal			Т	R	R						
CVT position indicator signal		Т					R			R	
ABS warning lamp signal							R			Т	
VDC OFF indicator lamp signal							R			Т	
SLIP indicator lamp signal							R			Т	
Brake warning lamp signal							R			Т	
System setting signal				Т	Т				R		
Parking brake switch signal						R	Т				

[CAN]

CAN Communication Unit For AWD Models

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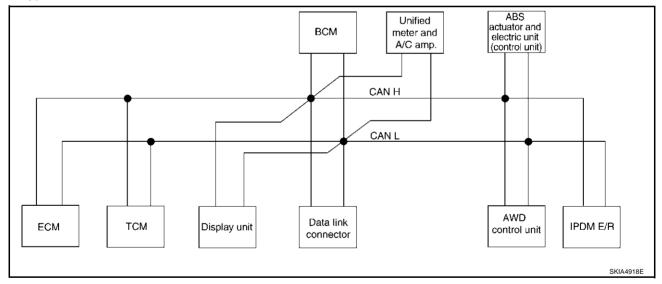
Go to CAN system, when selecting your CAN system type from the following table.

Body type								Wa	gon							
Axle								A۱	VD							
Engine		VQ35DE														
Transmission		CVT														
Brake control		ABS VDC														
Low tire pressure warning system		×			×	×		×		×			×	×		×
Navigation system			×		×		×	×			×		×		×	×
Automatic drive positioner				×		×	×	×				×		×	×	×
CAN system type	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
CAN system trouble diagnosis	<u>LA</u> <u>N-</u> <u>564</u>	<u>LA</u> <u>N-</u> 595	<u>LA</u> <u>N-</u> 628	<u>LA</u> <u>N-</u> 659	<u>LA</u> <u>N-</u> 695	<u>LA</u> <u>N-</u> 728	<u>LA</u> <u>N-</u> 765	<u>LA</u> <u>N-</u> 801	<u>LA</u> <u>N-</u> 838	<u>LA</u> <u>N-</u> <u>871</u>	<u>LA</u> <u>N-</u> 906	<u>LA</u> <u>N-</u> 939	<u>LA</u> <u>N-</u> <u>976</u>	<u>LA</u> <u>N-</u> 101 1	<u>LA</u> <u>N-</u> 105 0	<u>LA</u> <u>N-</u> 108 <u>7</u>

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TYPE 17/TYPE 18/TYPE 19/TYPE 20/TYPE 21/TYPE 22/TYPE 23/TYPE 24 System Diagram

Type17



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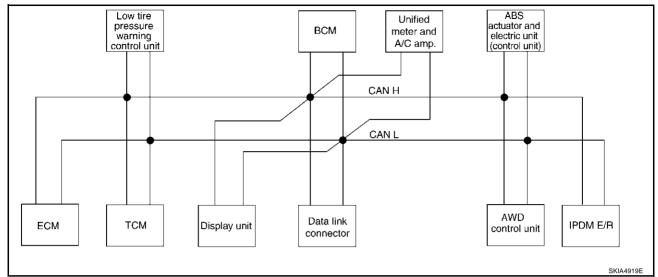
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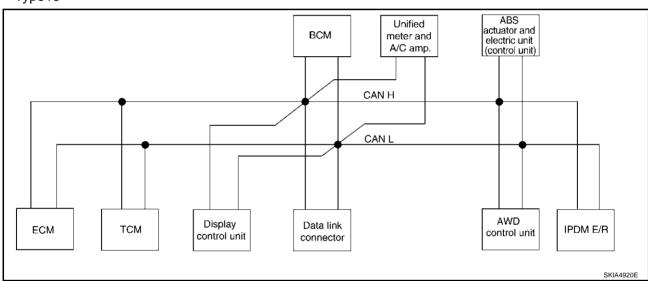
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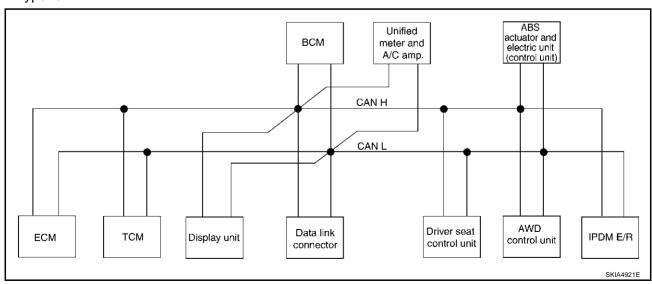


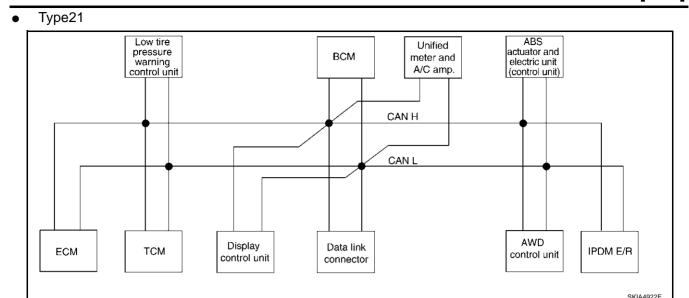


• Type19

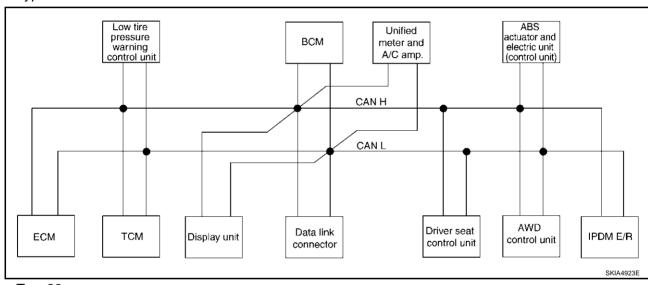


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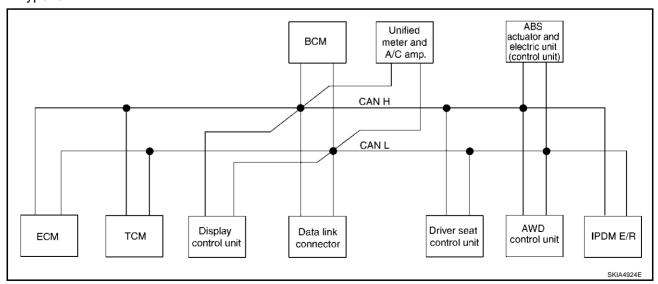




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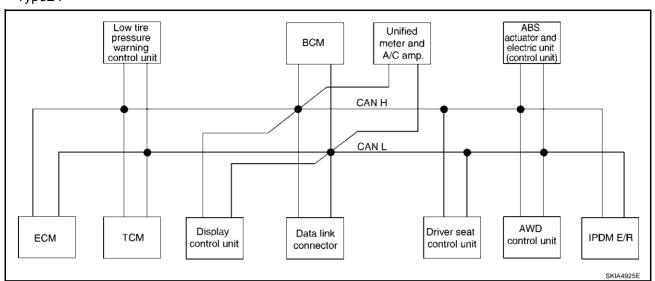
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Type24



[CAN]

Input/output	Signal	Chart
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										nsmit R:	
Signals	ECM	ТСМ	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Driver seat con- trol unit	AWD con- trol unit	actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
CVT position indicator signal		T					R				
Second position signal		R					Т				
Second position indicator signal		Т					R				
Engine speed signal	Т	R	R		R	R	R		R		
Engine status signal	Т					R					
Engine coolant temperature signal	Т						R				
Accelerator pedal position signal	Т	R							R		
Closed throttle position signal	Т	R									
Wide open throttle position signal	Т	R									
Key switch signal						Т		R			
Ignition switch signal						Т		R			R
P range signal		Т						R			
Stop lamp switch signal		R					Т		R		
Fuel consumption monitor signal	Т						R				
CVT self-diagnosis signal	R	Т									
ABS operation signal		R							R	Т	
Air conditioner switch signal	R					Т					
A/C compressor request signal	Т										R
A/C compressor feedback signal	Т						R				
Blower fan motor switch signal	R					Т					
A/Ot				Т	Т		R				
A/C control signal				R	R		Т				
Cooling fan speed request signal	Т										R
Position lights request signal						Т	R				R
Low beam request signal						Т					R
Low beam status signal	R										Т
High beam request signal						Т	R				R
High beam status signal	R										Т
Front fog lights request signal						Т					R
Vahiala anand signal		R					R		R	Т	
Vehicle speed signal	R		R		R	R	Т	R			
Sleep request 1 signal						Т	R				
Sleep request 2 signal						Т					R
Dear quitab aireal						R	Т				
Door switch signal				R	R	Т	R	R			R
Key fob ID signal						Т		R			
Key fob door unlock signal						Т		R			

Revision; 2004 April LAN-27 2003 Murano

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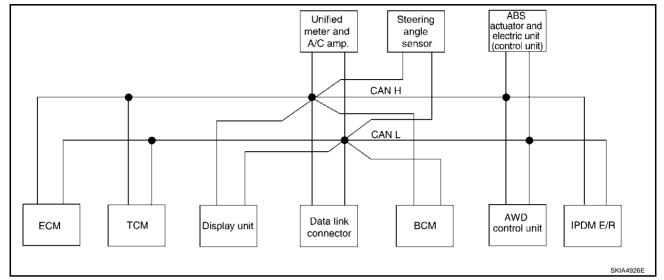
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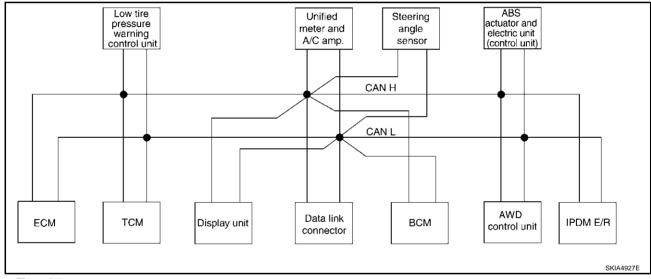
											<u> </u>
Signals	ECM	тсм	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Driver seat con- trol unit	AWD con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
Turn indicator signal						Т	R				
Seat belt buckle switch signal						R	T				
Oil pressure switch signal						R T	R				Т
Buzzer output signal						Т	R				
Fuel level sensor signal	R						Т				
Fuel level low warning signal				R	R		Т				
Malfunction indicator lamp signal	Т						R				
ASCD SET lamp signal	Т						R				
ASCD CRUISE lamp signal	Т						R				
Input shaft revolution signal	R	T									
Output shaft revolution signal	R	Т									
Front wiper request signal						Т					R
Front wiper stop position signal						R					Т
Rear window defogger switch signal						Т					R
Rear window defogger control signal	R			R	R						Т
Engine and CVT integrated control	Т	R									
signal	R	Т									
Hood switch signal						R					Т
Theft warning horn request signal						Т					R
Horn chirp signal						Т					R
Tire pressure signal			Т				R				
Tire pressure data signal			Т	R	R						
ABS warning lamp signal							R			Т	
Brake warning lamp signal							R			Т	
System setting signal				Т	Т			R			
AWD warning lamp signal							R		Т		
AWD lock indicator lamp signal							R		Т		
AWD lock switch signal							Т		R		
Parking brake switch signal						R	Т		R		

TYPE 25/TYPE26/TYPE 27/TYPE 28/TYPE 29/TYPE 30/TYPE 31/TYPE 32 System Diagram

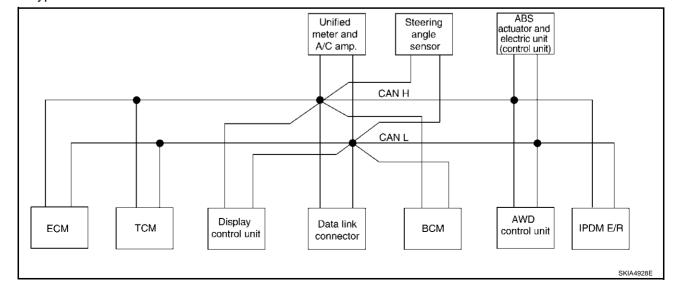
• Type25



Type26



• Type27



Revision; 2004 April LAN-29 2003 Murano

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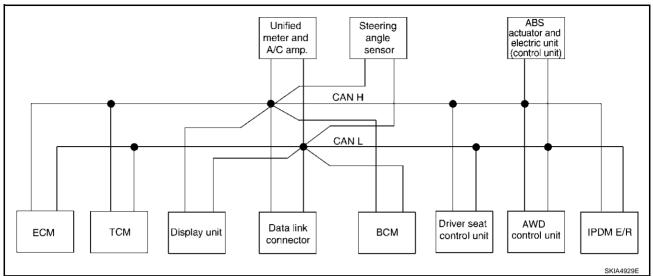
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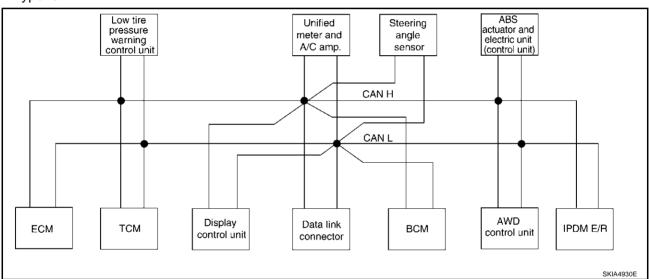
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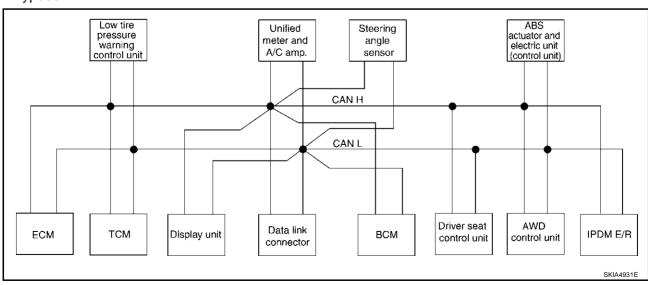




Type29



• Type30



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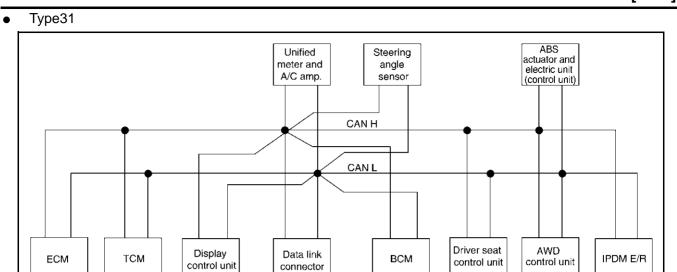
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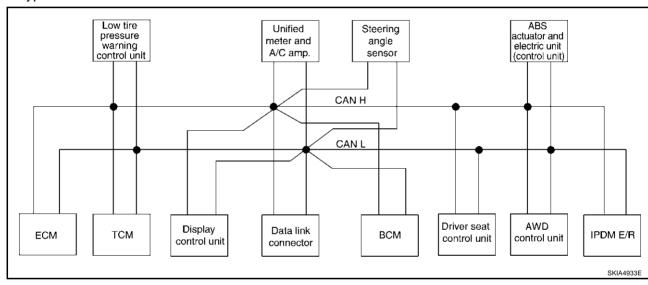
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Input/output Signal Chart

T: Transmit R: Receive

										T: Trans	mit R:	Receive
Signals	ECM	ТСМ	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Steer ing angle sen- sor	Drive r seat con- trol unit	AWD con- trol unit	ABS actu- ator and elec- tric unit (con- trol unit)	IPDM E/R
Engine and CVT integrated control signal	T R	R T										
Second position signal		R					Т					
VDC operation signal		R								R	Т	
Stop lamp switch signal		R					Т			R		
Key switch signal						Т			R			
Ignition switch signal						T			R			R
P range signal		Т				-			R		R	
Closed throttle position signal	Т	R										
Wide open throttle position signal	T	R										
Second position indicator signal		Т					R				R	
Engine speed signal	Т	R			R	R	R			R	R	
Engine status signal	Т					R						
Engine coolant temperature signal	Т						R					
Accelerator pedal position signal	Т	R								R	R	
Fuel consumption monitor signal	Т						R					
CVT self-diagnosis signal	R	Т										
Input shaft revolution signal	R	Т									R	
Output shaft revolution signal	R	Т									R	
Air conditioner switch signal	R					Т						
A/C compressor request signal	Т											R
A/C compressor feedback signal	Т						R					Т
Blower fan motor switch signal	R					Т						
A/C control signal				T R	T R		R T					
Cooling fan speed request signal	Т											R
Position lights request signal						Т	R					R
Low beam request signal						Т						R
Low beam status signal	R											Т
High beam request signal						Т	R					R
High beam status signal	R											Т
Front fog lights request signal						Т						R
Vehicle speed signal	D	R	D		D	D	R		D	R	Т	
Cloop request 4 signal	R		R		R	R	Т		R			
Sleep request 1 signal						T	R					Г.
Sleep request 2 signal						Т						R

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											L	CAN
Signals	ECM	ТСМ	Low tire pres- sure warn- ing con- trol unit	Dis- play unit	Dis- play con- trol unit	всм	Uni- fied meter and A/C amp.	Steer ing angle sen- sor	Drive r seat con- trol unit	AWD con- trol unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal						R	Т					
-				R	R	Т	R		R			R
Turn indicator signal						Т	R					
Key fob ID signal						Т			R			
Key fob door unlock signal						Т			R			
Seat belt buckle switch signal						R	Т					
Oil pressure switch signal						R						Т
						Т	R					
Buzzer output signal						Т	R					
Fuel level sensor signal	R						Т					
Fuel level low warning signal				R	R		Т					
Malfunction indicator signal	Т						R					
ASCD SET lamp signal	T						R					
ASCD CRUISE lamp signal	T						R					
Front wiper request signal						Т						R
Front wiper stop position signal						R						Т
Rear window defogger switch signal						Т						R
Rear window defogger control signal	R			R	R							Т
Hood switch signal						R						Т
Theft warning horn request signal						Т						R
Horn chirp signal						Т						R
Steering angle sensor signal								Т			R	
Tire pressure signal			Т				R					
Tire pressure data signal			Т	R	R							
CVT position indicator signal		Т					R				R	
ABS warning lamp signal							R				Т	
VDC OFF indicator lamp signal							R				Т	
SLIP indicator lamp signal							R				Т	
Brake warning lamp signal							R				Т	
System setting signal				Т	T				R			
AWD warning lamp signal							R			Т		
AWD lock indicator lamp signal							R			Т		
AWD lock switch signal							Т			R		
Parking brake switch signal						R	T			R		

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CAN SYSTEM (TYPE 1)

PFP:23710

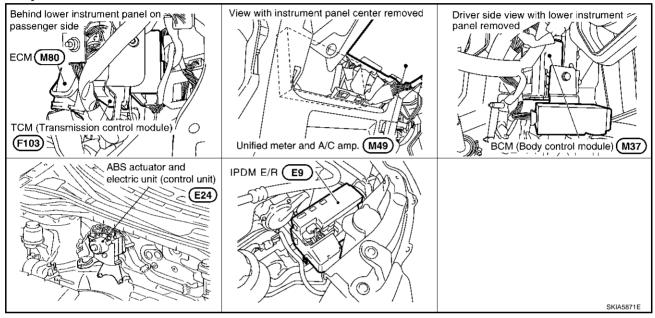
System Description

AKS0068S

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

AKS0068T



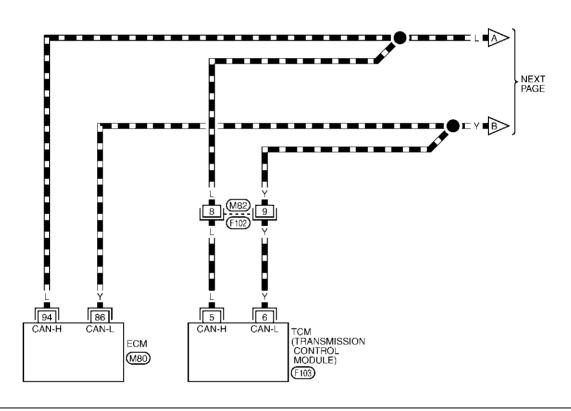
Schematic AKS0069A Α IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM) 64 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) С D Е F G Н J DATA LINK CONNECTOR LAN DISPLAY UNIT M 4 TCM (TRANSMISSION CONTROL MODULE) DATA LINE 86 ECM 8 TKWA0789E

Wiring Diagram - CAN -

AKS0068U

LAN-CAN-01

: DATA LINE





REFER TO THE FOLLOWING.
(M80), (F103) -ELECTRICAL
UNITS

TKWA0790E

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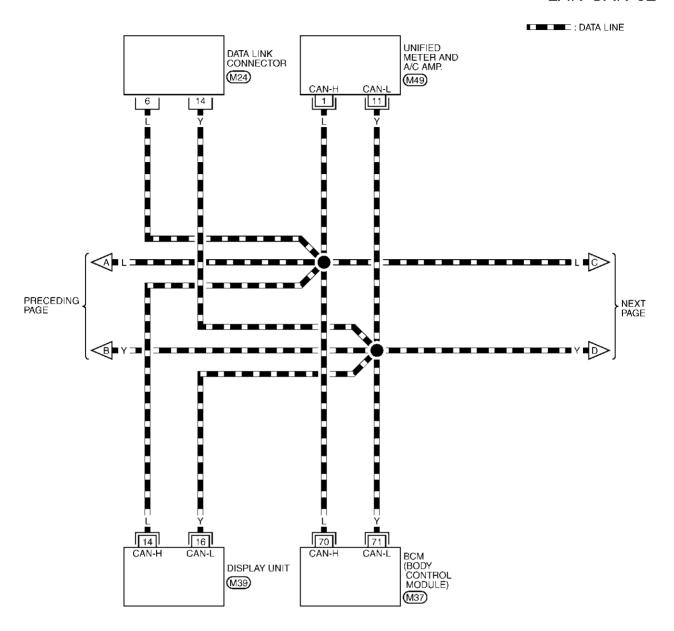
G

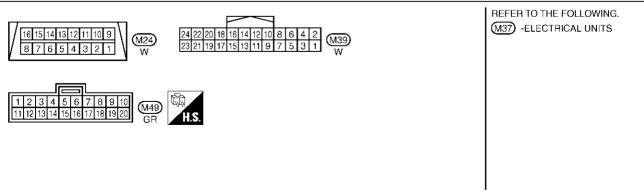
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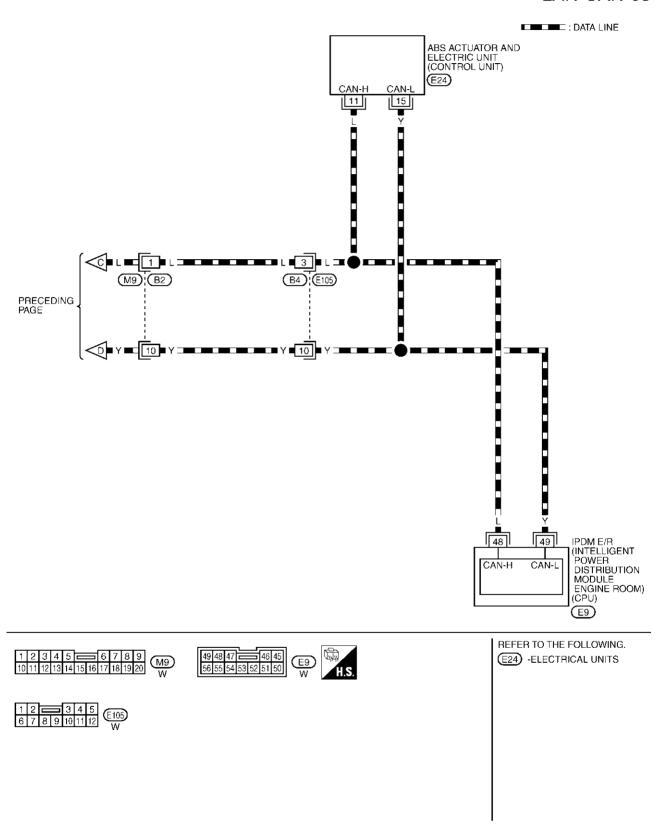
LAN-CAN-02





TKWA0791E

LAN-CAN-03

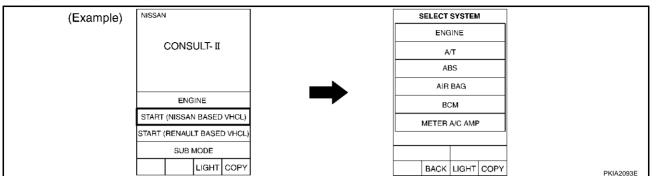


TKWA0792E

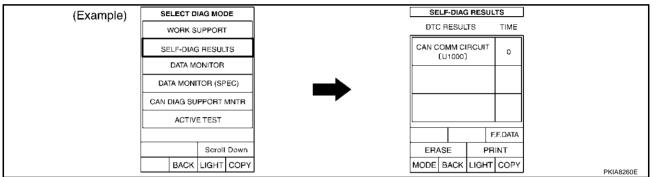
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Work Flow

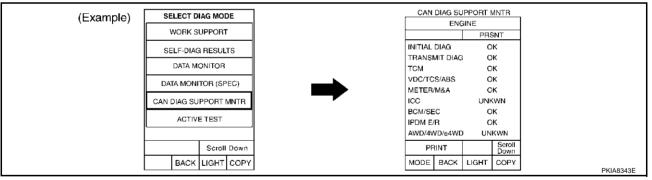
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-41</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-41, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-41, "CHECK SHEET".
- Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-41</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 1)

[CAN]

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to $\underline{\text{AV-}110}$, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to LAN-43, "CHECK SHEET RESULTS (EXAMPLE)".

CAN SYSTEM (TYPE 1)

[CAN]

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CHECK SHEET

NOTE:

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

ENGINE — NG UNKWN — UNKWN — UNKWN — UNKWN — ITRANSMISSION No indication NG UNKWN UNKWN — — — — — UNKWN UNKWN — — — — — UNKWN UNKWN — — — — UNKWN — — — — — UNKWN — — — — — — — — — — — — — — — — — — —	Check sheet tabl	-				CAN DI	AG SLIDDOE	T MANITO			
Title Titl	25, 525 2,423					CAN DIA			sis		
TRANSMISSION No indication NG	SELECT SYST	EM screen			ECM	тсм			METER		IPDM E/
Display unit	ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
Attach copy of SELECT SYSTEM Select System	FRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
METER A/C AMP No indication — UNKWN UNKWN UNKWN UNKWN — UNKWN ABS — NG UNKWN UNKWN — — — — — — — — — — — — — — — — — — —	Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM	всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKW
Symptoms : Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM	METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
Attach copy of SELECT SYSTEM SELECT SYSTEM	ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_
SELECT SYSTEM SELECT SYSTEM											
			Att SELI	ach copy of ECT SYSTE	М		Attach SELECT	copy of SYSTEM			
Attach copy of display unit CAN DIAG MONITOR check sheet				Ci	dis	play unit	:k sheet				

PKIB0421E

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR	
		PKIB0422

CHECK SHEET RESULTS (EXAMPLE)

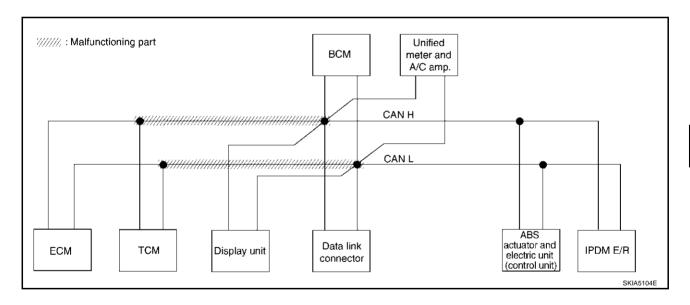
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-54, "Circuit Check Between TCM and Data Link Connector"</u>.

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	celve diagno	sis		
022201 0101	2111 0010011	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UN K ₩N	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
BCM	_	NG	UNKWN	UNIOWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNI W WN	η νκ γνν	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	Π ИΚ ΜИ	_	_	_	_	_	_



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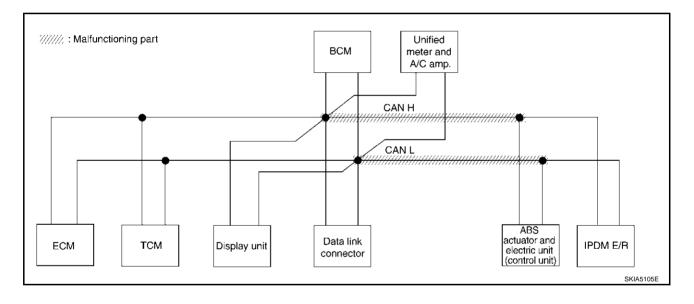
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-54</u>, <u>"Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CAN DIA	AG SUPPOR	TMNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	00.00	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNK WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UN K WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_



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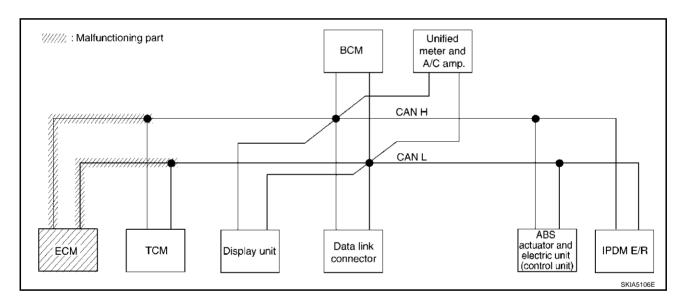
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Case 3
Check ECM circuit. Refer to LAN-55, "ECM Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	2111 0010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UN K WN	_	UNK WN	_	UNK WN	UN K ₩N	_	NNKAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	-	NG	UNKWN	UN K ∕VN	_	_	_	_	-	-

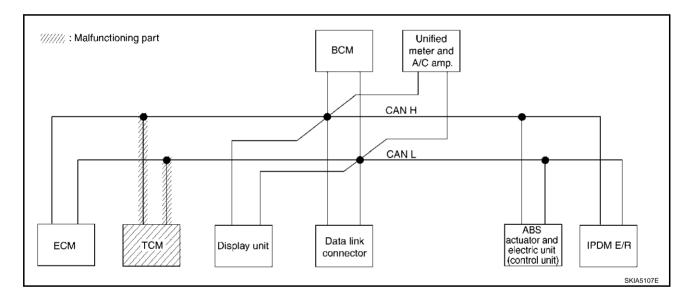


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Case 4
Check TCM circuit. Refer to <u>LAN-56</u>, "TCM Circuit Check".

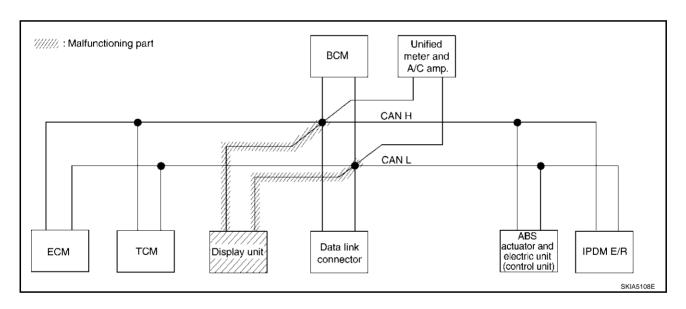
					ÇAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	LIW SOICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK/WN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN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



Case 5

Check display unit circuit. Refer to LAN-56, "Display Unit Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	celve diagno	sis		
022201 0101	LIN SCIECTI	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	C AN 2	CA V 15	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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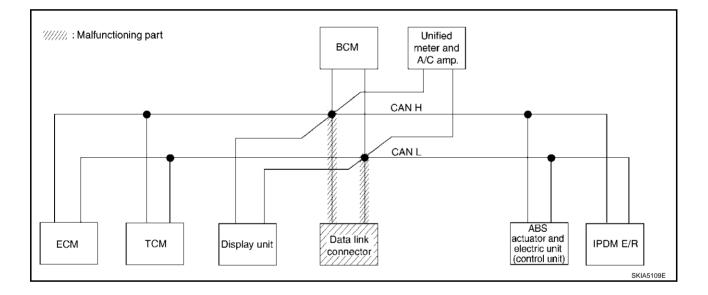
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Case 6
Check data link connector circuit. Refer to <u>LAN-57</u>, "Data <u>Link Connector Circuit Check"</u>.

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



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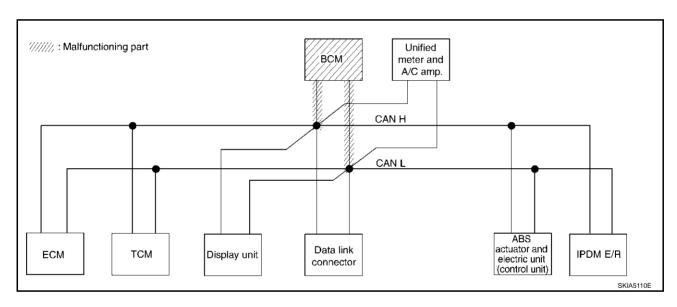
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Case 7
Check BCM circuit. Refer to <u>LAN-57</u>, "BCM Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	LIVI SOICCIT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	Π ΝΚ ΑΝΝ	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UN K ∕WN	UNKAN	_	_	_	UNK/VN	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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Case 8
Check unified meter and A/C amp. circuit. Refer to <u>LAN-58</u>, "Unified Meter and A/C Amp. Circuit Check".

					CAN DIA	AG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	2111 0010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNK WN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNIWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
ВСМ	-	NG	UNKWN	UNKWN	_	_	_	UNK WN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_

BCM Unified meter and A/C amp.

CAN H

CAN L

CAN L

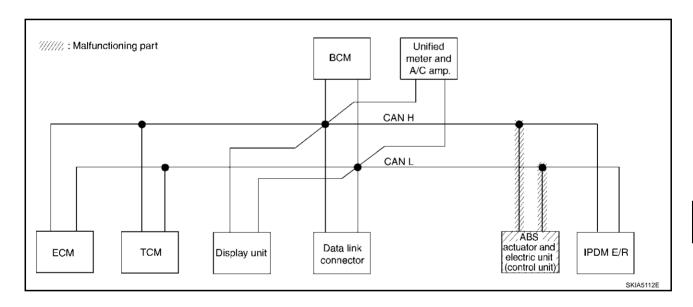
ABS actuator and electric unit (control unit) IPDM E/R

(control unit) SKIASI11E

Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-58</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022207 0701	2111 3010311	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	=	-	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKVN	_
ABS	_	NG	UNKWN	UNK WN		_	_	_	_	_



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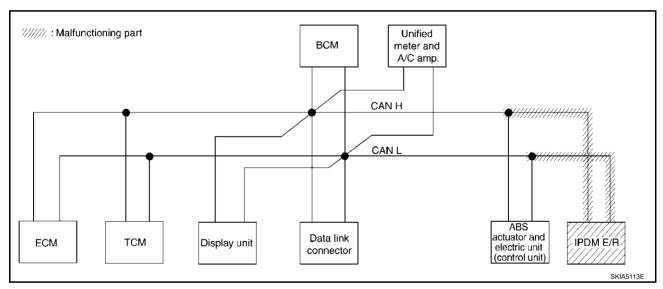
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Case 10
Check IPDM E/R circuit. Refer to LAN-59, "IPDM E/R Circuit Check".

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



Case 11
Check CAN communication circuit. Refer to <u>LAN-59</u>, "CAN Communication Circuit Check" .

		CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis									
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R				
ENGINE	_	NG	UNI W N	_	UNK WN	_	UNK WN	UNIMN	_	UNK WN				
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_				
Display unit	_	CAN COMM	CAN 1	CAN 3	=	_	CAN 2	C 4 /15	_	CAN 7				
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKVN				
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_				
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_				

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Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-62</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

		CAN DIAG SUPPORT MNTR											
SELECT SYST	SELECT SYSTEM screen		Transmit		Receive diagnosis								
		Initial diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	NNKWN	_	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	=	_	CAN 2	CAN 5	_	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNK/VN	UNKWN	UNKWN	-	Ω ΝΚ ΜΝ	-			
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_			

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-62, "IPDM E/R Ignition Relay Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis								
		diagnosis			DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F				
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UN K ∳NN	-	_	=	Π ΝΚ (ΜΝ	UNKWN	=			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_			
ABS	_	NG	UNKWN	UNKIN	_	_	_	_	_	_			

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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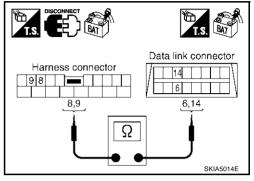
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-39, "Work Flow"</u>.

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

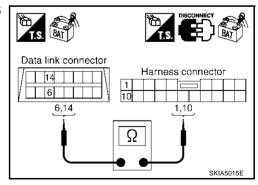
6 (L) - 1 (L) 14 (Y) - 10 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

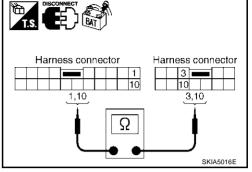
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

: Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (L) - 11 (L)

: Continuity should exist.

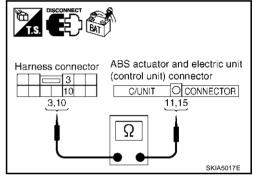
10 (Y) - 15 (Y)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-39</u>, "Work Flow".

NG >> Repair harness.



AKS0069C

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

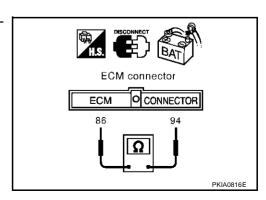
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

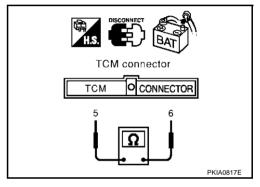
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

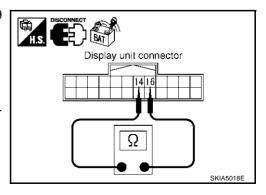
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

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



CAN SYSTEM (TYPE 1)

[CAN]

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

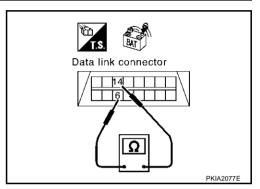
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

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

OK or NG

OK >> Diagnose again. Refer to LAN-39, "Work Flow".

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



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

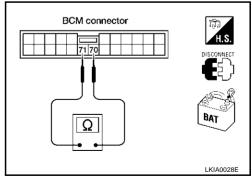
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - 71 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

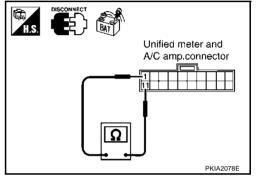
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS00695

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 E24 terminals 11 (L) and 15 (Y).

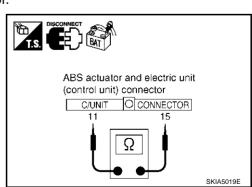
: Approx. 54 - 66 Ω

OK or NG

NG >> Replace ABS actuator and NG >> Repair harness between A

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

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



CAN SYSTEM (TYPE 1)

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

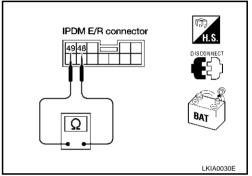
- Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

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



CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

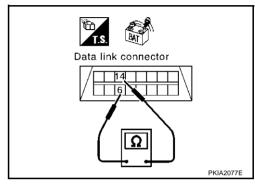
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

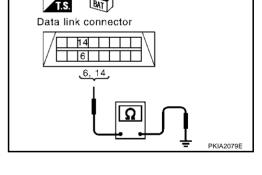
OK or NG

OK >> GO TO 4.

NG

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





4. CHECK HARNESS FOR SHORT CIRCUIT

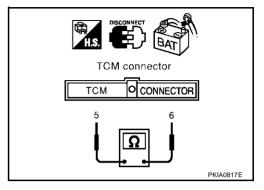
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

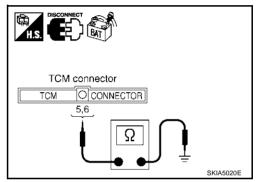
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

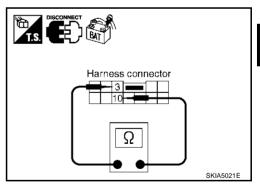
- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

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

OK or NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

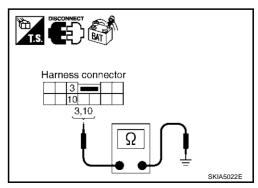
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

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

OK or NG

OK >> GO TO 8.

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



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8. CHECK HARNESS FOR SHORT CIRCUIT

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

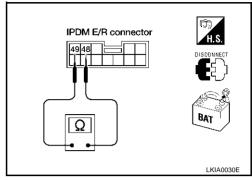
48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

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



9. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 10.

NG

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

IPDM E/R connector 48, 49 BAT Ω

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-62, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-39, "Work Flow".

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

IPDM E/R Ignition Relay Circuit Check

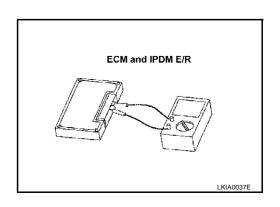
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



LAN-62 Revision; 2004 April 2003 Murano

CAN SYSTEM (TYPE 2)

PFP:23710

System Description

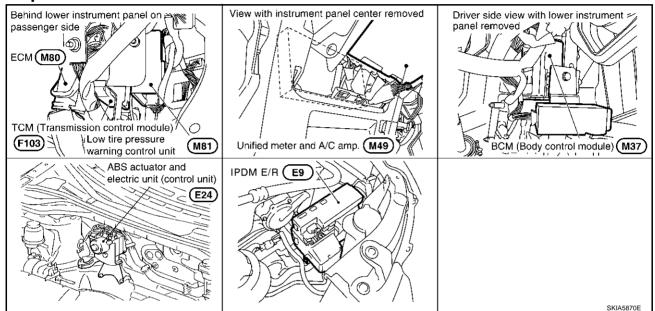
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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped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

Component Parts and Harness Connector Location

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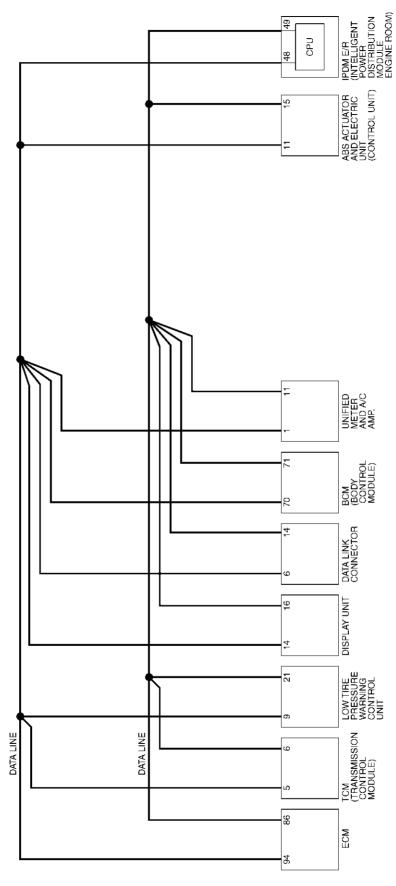
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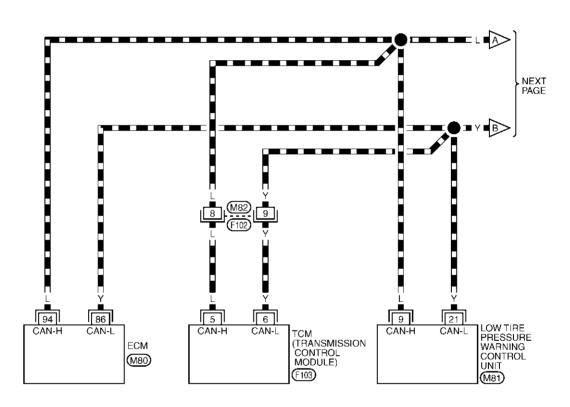
Schematic

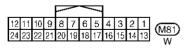


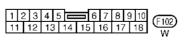
AKS006PC

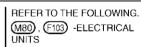
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: DATA LINE









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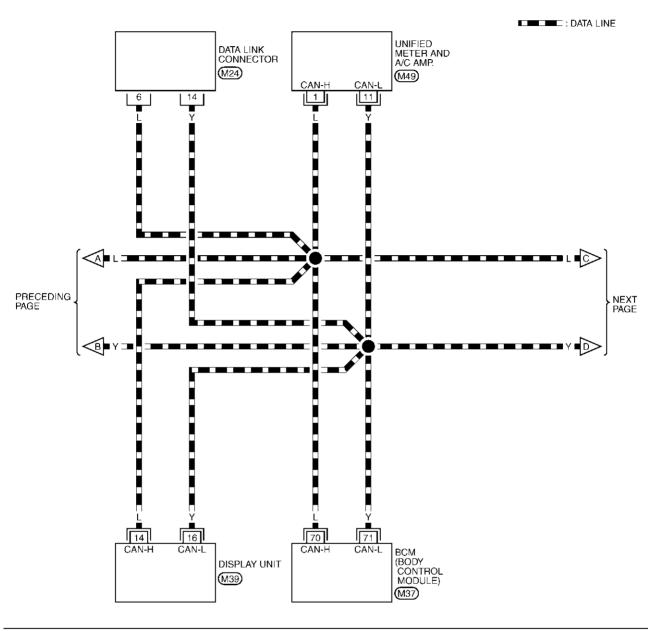
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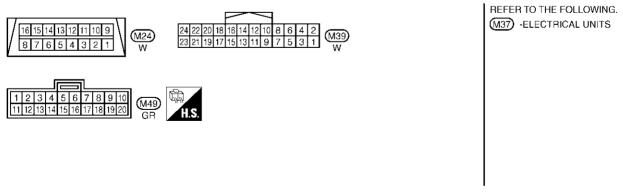
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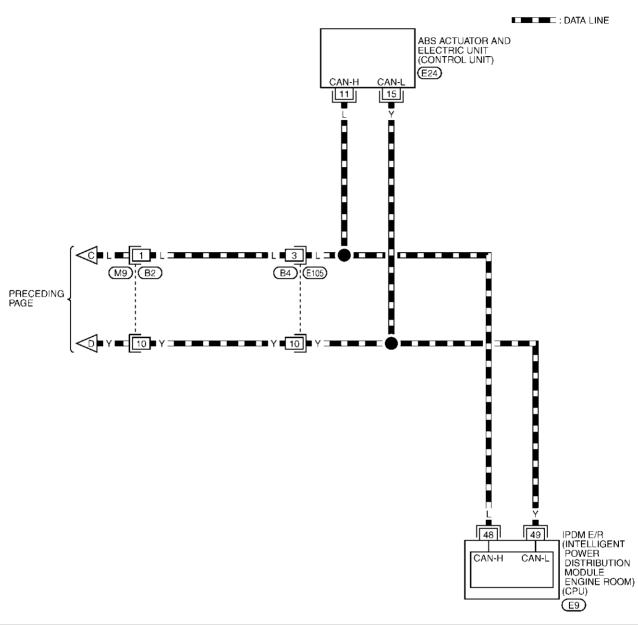
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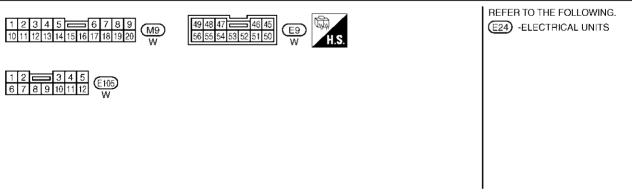
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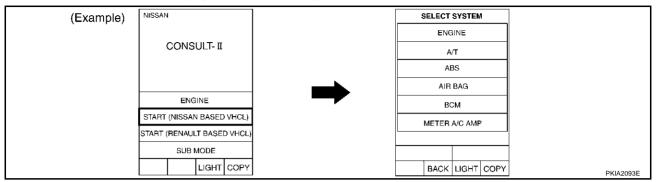




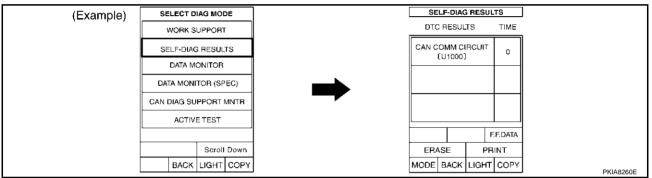
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Work Flow

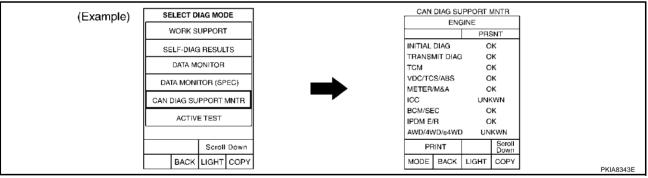
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP" and "ABS" 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-70, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-70, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-70, "CHECK SHEET".
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to LAN-70, "CHECK SHEET".

CAN SYSTEM (TYPE 2)

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NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

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9. According to the check sheet results (example), start inspection. Refer to LAN-72, "CHECK SHEET RESULTS (EXAMPLE)".

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CHECK SHEET

NOTE:

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

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	Receive of DISPLAY	ВСМ	METER	VDC/TCS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	/SEC UNKWN	/M&A UNKWN	/ABS	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_		UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
			Attach copy of SELECT SYSTEM				Attach copy LECT SYS				
					Attach copy display uni MONITOR	t	et				

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Attach copy of Attach copy of Attach copy of AIR PRESSURE **ENGINE** TRANSMISSION MONITOR SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of BCM METER A/C AMP ABS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of AIR PRESSURE **ENGINE** TRANSMISSION MONITOR CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR **MNTR** Attach copy of Attach copy of Attach copy of BCM METER A/C AMP ABS CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT **MNTR MNTR MNTR**

Revision; 2004 April LAN-71 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

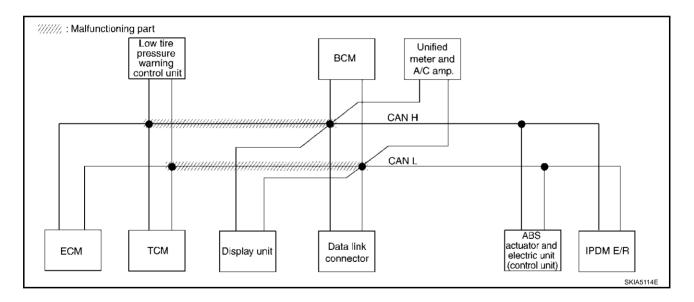
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-84, "Circuit Check Between TCM and Data Link Connector"</u>.

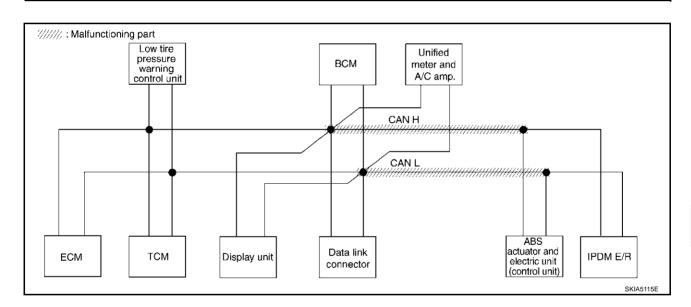
			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			1		
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	∩ иК {Λи	UNR WN	_	UN K ∕VN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_		
Display unit	_	CAN COMM	CAN 1	C 4/ 13	_	C€ \ 6	_	CAN 2	CAN 5	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNK/WN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	_		
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_		



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-84</u>, <u>"Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIVI SOICCII	diagnosis	l I	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UN K ∕WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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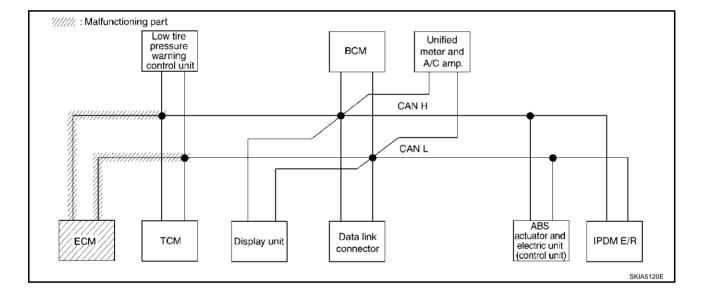
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Case 3
Check ECM circuit. Refer to LAN-85, "ECM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIN SOICEII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	NUKWN	_	Π υκ ΛΝ	_	_	∩ NR WN	UNKWN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UN K ∕VN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	-	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	С₩З	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK/WN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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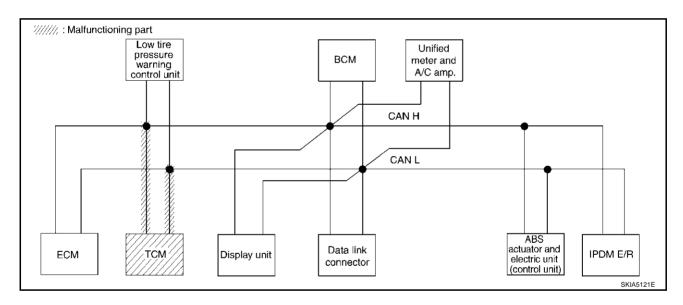
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Case 4
Check TCM circuit. Refer to LAN-86, "TCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
022201 01011	LIM SOFCER	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	1	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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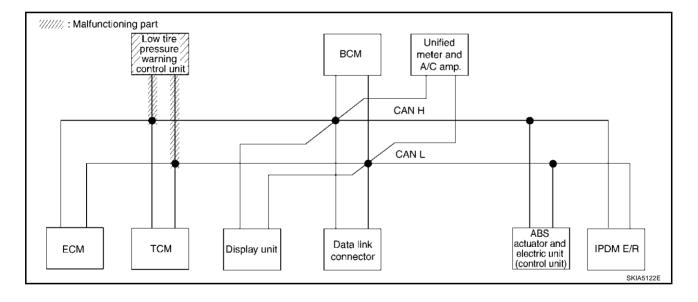
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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-86</u>, "Low <u>Tire Pressure Warning Control Unit</u> Circuit Check" .

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIN SCICCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	1	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	C 4/ 16	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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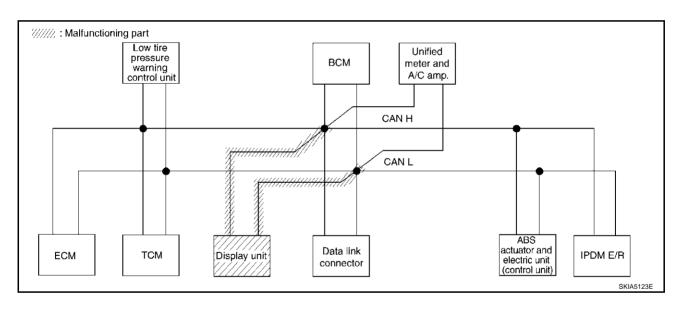
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Case 6

Check display unit circuit. Refer to LAN-87, "Display Unit Circuit Check" .

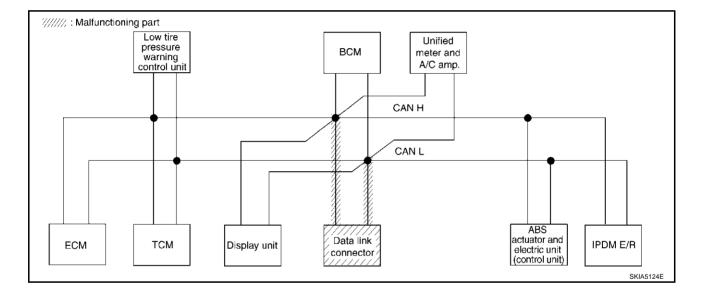
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0==0.0.0.		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	C 4/ 11	Се∕из	_	CAN 6	_	C W 12	CeV 5	_	C W 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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Case 7
Check data link connector circuit. Refer to <u>LAN-87</u>, "Data <u>Link Connector Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIN SOICEII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6		CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	_	_	_



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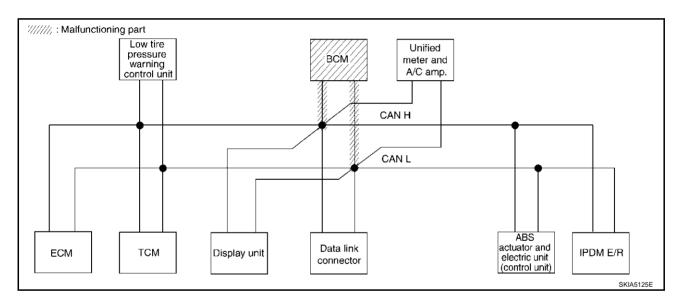
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Case 8
Check BCM circuit. Refer to <u>LAN-88</u>, "BCM Circuit Check".

					CAI	N DIAG SU	PPORT MI	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	η νιΚ ⁄γνν	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CM12	CAN 5	_	CAN 7
всм	-	NG	UNK WN	UNK WN	_	_	-	-	UNK/WN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS		NG	UNKWN	UNKWN	_	_		_	_	_	_
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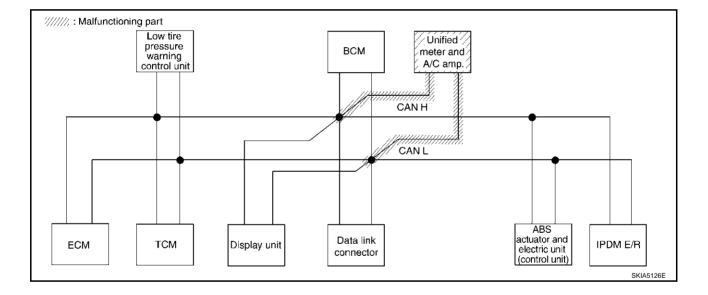


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Case 9
Check unified meter and A/C amp. circuit. Refer to <u>LAN-88</u>, "Unified Meter and A/C Amp. Circuit Check".

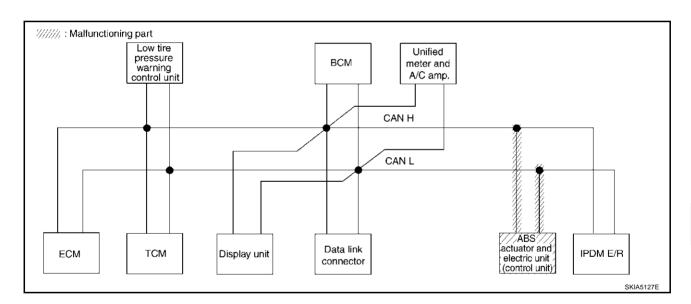
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	Em Sorcem	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNIX WN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	=	_	_	UNION	UNKWN	=
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNIKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CW 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	=	UN K ∕WN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-89</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LINI SOICCII	diagnosis	l I	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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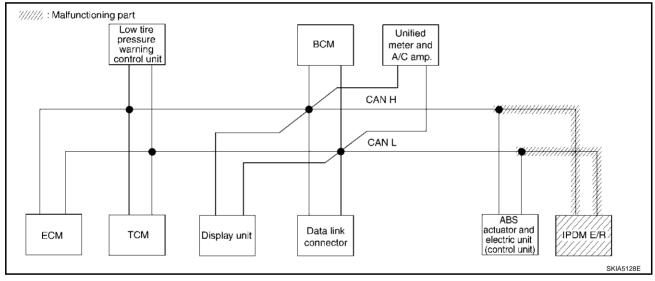
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Case 11
Check IPDM E/R circuit. Refer to LAN-89, "IPDM E/R Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	ı	NG	UNKWN	_	UNKWN	ı	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	ı	UNKWN	UNKWN	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CA N 7
всм	-	NG	UNKWN	UNKWN	_	_	-	=	UNKWN	_	υ νκ ⁄νν
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 12
Check CAN communication circuit. Refer to <u>LAN-90</u>, "CAN Communication Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive (diagnosis			
022201 0101	EW Sorceri	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	Π ИΚ ΜИ	_	Π υκ γνи	_	_	∩ иК {\var}	∩ νκ ⁄νν	_	UN K WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CA/11	CAN 3	_	C √√ 6	_	CM 2	CAN 5	_	CAN 7
всм	_	NG	UN K WN	UNKWN	_	_	_	_	UNK WN	_	UNK VN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNIKWN	UNK WN	_	_	_	_	_	_	_

CAN SYSTEM (TYPE 2)

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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-90</u>, "<u>CAN Communication Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Tranamit				Receive of	diagnosis			
322201 3131	LIVI SCICCII	diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Π ИΚW Μ	_	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNK/WN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-93, "IPDM E/R Ignition Relay Circuit Check".

					CAI	N DIAG SU	IPPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
022201 0101	LIN SOICCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	_	UN K ₩N	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	=	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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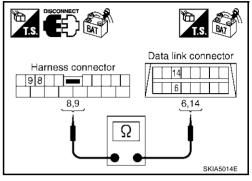
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-68, "Work Flow" .

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

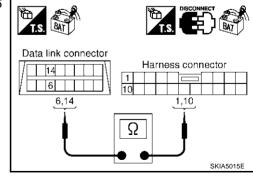
6 (L) - 1 (L) 14 (Y) - 10 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (L) - 3 (L)

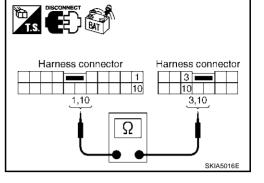
: Continuity should exist.

10 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (L) - 11 (L)

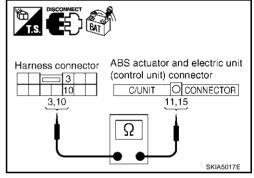
: Continuity should exist.

10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-68, "Work Flow".

NG >> Repair harness.



AKS006PG

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

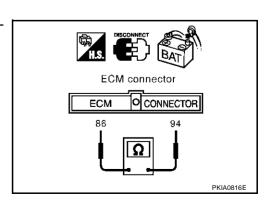
94 (L) - 86 (Y)

: **Approx.** 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

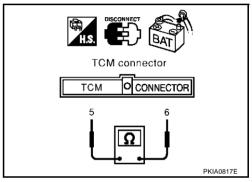
OK or NG

OK

>> Replace TCM.

NG

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS006PI

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y)

: Approx. 54 - 66 Ω

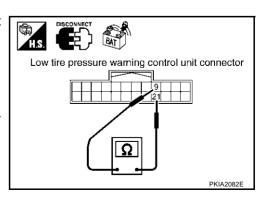
OK or NG

OK

>> Replace low tire pressure warning control unit.

NG

>> Repair harness between low tire pressure warning control unit and TCM.



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Display Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

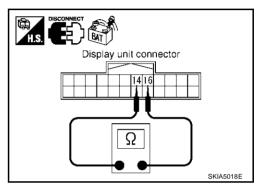
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

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



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

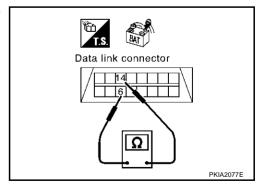
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-68, "Work Flow".

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



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BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

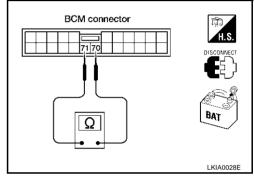
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



AKS006PM

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

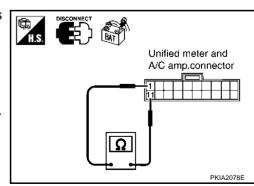
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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- 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

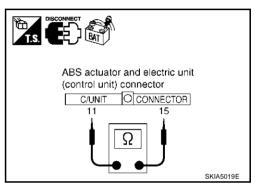
- Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

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

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



AKS006PC

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

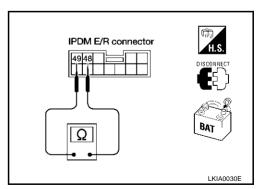
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



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LAN-89 Revision; 2004 April 2003 Murano

CAN Communication Circuit Check

1. CHECK CONNECTOR

AKS006PF

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

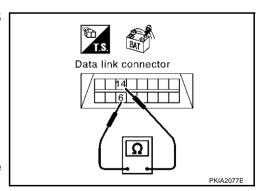
6 (L) - 14 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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



3. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 4.

NG

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

4. CHECK HARNESS FOR SHORT CIRCUIT

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

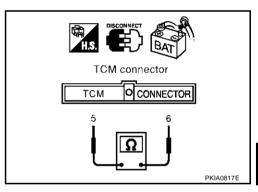
5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair ha

>> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

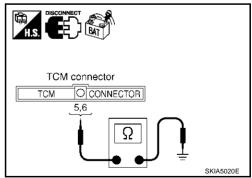
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



Data link connector

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6. CHECK HARNESS FOR SHORT CIRCUIT

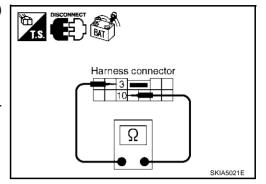
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

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

OK or NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

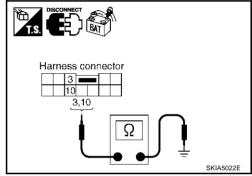
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

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

OK or NG

OK >> GO TO 8.

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



8. CHECK HARNESS FOR SHORT CIRCUIT

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

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

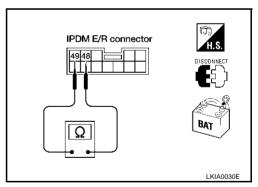
OK or NG

NG

OK >> GO TO 9.

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

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



9. CHECK HARNESS FOR SHORT CIRCUIT

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

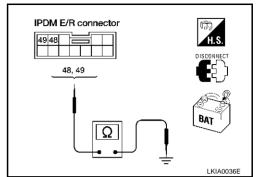
48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

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



10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-93}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ $\underline{\mathsf{INTERNAL}}$ $\underline{\mathsf{CIRCUIT}}$ $\underline{\mathsf{INSPECTION}}$ ". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-68</u>, "Work Flow".

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

IPDM E/R Ignition Relay Circuit Check

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

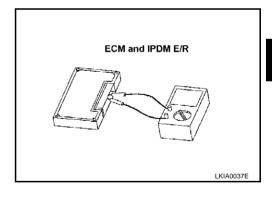
• IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".

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

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



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CAN SYSTEM (TYPE 3)

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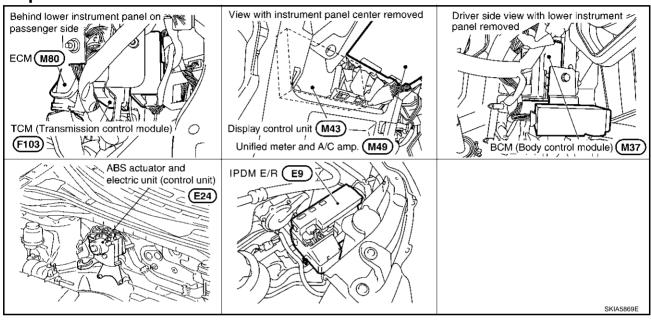
System Description

AKS006PS

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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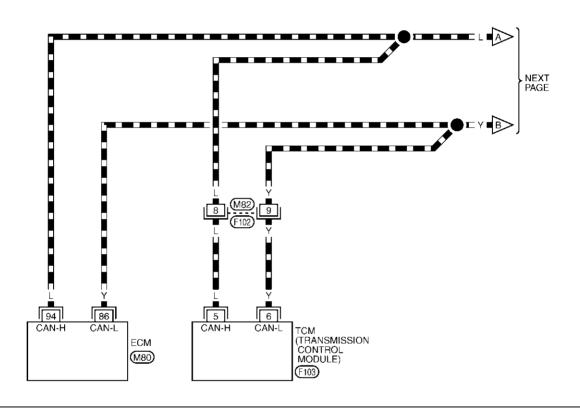
Schematic AKS006PU Α IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 49 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) С D Е F G Н UNIFIED METER AND A/C AMP. J 70 DATA LINK CONNECTOR LAN DISPLAY CONTROL UNIT M 25 TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 9 98 ECM 8 TKWA0931E

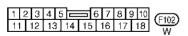
Wiring Diagram - CAN -

AKS006PV

LAN-CAN-07

: DATA LINE





REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL
UNITS

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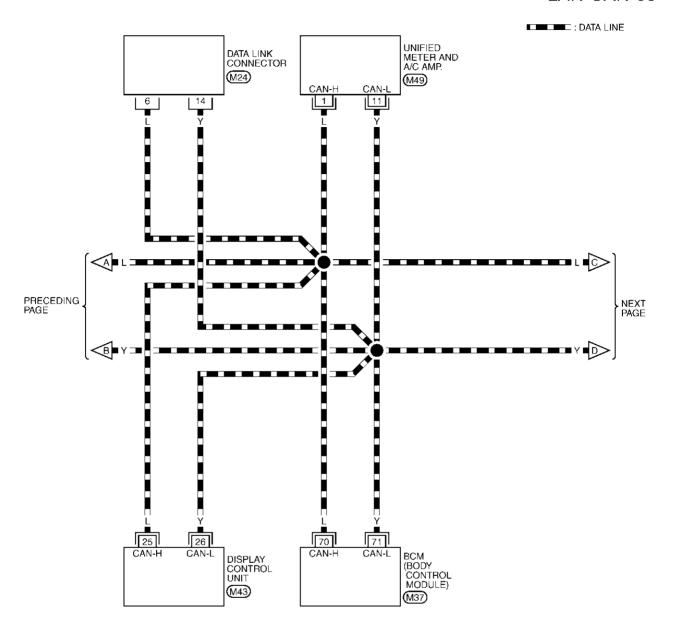
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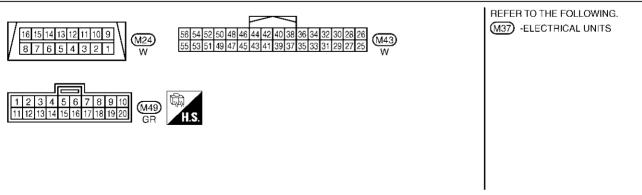
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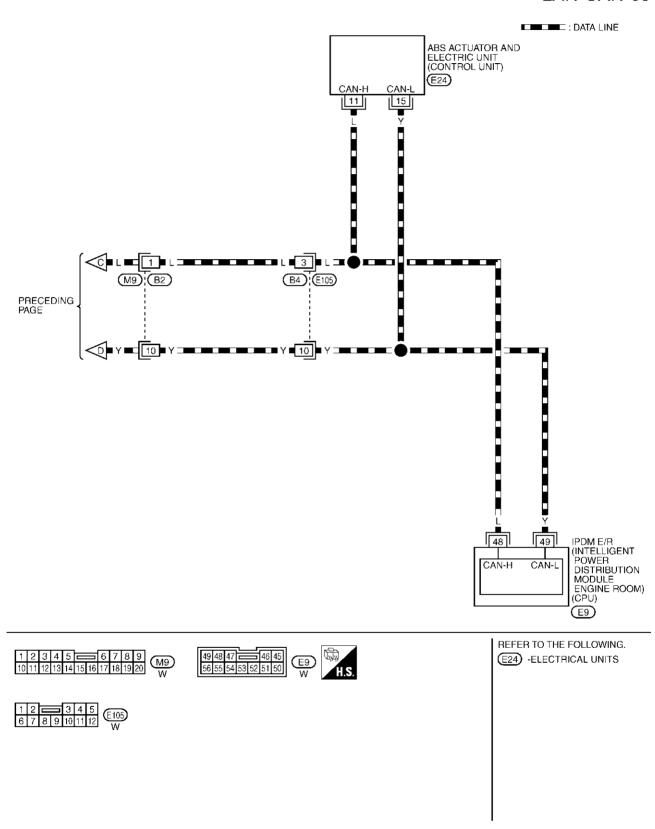
LAN-CAN-08





TKWA0933E

LAN-CAN-09

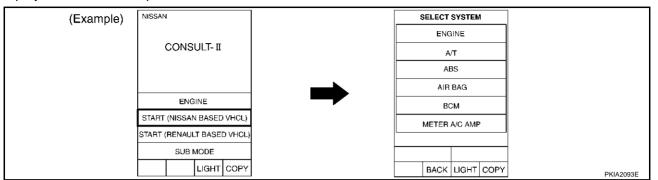


TKWA0934E

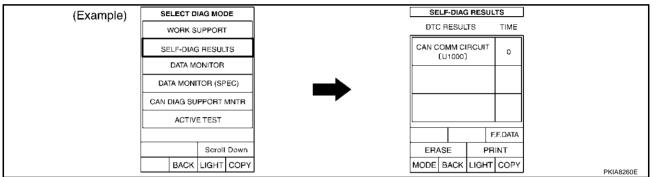
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Work Flow

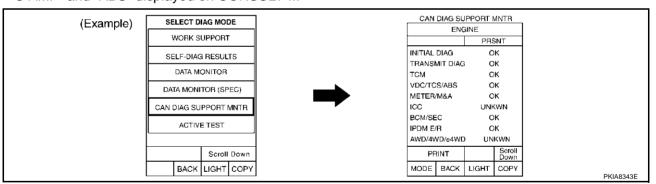
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-101</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-101, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-101</u>, "CHECK SHEET".

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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-101</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-103, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CAN SYSTEM (TYPE 3)

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CHECK SHEET

NOTE:

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

ENGINE — NG UNKWN — CAN CIRC 2 CAN CIRC 5 — CAN CIRC	Check sheet table	е									
diagnosis diagno				ſ	I	CAN DIA	AG SUPPOF	RT MNTR			
TRANSMISSION No indication NG	SELECT SYST	EM screen			ECM	тсм			METER		IPDM E/F
Display control unit	ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
Attach copy of SELECT SYSTEM Attach copy of display control unit	TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Attach copy of display control unit	Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC
Altach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of Select System	всм	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	Ī	UNKWN
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM	METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of display control unit	ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	_
Attach copy of display control unit											
display control unit			Att SELI	tach copy of ECT SYSTE	М		Attach SELECT	copy of SYSTEM			
				CAN DI	display	control unit	₹ check shee	et .			

Attach copy of METER A/C AMP SELF-DIAG RESULTS Attach copy of SELF-DIAG RESULTS Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of MNTR	Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
ENGINE CAN DIAG SUPPORT MNTR TRANSMISSION CAN DIAG SUPPORT MNTR SEM CAN DIAG SUPPORT MNTR SEM CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP SELF-DIAG RESULTS	ABS	
Attach copy of Attach copy of	ENGINE CAN DIAG SUPPORT	TRANSMISSION CAN DIAG SUPPORT	BCM CAN DIAG SUPPORT
METER A/C AMP CAN DIAG SUPPORT MNTR ABS CAN DIAG SUPPORT MNTR	CAN DIAG SUPPORT	CAN DIAG SUPPORT	

CHECK SHEET RESULTS (EXAMPLE)

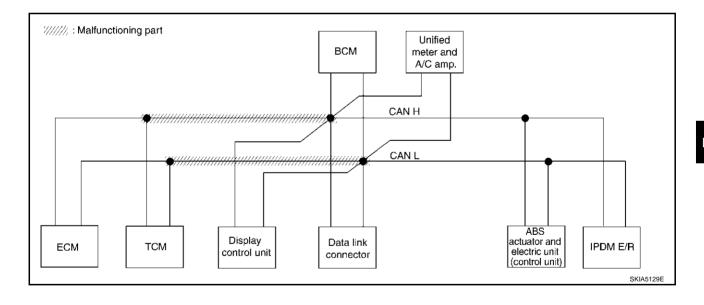
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-114</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	osis		
OLLLOI OIOI	LIVI SCICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKAN	UNK WN	_	UNNWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	=	CAN COMM	CAN CIRC 1	CAN ORC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK/WN	UN K WN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNK/WN	_	-	_	_	_	_



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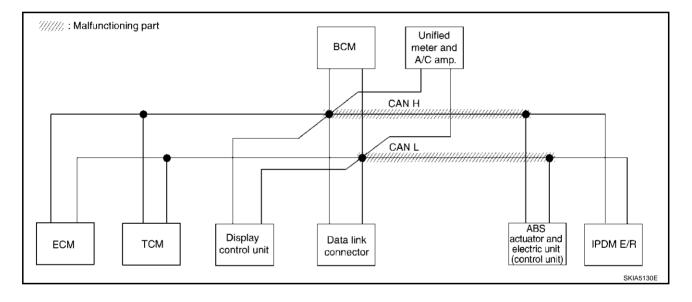
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Case 2

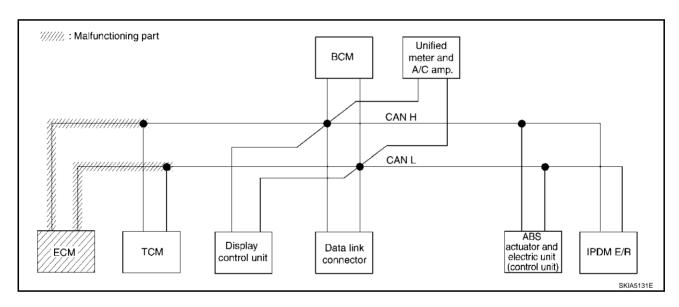
Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-114</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	2171 301 3011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNIVAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNK WN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CANORC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	_	-



Case 3
Check ECM circuit. Refer to <u>LAN-115</u>, "ECM Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	2171 0010011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	NNR MN	_	Π ИΚ ΜИ	_	UNK WN	UNK WN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	n nk {\w}ν	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	υν κ∕ νν	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN W WN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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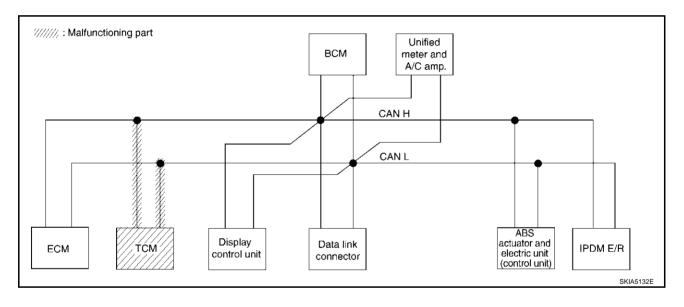
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Case 4
Check TCM circuit. Refer to <u>LAN-116</u>, "TCM Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	LIVI SCICOII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNK WN	-	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK/WN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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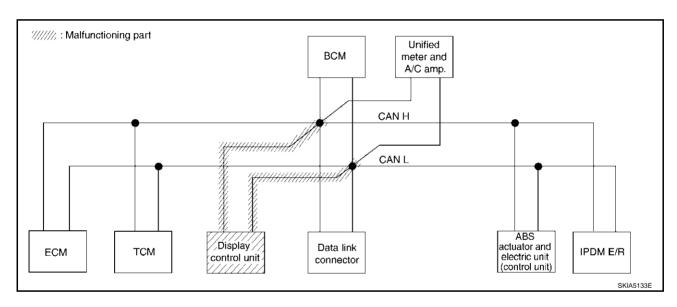
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Case 5
Check display control unit circuit. Refer to <u>LAN-116</u>, "<u>Display Control Unit Circuit Check</u>".

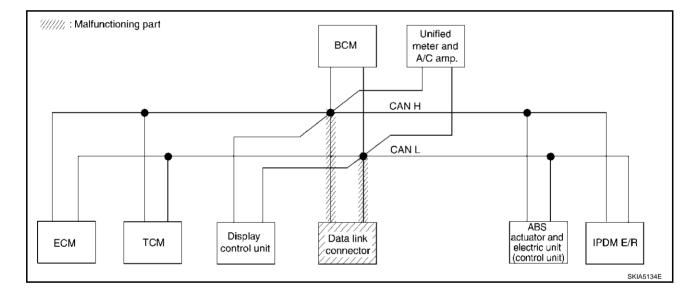
					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	 Transmit			Re	ceive diagno	sis		
3222313131		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CRC 1	CAN ORC 3	_	_	CANORC 2	CANORC 5	_	CAN ORC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	1	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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Case 6
Check data link connector circuit. Refer to <u>LAN-117</u>, "<u>Data Link Connector Circuit Check</u>".

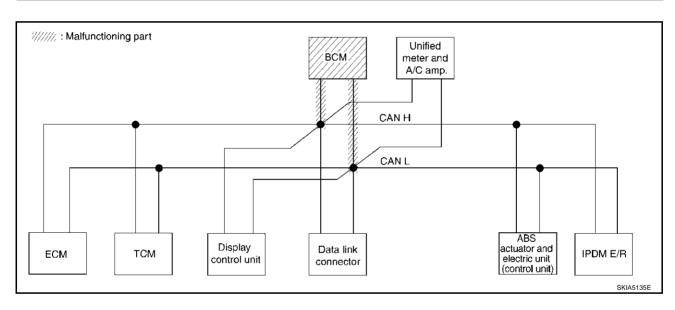
					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
3222313131		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	UNKWN	=
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABŞ	-	NG	UNKWN	UNKWN	_	_	_	_	_	_



Case 7

Check BCM circuit. Refer to LAN-117, "BCM Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	LIVI GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK WN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CANORC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNK WN	UN K ₩N	_	_	_	UN K WN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK/WN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	_



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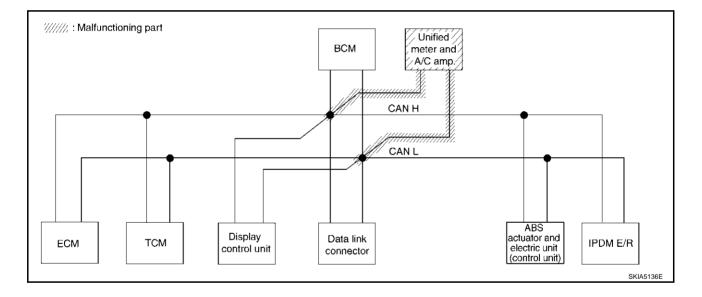
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Case 8
Check unified meter and A/C amp. circuit. Refer to <u>LAN-118</u>, "Unified Meter and A/C Amp. Circuit Check".

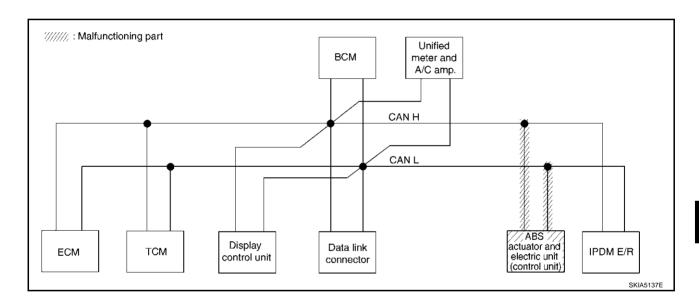
					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	LIVI GELECIT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	=	UNK / VN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN ORC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UN K WN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-118</u>, "ABS Actuator and Electric Unit (<u>Control Unit</u>) Circuit Check".

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	LIN SCICOII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	UNKWN	_
Display control unit	=	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UN W WN	_
ABS	_	NG	UNKWN	UNHWN	_	_	_	_	_	_



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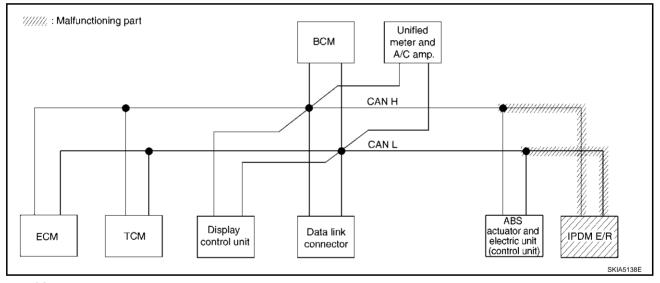
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Case 10
Check IPDM E/R circuit. Refer to <u>LAN-119</u>, "IPDM E/R Circuit Check".

					CAN DIA	G SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLO1 G1G1	LIVI SUI COII	diagnosis	diagnosis	ЕСМ	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	_	UNION
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	1	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CANORC 7
всм	=	NG	UNKWN	UNKWN	-	=	_	UNKWN	_	UNIMAN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



Case 11
Check CAN communication circuit. Refer to <u>LAN-119</u>, "CAN Communication Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	2171 301 3011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNION	_	UNK WN	_	UNK/VN	Π ΝΚ ΛΝ	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CANORC 1	CANATRC 3	_	-	CAN CRC 2	CAN CRC 5	_	CANOTEC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNIAWN	_	_	_	_	_	_

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Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-122</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
52251 5151	55.55	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNIK WN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	∩ ик ⁄ми	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-122, "IPDM E/R Ignition Relay Circuit Check" .

					CAN DIA	AG SUPPOR				
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222070707	2111 0010011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UN K∕ WN	_	_	_	η νκ (ΛΝ	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_

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AKS006PX

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

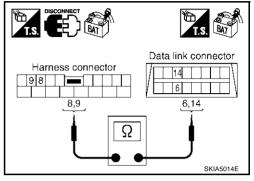
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to <u>LAN-99</u>, "Work Flow" .

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

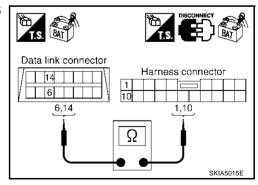
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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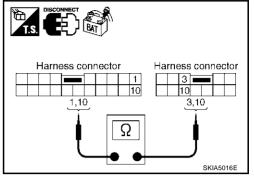
3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

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

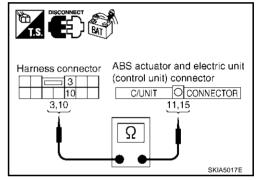
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

5 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-99</u>, "Work Flow".

NG >> Repair harness.



AKS006PZ

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

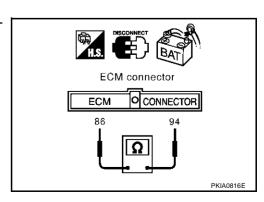
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

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AKS00601

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

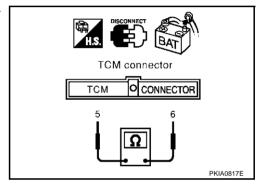
- Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

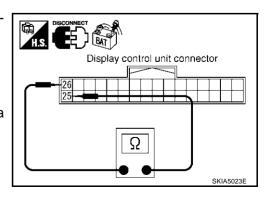
25 (L) - 26 (Y)

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

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



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

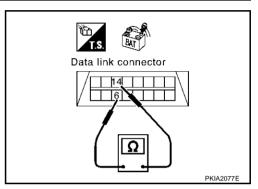
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - **14 (Y)** : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-99, "Work Flow".

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



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

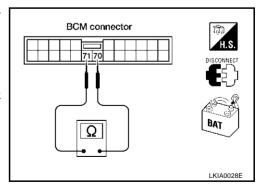
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - 71 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



AKS00603

LAN

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

AKS006Q4

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

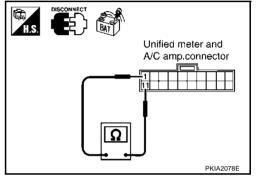
OK or NG

OK

>> Replace unified meter and A/C amp.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS006Q5

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 E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

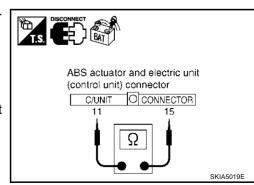
OK or NG

OK

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

NG

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



CAN SYSTEM (TYPE 3)

[CAN]

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

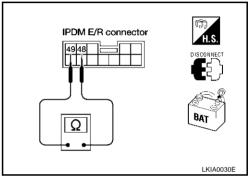
- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

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



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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS006Q7

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

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

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

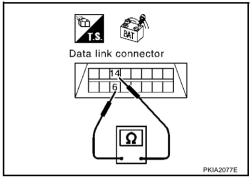
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

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



Data link connector

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6, 14.

4. CHECK HARNESS FOR SHORT CIRCUIT

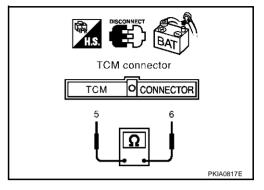
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

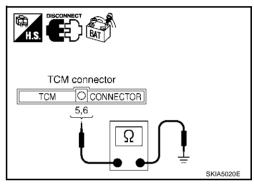
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

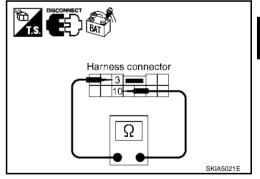
- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

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

OK or NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

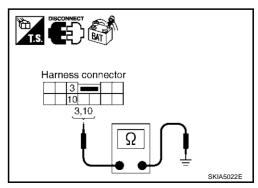
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

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

OK or NG

OK >> GO TO 8.

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



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8. CHECK HARNESS FOR SHORT CIRCUIT

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

48 (L) - 49 (Y)

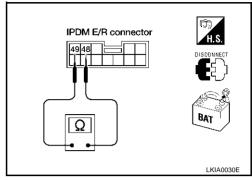
: Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

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



9. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 10.

NG

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

IPDM E/R connector 4948 48, 49 BAT LKIA0036E

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-122</u>, <u>"ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-99</u>, "Work Flow".

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

IPDM E/R Ignition Relay Circuit Check

AKS006Q8

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

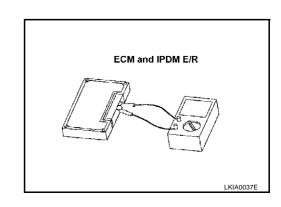
- IPDM E/R power supply circuit. Refer to <u>PG-45</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006Q9

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



CAN SYSTEM (TYPE 4)

PFP:23710

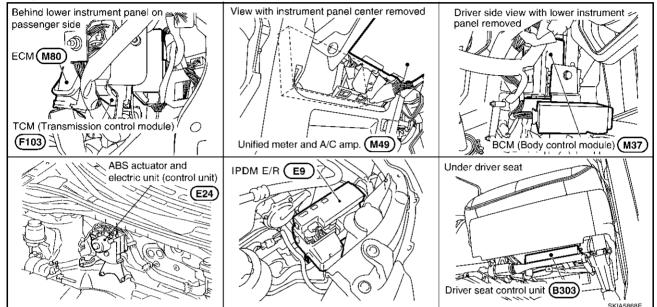
System Description

AKS006QT

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

AKS006QU



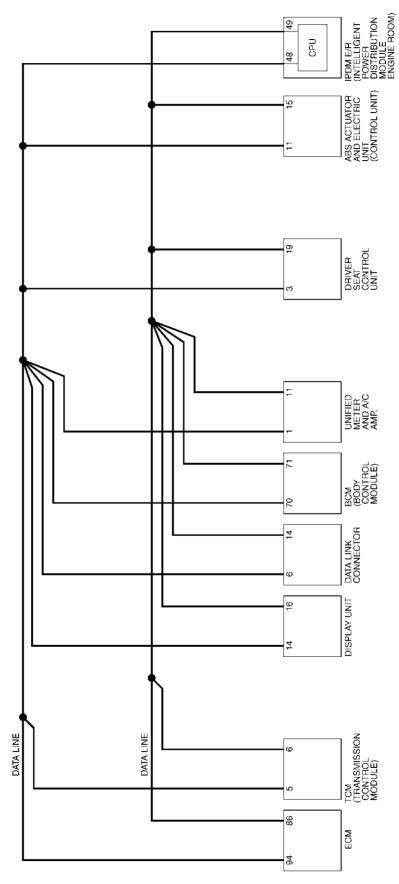
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Schematic AKS006Q

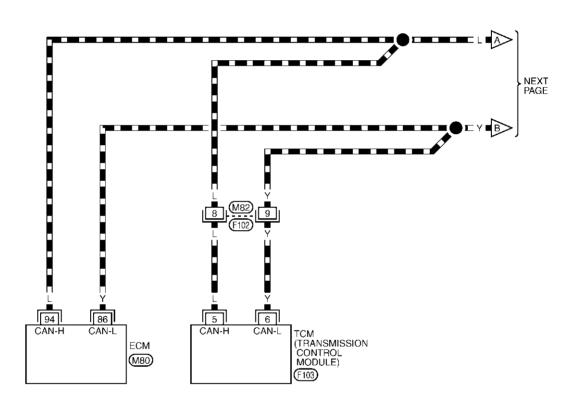


TKWA0935E

AKS006QW

LAN-CAN-10

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL
UNITS

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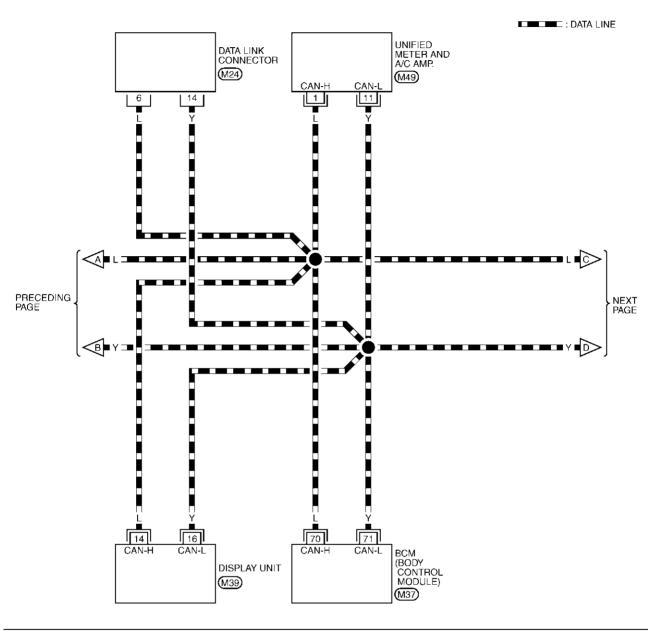
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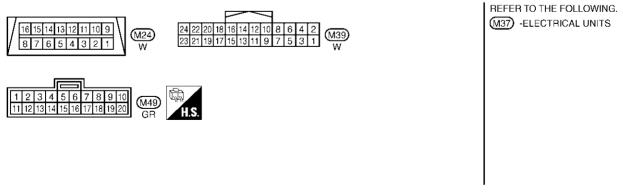
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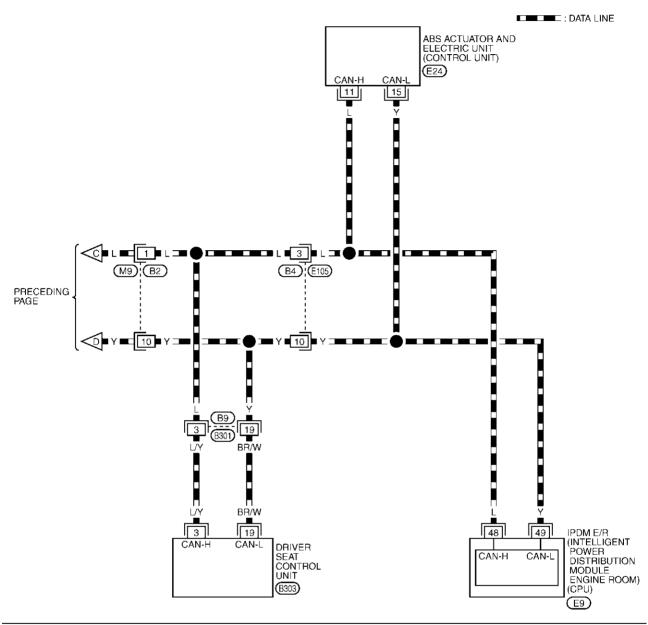
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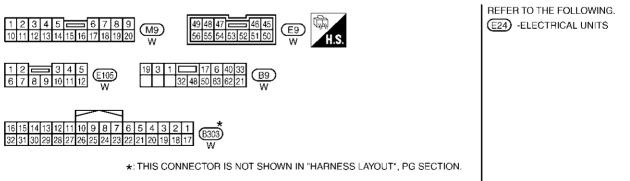
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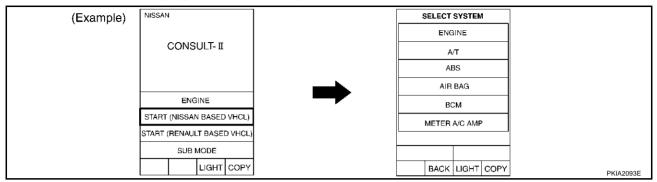




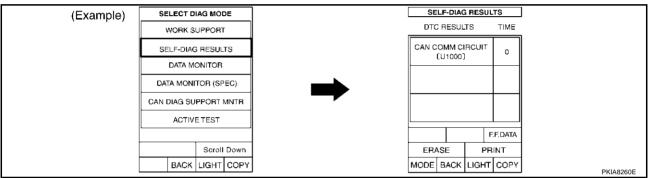
TKWA0938E

Work Flow

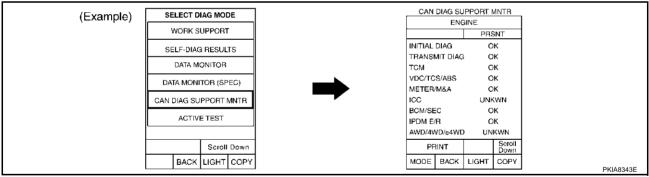
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-130</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-130</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to AV-110, "CAN Communication Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-130</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 4)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-130</u>, "CHECK SHEET".

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-132</u>, "CHECK SHEET <u>RESULTS</u> (EXAMPLE)".

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CHECK SHEET

NOTE:

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

					CAN DIA	AG SUPPOF		_:-		
SELECT SYST	EM screen	Initial	Transmit				ceive diagno	sis METER	VDC/TCS	
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	/M&A	/ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_
		Att SELI	ach copy of ECT SYSTEI	М		Attach SELECT	copy of SYSTEM			
					L					
			CA	Attad disp N DIAG MO	th copy of play unit NITOR chec	:k sheet				

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Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR Attach copy of Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR			
Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT	ENGINE	TRANSMISSION	ВСМ
Attach copy of METER A/C AMP CAN DIAG SUPPORT CAN DIAG SUPPORT AUTO DRIVE POS. CAN DIAG SUPPORT	METER A/C AMP	AUTO DRIVE POS.	ABS
METER A/C AMP AUTO DRIVE POS. ABS CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT	ENGINE CAN DIAG SUPPORT	TRANSMISSION CAN DIAG SUPPORT	BCM CAN DIAG SUPPORT
	METER A/C AMP CAN DIAG SUPPORT	AUTO DRIVE POS. CAN DIAG SUPPORT	ABS CAN DIAG SUPPORT

Revision; 2004 April LAN-131 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

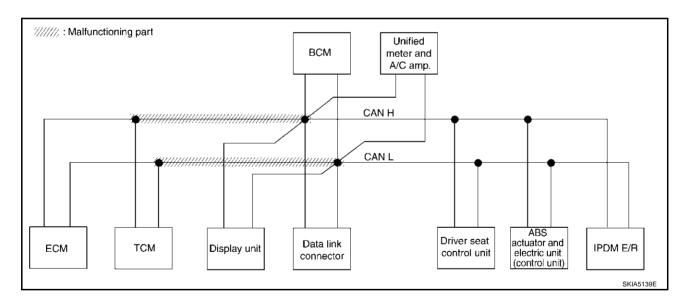
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-145</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

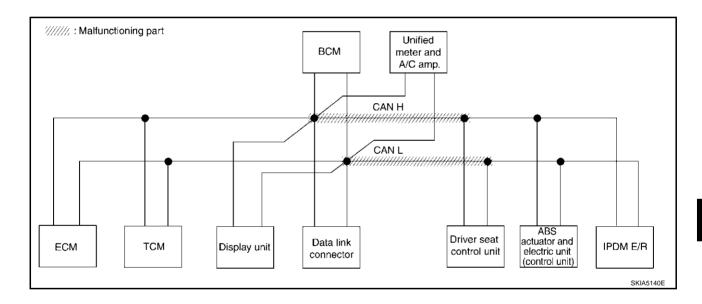
					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	LIVI SCICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UN K ₩N	UNIWN	_	UNK VN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	C ∜√ 3	-	-	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNK W N	_	_	_	_	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-145</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	LIVI SCIECTI	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UN K ₩N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNK A N	_	_	_		_	_



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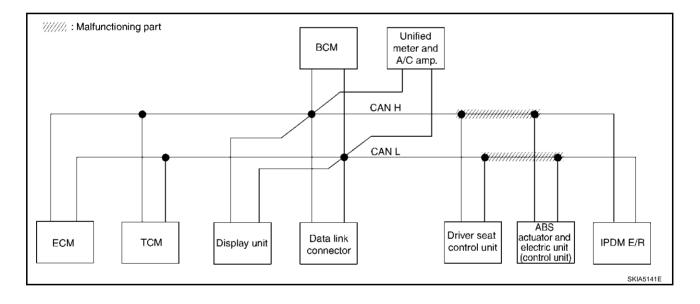
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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-146</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	LIVI SOFCOII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNK/VN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	_	UNKWN	NNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKVN	-	_	_	_	_	_



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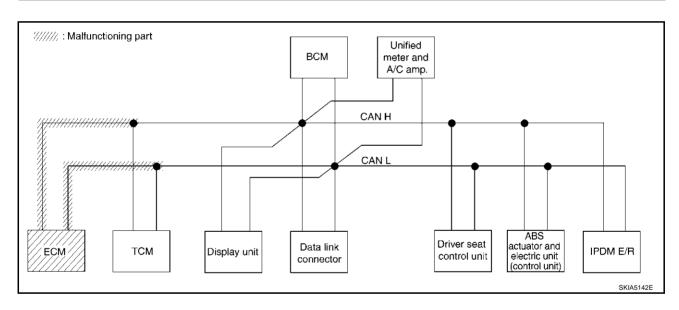
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Case 4
Check ECM circuit. Refer to <u>LAN-147</u>, "ECM Circuit Check".

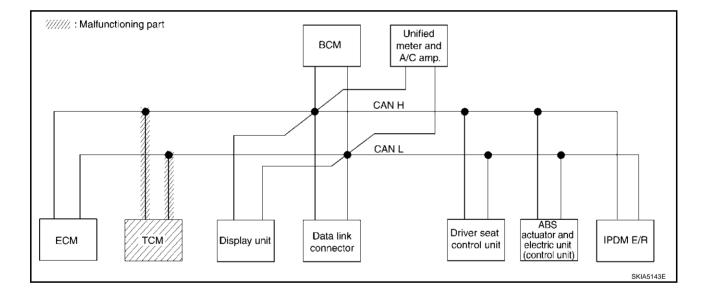
					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0===0.0.0.		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNK WN	_	UNKWN	NNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	-	-	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CM 3	-	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNK WN	_	_	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNK W N	-	_	_	_	_	_
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Case 5
Check TCM circuit. Refer to <u>LAN-147</u>, "TCM Circuit Check" .

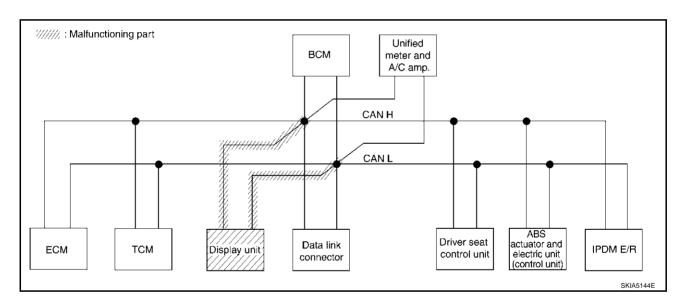
					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
022201 0101	EIVI SCIEGII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNK WN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	-



Case 6

Check display unit circuit. Refer to LAN-148, "Display Unit Circuit Check" .

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	217 3373311	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CW 3	_	-	CM12	C W 15	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	=	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	=	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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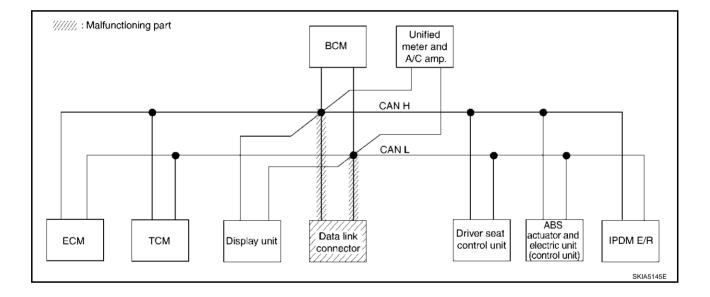
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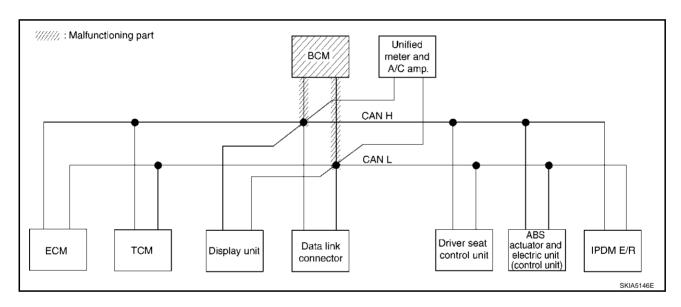
Case 7
Check data link connector circuit. Refer to <u>LAN-148</u>, "<u>Data Link Connector Circuit Check</u>" .

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



Case 8
Check BCM circuit. Refer to <u>LAN-149</u>, "BCM Circuit Check".

					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	2111 001 0011	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNIVAN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	C W 12	CAN 5	_	CAN 7
ВСМ	_	NG	UN K ₩N	UNK WN	_	_	_	UNKWN	_	UNKVN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UN K ₩N	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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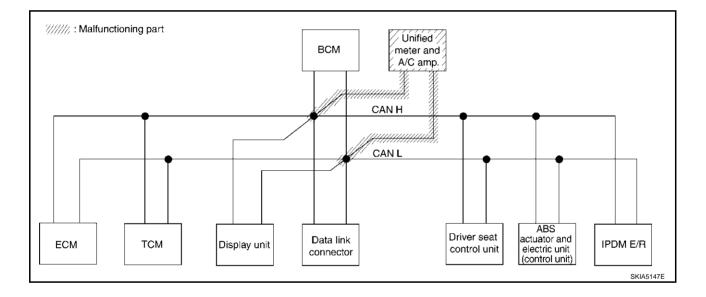
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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-149, "Unified Meter and A/C Amp. Circuit Check".

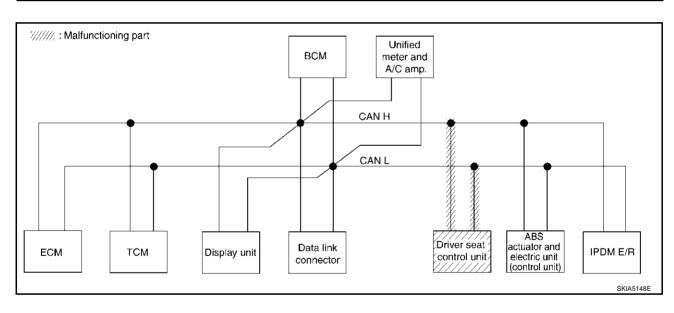
					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLOT OTOT	EIVI SCIEGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	UNKWN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



Case 10

Check driver seat control unit circuit. Refer to LAN-150, "Driver Seat Control Unit Circuit Check".

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0===0.0.0.		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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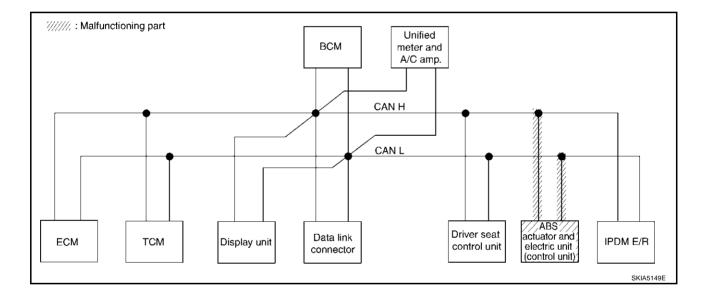
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Case 11

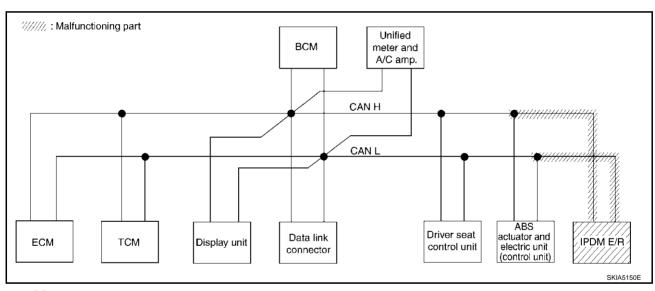
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-150</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAN DIA	AG SUPPOR	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	EIVI SOICCIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNK WN	UNKWN	_	_	_	_	_	_



Case 12
Check IPDM E/R circuit. Refer to LAN-151, "IPDM E/R Circuit Check" .

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



Case 13
Check CAN communication circuit. Refer to <u>LAN-152</u>, "CAN Communication Circuit Check" .

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
0222010101	217 3010311	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UN K ₩N	_	UNK WN	_	UNK WN	UN A WN	_	Π ИΚ ΛΝ
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	C 4√ 13	-	_	CAN 2	CM 5	_	CAN 7
всм	_	NG	UNK WN	UNK WN	_	-	_	UNKWN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKAN	_	_	_	_	_	-

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-156, "IPDM E/R Ignition Relay Circuit Check".

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

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-156, "IPDM E/R Ignition Relay Circuit Check".

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

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

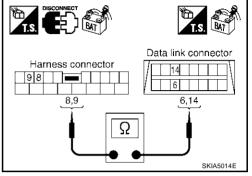
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-128, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

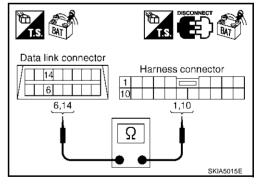
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

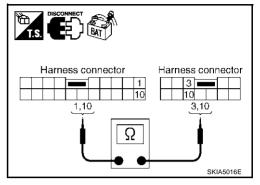
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-128, "Work Flow" .

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

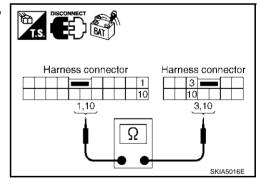
- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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

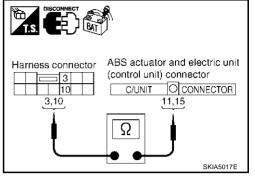
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-128, "Work Flow".

NG >> Repair harness.



AKS006R0

ECM Circuit Check

CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

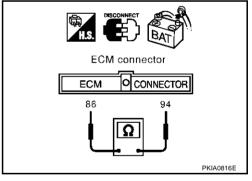
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006R1

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

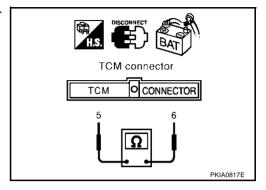
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. **54 - 66** Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



AKS006R2

Display Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

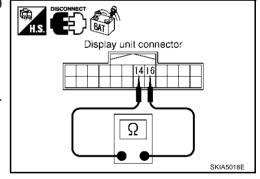
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 - 66Ω

OK or NG

OK >> Replace display unit.

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



AKS006R3

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

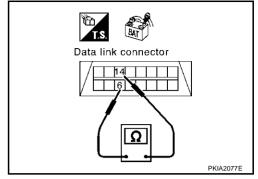
: Approx. 54 - 66 Ω

OK or NG

OK

>> Diagnose again. Refer to LAN-128, "Work Flow".

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



BCM Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF. 1.

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

Disconnect BCM connector.

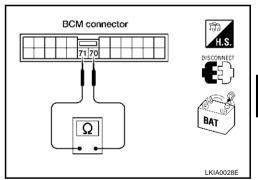
Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM"

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



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (L) - 11 (Y)

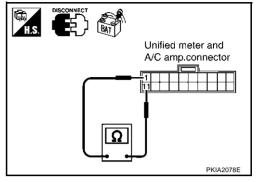
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (L/Y) - 19 (BR/W)

: Approx. 54 - 66 Ω

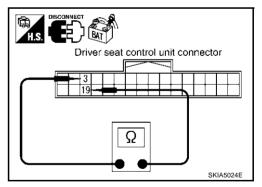
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

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1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal. 2.
- 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 E24 terminals 11 (L) and 15 (Y).

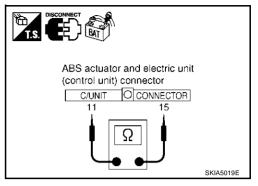
: Approx. 54 - 66 Ω

OK or NG

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

NG

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



AKS006R7

IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

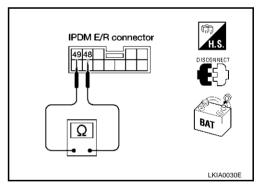
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



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CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

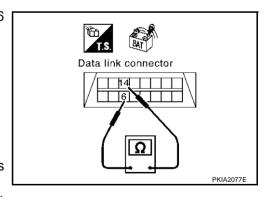
: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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



3. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 4.

NG

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

4. CHECK HARNESS FOR SHORT CIRCUIT

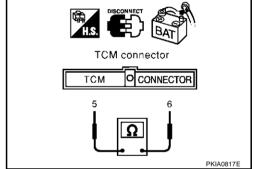
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

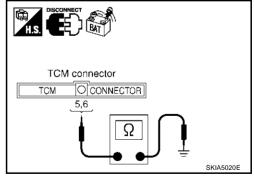
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



Data link connector

6, 14

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6. CHECK HARNESS FOR SHORT CIRCUIT

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

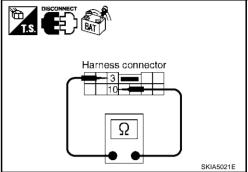
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

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



7. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 8.

NG

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

8. CHECK HARNESS FOR SHORT CIRCUIT

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

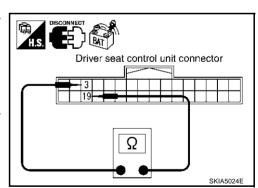
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector 3

3,10

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9. CHECK HARNESS FOR SHORT CIRCUIT

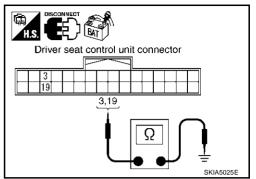
Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

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

OK or NG

OK >> GO TO 10.

NG >> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

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

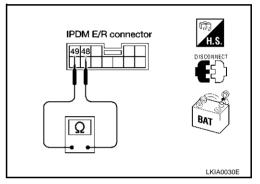
48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 11.

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

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



11. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

NG

OK >> GO TO 12.

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

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

IPDM E/R connector 49 48 49 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-156</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-128</u>, "Work Flow".

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

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IPDM E/R Ignition Relay Circuit Check

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

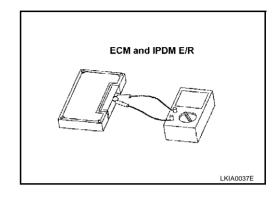
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006RA

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



[CAN]

CAN SYSTEM (TYPE 5)

PFP:23710

System Description

AKS006QA

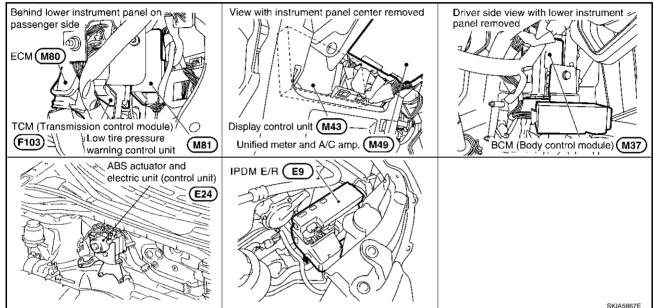
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information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

AKS006QB

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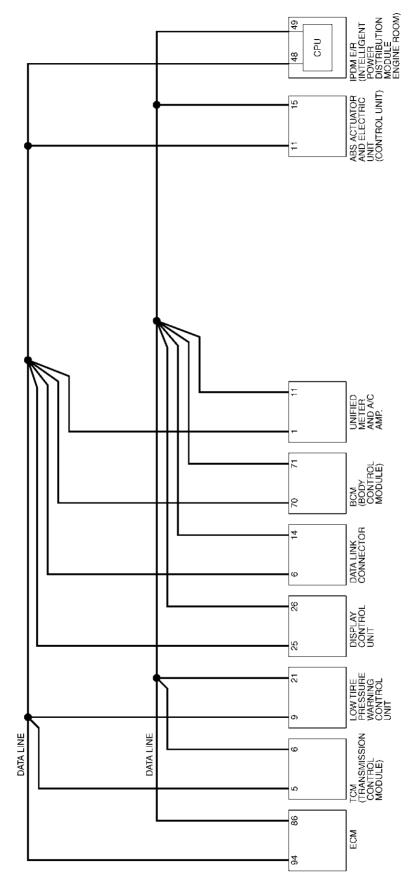
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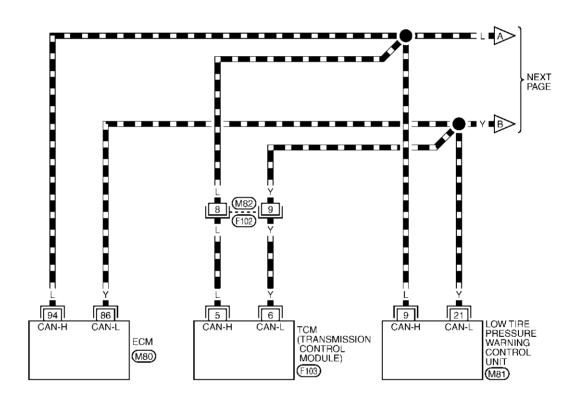
Schematic



AKS006QD

LAN-CAN-13

: DATA LINE



12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL
UNITS

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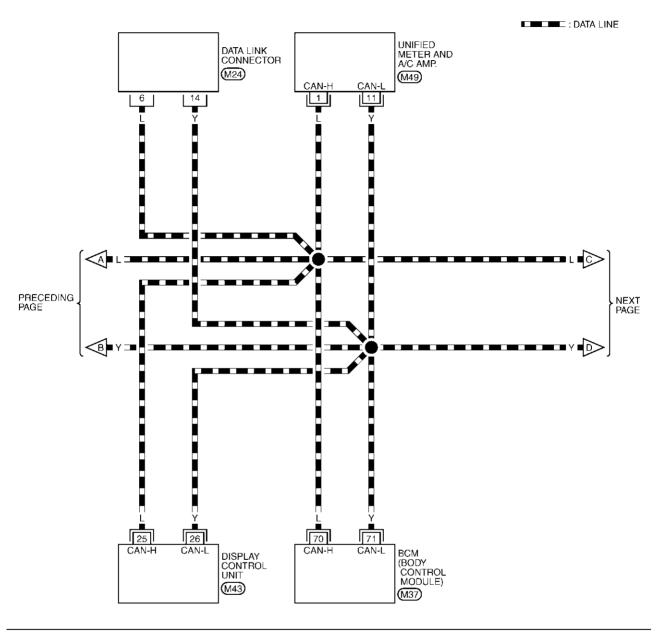
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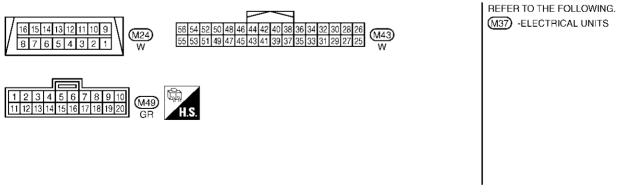
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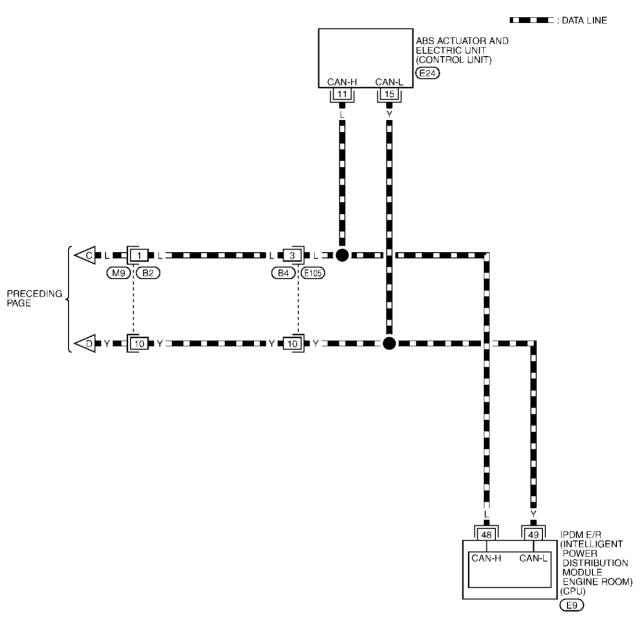
LAN-CAN-14

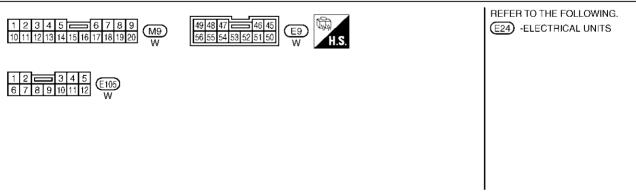




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LAN-CAN-15





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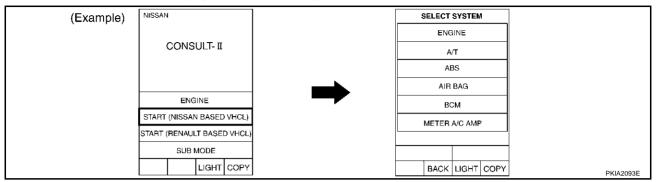
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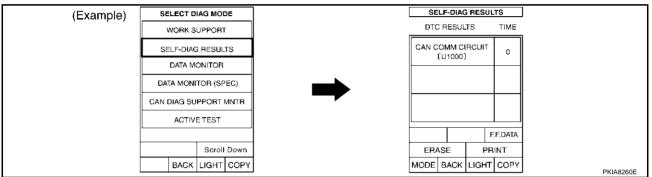
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Work Flow

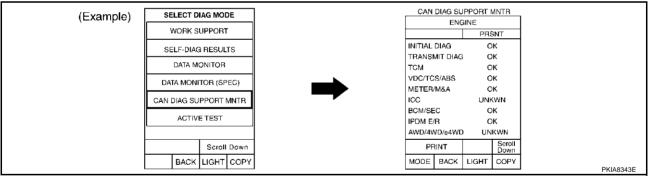
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP" and "ABS" 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-164, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-164, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-164</u>, "CHECK SHEET".

CAN SYSTEM (TYPE 5)

[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-164</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-203, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-166, "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.

Check sheet table					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of				
022201 0101	Litt Golden	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_		_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	_	_	_
		SEI	uttach copy LECT SYS	of TEM			Attach copy LECT SYS				
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Attach copy of Attach copy of Attach copy of AIR PRESSURE **ENGINE** TRANSMISSION MONITOR SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of BCM METER A/C AMP ABS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of AIR PRESSURE **ENGINE** TRANSMISSION MONITOR CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR **MNTR** Attach copy of Attach copy of Attach copy of BCM METER A/C AMP ABS CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT **MNTR MNTR MNTR**

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CHECK SHEET RESULTS (EXAMPLE)

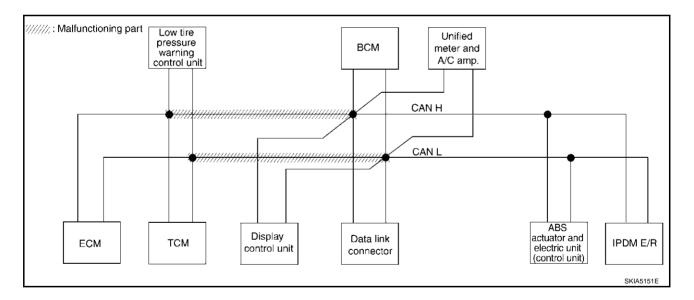
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-178</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

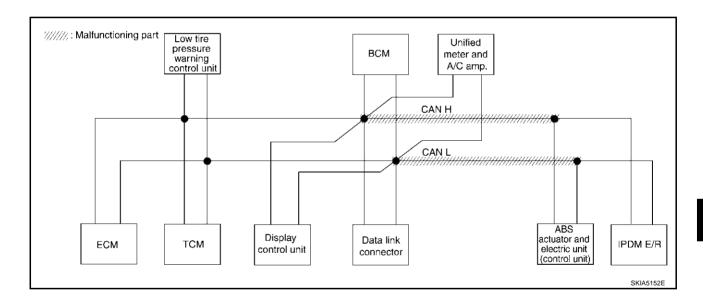
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIVI SUICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	Ω ΝΚ(ΛΝ	NNR WN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANC/RC3	_	CAN CIAC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC
всм	_	NG	UNKWN	∩ M MN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN K ∕WN	UNK/WN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNIMWN	_	_	_	_	_	_	_



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-178</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SCICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	UNIKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_		_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	NNR MN	_
ABS	-	NG	UNKWN	UNKWN			_		_	_	_



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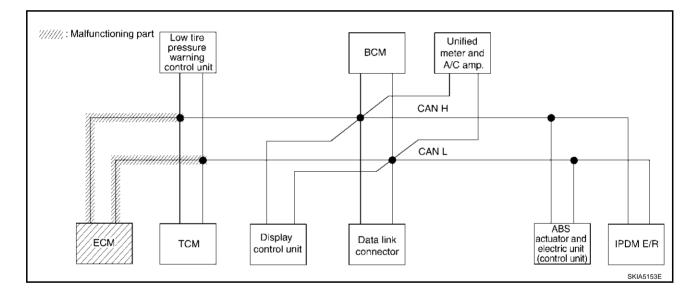
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Case 3
Check ECM circuit. Refer to <u>LAN-179</u>, "ECM Circuit Check".

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNISWN	_	_	UNIKWN	NNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚγ ΛΝ	_	_	_	_	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN		-	_	_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	Ω ΝΚ ⁄ΝΝ	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNNWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UN K ₩N	_	_	_	_	_	_	_



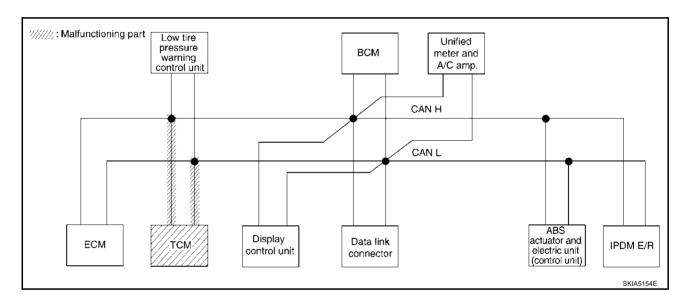
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Case 4
Check TCM circuit. Refer to <u>LAN-180, "TCM Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
3222313131		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	1	_	_		UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



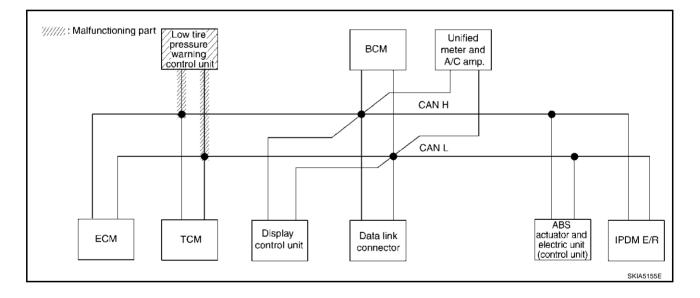
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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-180</u>, "Low <u>Tire Pressure Warning Control Unit Circuit Check"</u>.

					CAN	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit	•			Receive of	diagnosis			
0222010101	2111 00/00/1	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	_	-	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_		_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CAN CRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKAVN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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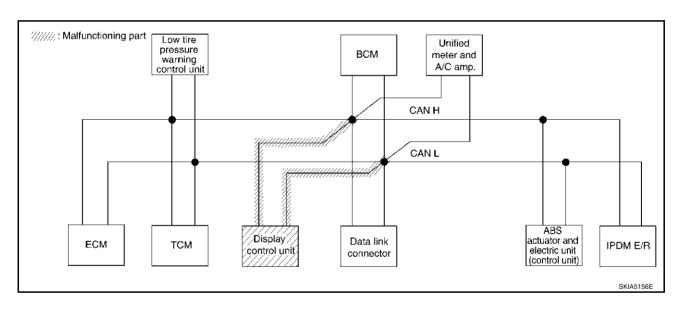
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Case 6

Check display control unit circuit. Refer to LAN-181, "Display Control Unit Circuit Check".

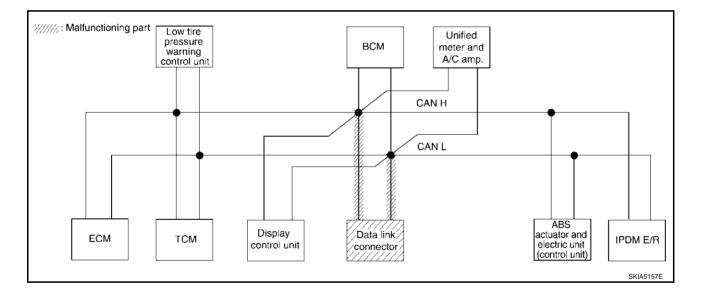
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222013131		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_		_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CANCAC 1	CAN CAC 3	_	CANC RC 6	_	CANCAC 2	CAN CAC 5	_	CAN CRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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Case 7
Check data link connector circuit. Refer to <u>LAN-181</u>, "<u>Data Link Connector Circuit Check</u>" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SOICCII	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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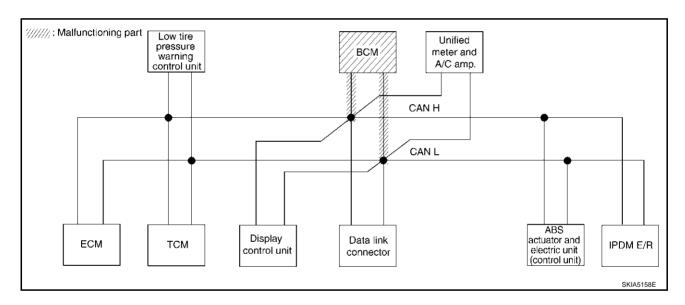
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Case 8
Check BCM circuit. Refer to <u>LAN-182, "BCM Circuit Check"</u>.

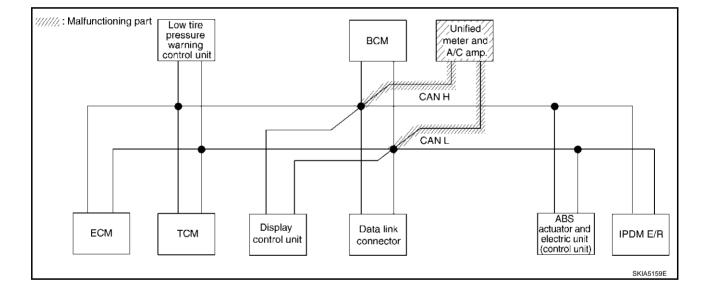
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222013101		diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNK WN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CANC RC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNK WN	UNK	_	_	_	_	UNK WN	_	η νκ ⁄νν
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	NNRWN	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	-	_	_



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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-182, "Unified Meter and A/C Amp. Circuit Check".

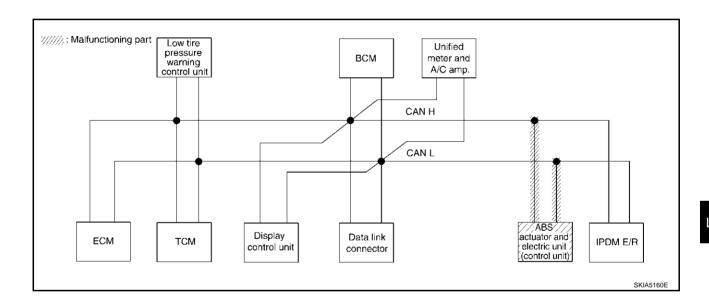
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIN SUICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	NNR WN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	Π ΝΚ (ΛΝ	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN ORC 5	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNI S WN	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-183</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAI	N DIAG SU	PPORT MN				
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	1	UNKWN	NNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_		_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	_
ABS	_	NG	UNKWN	UNKWN		_	_	-	_	_	_



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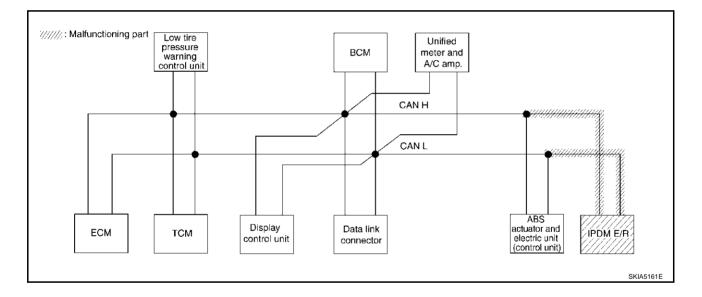
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Case 11
Check IPDM E/R circuit. Refer to <u>LAN-183</u>, "IPDM E/R Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit - diagnosis	Receive diagnosis								
				ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		_	_	UNKWN	UNKWN	ı	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	_	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CANCIRC 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	Π ИΚ (ΛΙ	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-	
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	



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Case 12

Check CAN communication circuit. Refer to LAN-184, "CAN Communication Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNK WN	UNKW N	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	
Display control unit	_	CAN COMM	CANCIRC 1	CANCERC 3	-	CAN CIÁC 6	_	CAN CIAC 2	CANORC 5	_	CAN PIRC 7	
всм	-	NG	UNION	UNKWN	_	_	_	_	UNK/VN	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-	
ABS	_	NG	UNK WN	UNKWN	_	_	_	_	_	_	_	

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-187</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UN K WN	_	_	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	-	1	UNKWN	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	NNR WN	_	
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-187, "IPDM E/R Ignition Relay Circuit Check".

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

Circuit Check Between TCM and Data Link Connector

AKS006QF

1. CHECK HARNESS FOR OPEN CIRCUIT

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

8 (L) - 6 (L)

: Continuity should exist.

9 (Y) - 14 (Y)

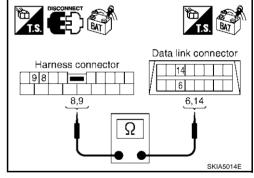
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to <u>LAN-162</u>, "Work Flow".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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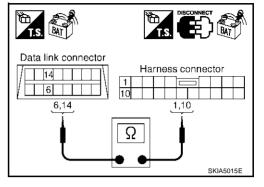
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L) 14 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

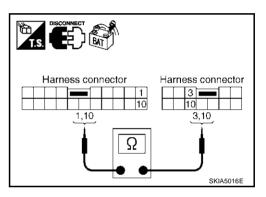
- 1. Disconnect harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

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

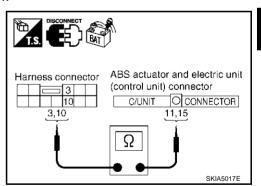
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

- 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-162, "Work Flow".

NG >> Repair harness.



AKS006QH

ECM Circuit Check

CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

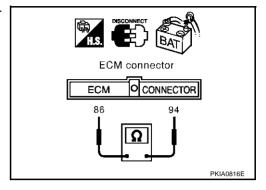
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006QI

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

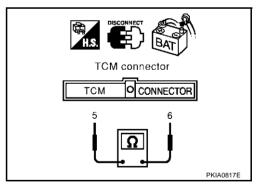
5 (L) - 6 (Y) : Approx. **54 - 66** Ω

OK or NG

NG

OK >> Replace TCM.

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS006QJ

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

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M

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

- 1. Disconnect low tire pressure warning control unit connector.
- Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

: Approx. 54 - 66 Ω

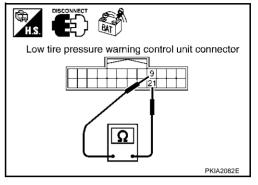
OK or NG

OK

>> Replace low tire pressure warning control unit.

NG

>> Repair harness between low tire pressure warning control unit and TCM.



AKS006QK

Display Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

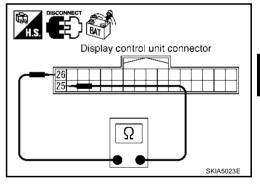
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace display control unit.

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



AKS006QL

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

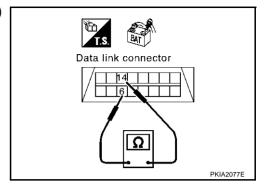
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

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

OK or NG

OK >> Diagnose again. Refer to LAN-162, "Work Flow".

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



AKS006QM

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

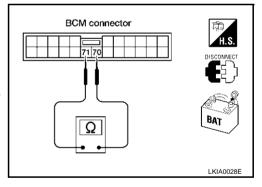
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - **71** (Y) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS006QN

2. CHECK HARNESS FOR OPEN CIRCUIT

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

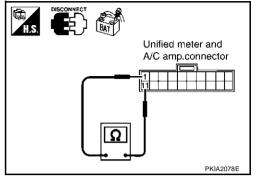
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS006QQ

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

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

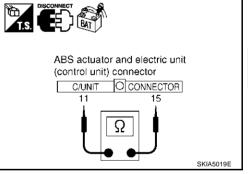
: Approx. 54 - 66 Ω

OK or NG

OK

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

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



IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. AKS006QP

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

48 (L) - 49 (Y)

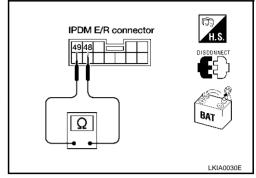
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



AKS006QQ

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR SHORT CIRCUIT

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

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

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

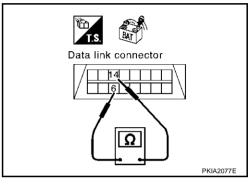
14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

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



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

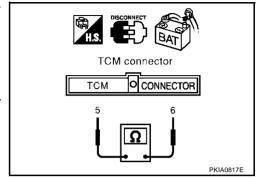
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

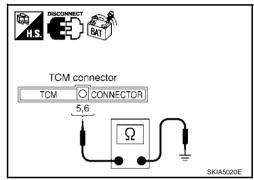
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

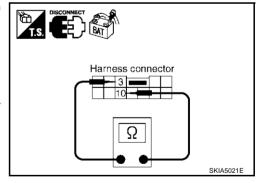
- Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

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

OK or NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

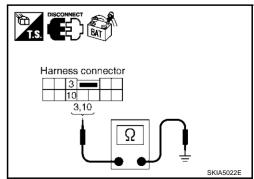
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

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

OK or NG

OK >> GO TO 8.

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



8. CHECK HARNESS FOR SHORT CIRCUIT

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

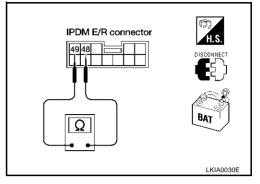
48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

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



9. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 10.

NG

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

IPDM E/R connector 49/48 48, 49 ENDISCONNECT BAT LKIA0036E

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-187</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . <u>OK or NG</u>

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-162, "Work Flow"</u> .

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

IPDM E/R Ignition Relay Circuit Check

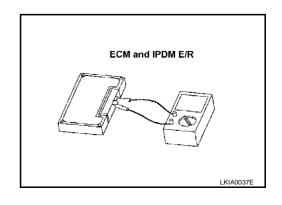
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



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CAN SYSTEM (TYPE 6)

PFP:23710

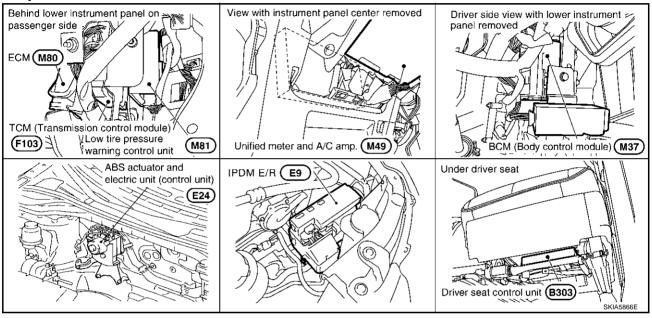
System Description

AKS006RD

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

AKS006RE



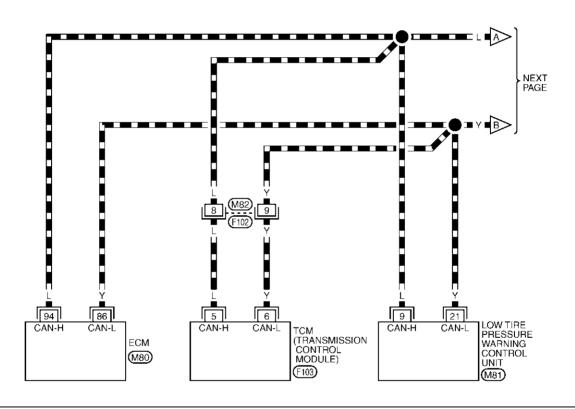
Schematic AKS006RF Α IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 49 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) С D Е 6 F G Н J 2 DATA LINK CONNECTOR LAN 9 DISPLAY UNIT M 4 LOW TIRE PRESSURE WARNING CONTROL UNIT 2 TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 2 86 ECM 8 TKWA0943E

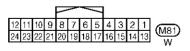
Wiring Diagram - CAN -

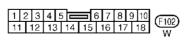
AKS006RG

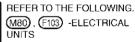
LAN-CAN-16

DATA LINE









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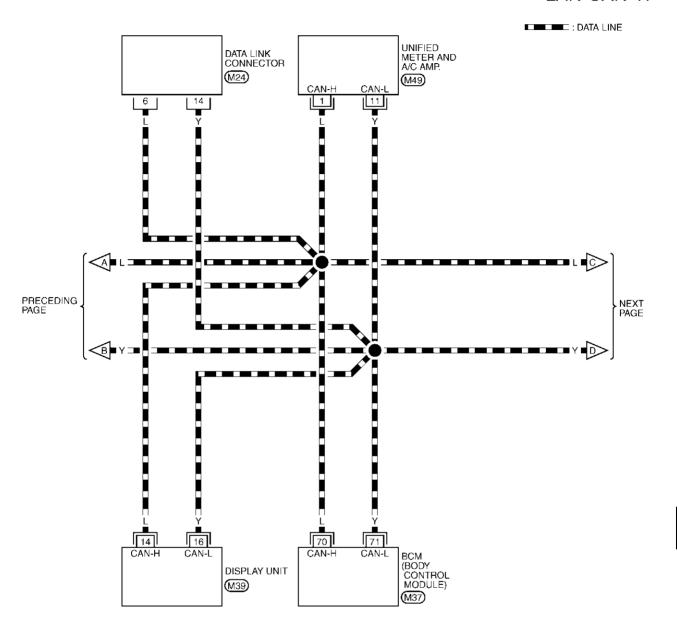
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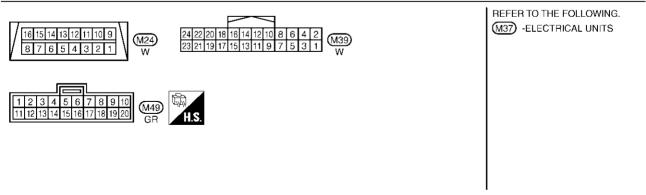
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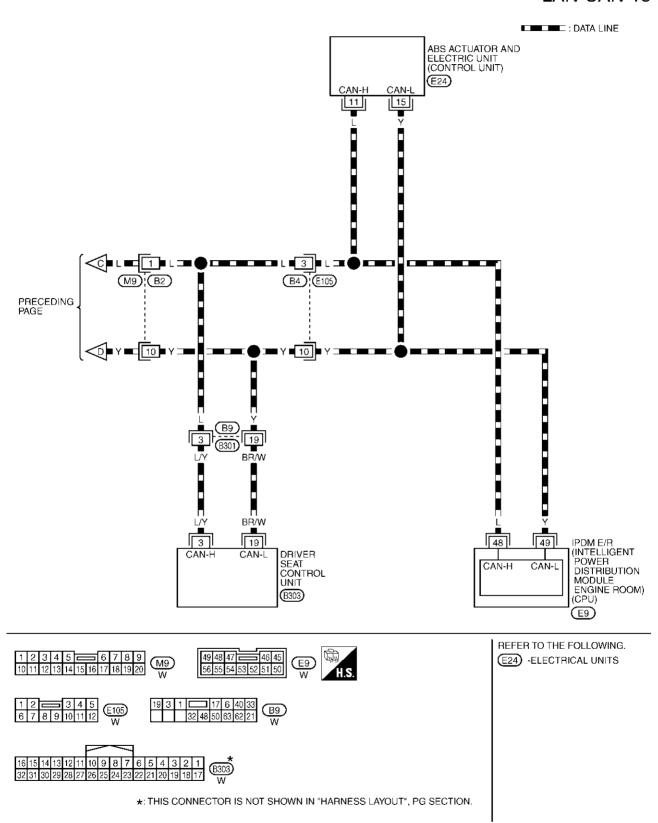
LAN-CAN-17





TKWA0945E

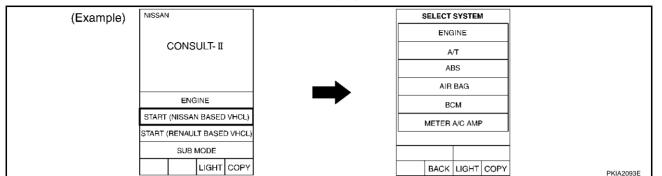
LAN-CAN-18



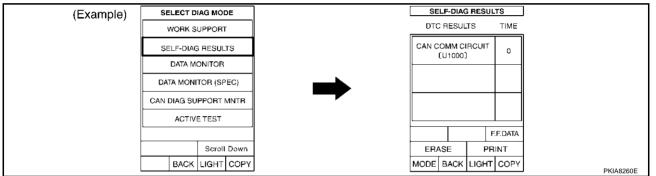
TKWA0946E

Work Flow

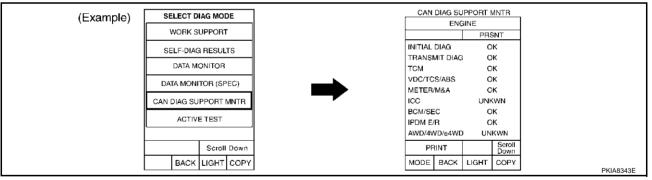
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" 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-195, "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-195, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to AV-110, "CAN Communication Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-195, "CHECK SHEET"

LAN-193 Revision; 2004 April 2003 Murano

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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 MONITOR check sheet. Refer to <u>LAN-195</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-197, "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.

Check sheet table	0				CΔ1	I DIAG SII	PPORT MN	ITR			
					CAI	V DIAG SUI	Receive				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
ЗСМ	_	NG	UNKWN	UNKWN	_	_		_	UNKWN	_	UNKWI
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
		A SEI	itach copy LECT SYST	of ⁻ EM		, A SE	Attach copy LECT SYS	of TEM			
					Attach copy display unit MONITOR	t	et				

PKIB0497E

Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of TRANSMISSION SELF-DIAG RESULTS Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS

Attach copy of BCM SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR

Attach copy of BCM CAN DIAG SUPPORT MNTR

Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

PKIB0498E

CHECK SHEET RESULTS (EXAMPLE)

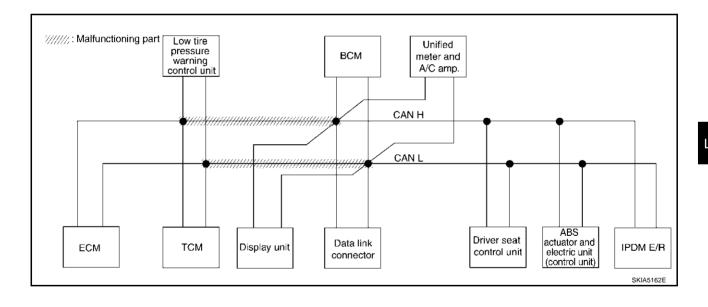
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-211</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAN	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	NGINE -	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNK WN	Π ΜΑ ΜΝ	_	UN K ₩N
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKAN	UNK/WN	UNI S WN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_	_
ABŞ	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_



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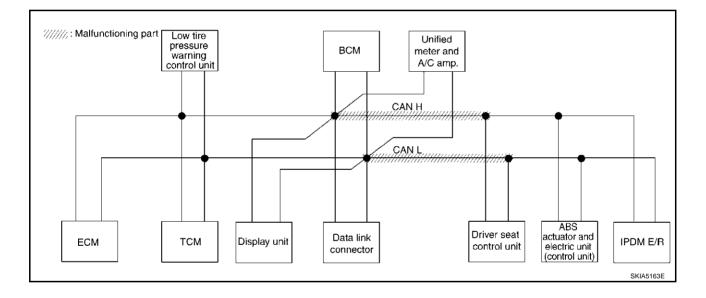
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Case 2
Check harness between data link connector and driver seat control unit. Refer to <u>LAN-211</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

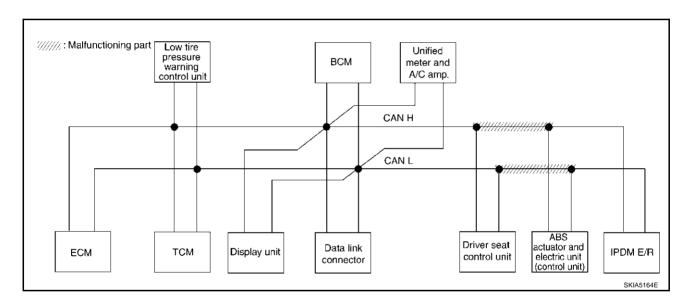
					CAN	I DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
522251 6161		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	NNR WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	∩ иК {\var}	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u>212, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CAN	N DIAG SU	PPORT MN	TR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	ZIVI GOLOGII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	ı	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	Π ΝΚ ΜΝ	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	∩ ик ⁄ми	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	-
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_



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Case 4
Check ECM circuit. Refer to <u>LAN-213</u>, "ECM Circuit Check".

					CAN	I DIAG SUI	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
02220.0.0.	LIN GOICG.	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKAN	_	UNKWN	_	-	UN K WN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK VN	1	_	-	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	ı	CAN 6	_	CAN 2	CAN 5		CAN 7
всм	_	NG	UNKWN	Π ИΚ ΛΝ	_	_	_	_	UNKWN	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

/////: Malfunctioning part Low tire Unified pressure BCM meter and warning control unit A/C amp. CAN H 999499999999999999 CAN L ABS actuator and electric unit (control unit) Driver seat ЕĆМ Data link Display unit TCM IPDM E/R control unit connector SKIA5165E

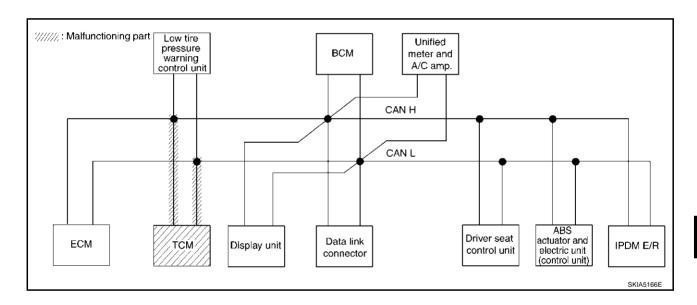
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Case 5
Check TCM circuit. Refer to <u>LAN-213, "TCM Circuit Check"</u>.

					CAN	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	Livi soredii	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	-	-	_	_	-



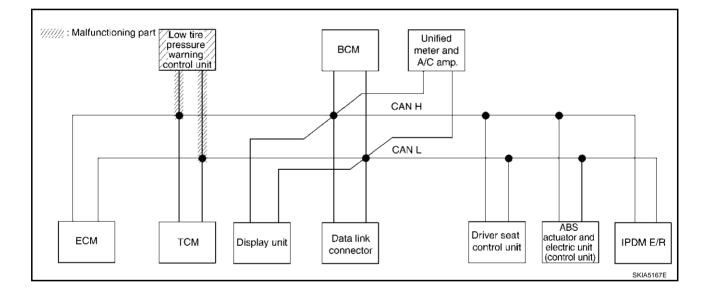
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Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-214</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

					CAN	I DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022207 0707	diagno	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	_	-	UNKWN	UNKWN	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	1	_	_	_	UNKWN	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	ı	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	1	_	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	-
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_	_



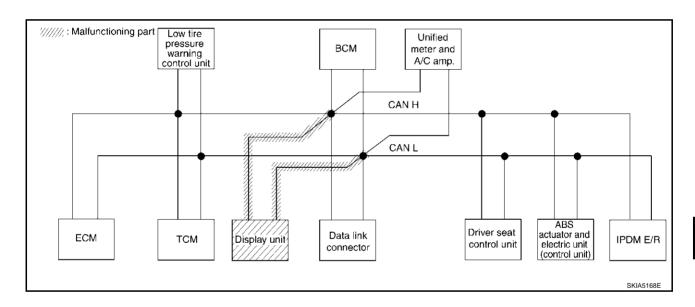
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Case 7
Check display unit circuit. Refer to LAN-214, "Display Unit Circuit Check".

					CAN	I DIAG SU	PPORT MN	TR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	Livi dorecti	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK/VN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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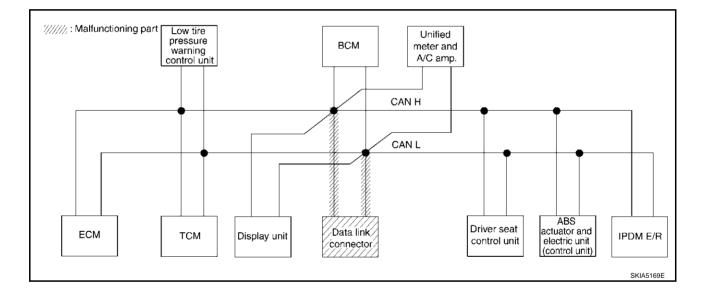
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Case 8
Check data link connector circuit. Refer to LAN-215, "Data Link Connector Circuit Check".

					CAN	I DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIVI SCICCII	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



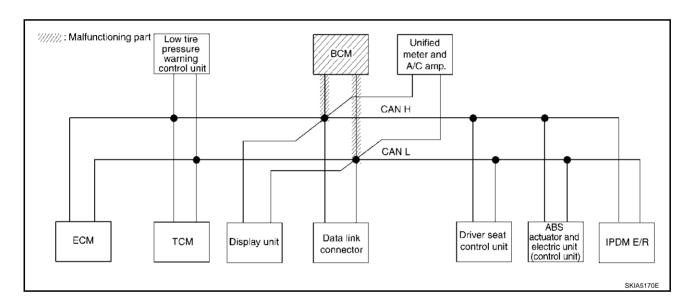
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Case 9 Check BCM circuit. Refer to LAN-215, "BCM Circuit Check".

					CAN	I DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis		ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	1	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ĺ	_	ı	_	UNKWN	UNKWN	ı
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	1	_		_	UNKWN	-	ı
Display unit	_	CAN COMM	CAN 1	CAN 3	1	CAN 6	-	CM 2	CAN 5	-	CAN 7
всм	_	NG	UN K ₩N	Π ΝΚ ΑΝΙ	_	_	_	_	Π ΝΚ ⁄ΛΝ	_	Π ИΚ (ΜИ
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_	_

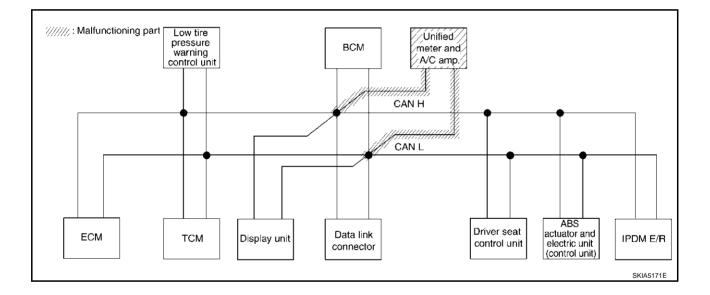


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Case 10
Check unified meter and A/C amp. circuit. Refer to LAN-216, "Unified Meter and A/C Amp. Circuit Check".

					CAN	I DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnos NE - NG		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN		UNKWN	_	_	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNK VN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UN K ₩N	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNK VN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



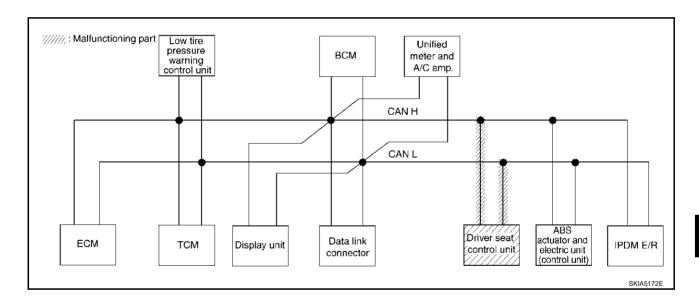
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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-216</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial	Transmit	Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	_	_	UNKWN	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	ı	_	_	_	UNKWN	-	1		
Display unit	_	CAN COMM	CAN 1	CAN 3	1	CAN 6	_	CAN 2	CAN 5	-	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	-	-	_	_	_		

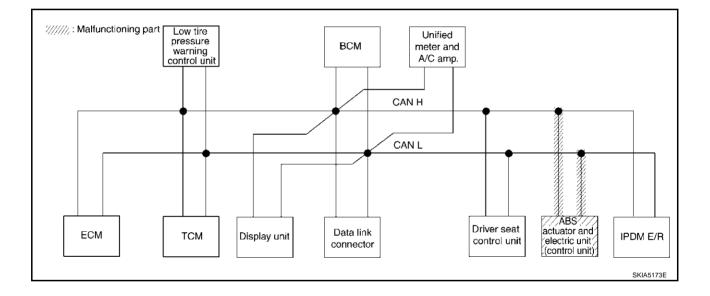


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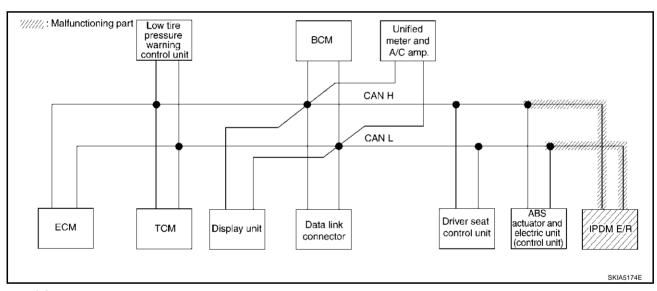
Case 12
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-217</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

		CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis										
		Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNK ≪ NN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ω ΝΚ ⁄ΛΝ	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_			
ABŞ	_	NG	UNK VN	UNK/VN	_	_	_	_	_	_	_			



Case 13
Check IPDM E/R circuit. Refer to LAN-217, "IPDM E/R Circuit Check".

	CAN DIAG SUPPORT MNTR													
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	1	NG	UNKWN	_	UNKWN	I	_	UNKWN	UNKWN	-	UNKWI			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	l	İ	_	_	UNKWN	UNKWN	-			
AIR PRESSURE MONITOR	No indication	NG	UNKWN		ı	İ	_	_	UNKWN	-	_			
Display unit	I	CAN COMM	CAN 1	CAN 3	ı	CAN 6	_	CAN 2	CAN 5	1	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNION			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	-			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_			
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_			



Case 14
Check CAN communication circuit. Refer to LAN-218, "CAN Communication Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial	Transmit	Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNK	_	UN K WN	_	_	UNNWN	UNK WN	_	UN K WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	UNKWN	1		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	-		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	C 4/ 16	_	C M 2	CAN 5	_	CAN 7		
всм	_	NG	UNKWN	NNK WN	_	_	_	_	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_		

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Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-223, "IPDM E/R Ignition Relay Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial	Transmit	Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	∩ иК \wи	_	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	ı		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK/VN	UNKWN	UNKWN	UNKWN	_	UN K ₩N	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_ [_	_	_	_		

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-223, "IPDM E/R Ignition Relay Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial	Transmit	Receive diagnosis									
		Initial diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	∩ ИК МИ	_	_	_	_	∩N k ₩N	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	_	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	1	CAN 6	_	CAN 2	CAN 5	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNI S WN	_	_	_	_	_	_	_		
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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

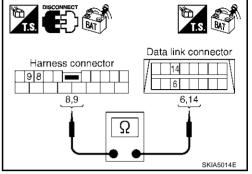
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-193, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

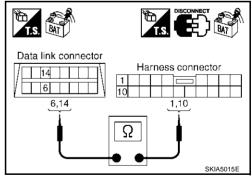
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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

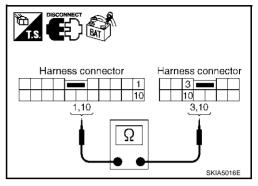
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-193</u>, "Work Flow".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

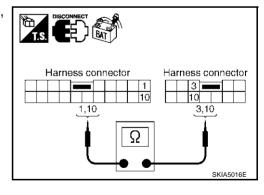
- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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

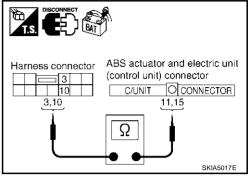
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-193, "Work Flow".

NG >> Repair harness.



AKS006RI

ECM Circuit Check

CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

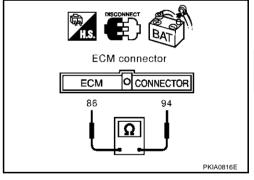
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006RM

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

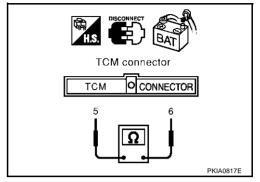
5 (L) - 6 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

NG

OK >> Replace TCM.

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS006RN

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

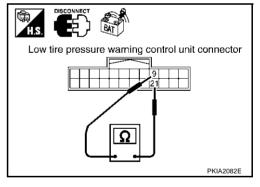
9 (L) - 21 (Y) : Approx.
$$54 - 66\Omega$$

OK or NG

NG

OK >> Replace low tire pressure warning control unit.

>> Repair harness between low tire pressure warning control unit and TCM.



Display Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

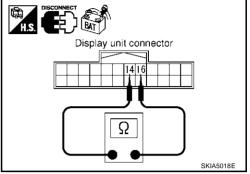
- 1. Disconnect display unit connector.
- Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace display unit.

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



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

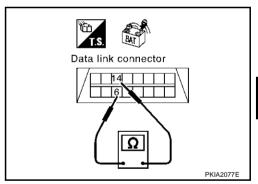
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

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

OK or NG

OK >> Diagnose again. Refer to LAN-193, "Work Flow".

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



BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

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

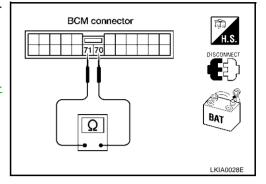
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36, "Removal and Installation of BCM"</u>.

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



AKS006RR

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

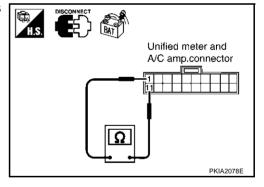
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace unified meter and A/C amp.

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



AKS006RS

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

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

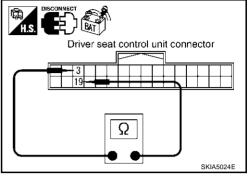
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS006RT

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

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

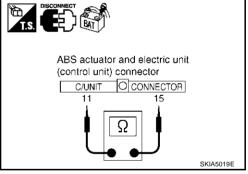
: Approx. 54 - 66 Ω

OK or NG

OK

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

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



IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS006RU

2. CHECK HARNESS FOR OPEN CIRCUIT

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

48 (L) - 49 (Y)

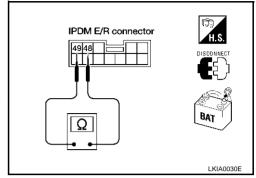
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



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CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR SHORT CIRCUIT

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

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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

$oldsymbol{3}_{ ext{-}}$ check harness for short circuit

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

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

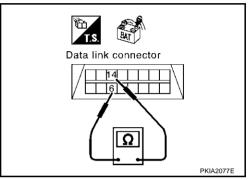
: Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

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



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

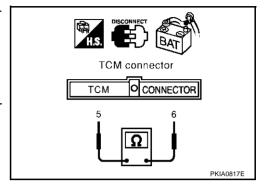
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

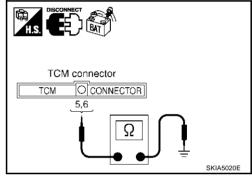
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

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

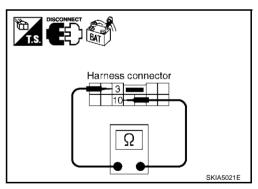
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Check the

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



SKIA5022E

7. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 8.

NG

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

8. CHECK HARNESS FOR SHORT CIRCUIT

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

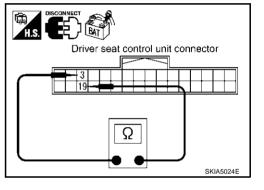
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

10 3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

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

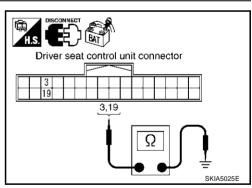
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

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

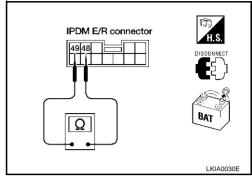
48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

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



11. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 12.

NG

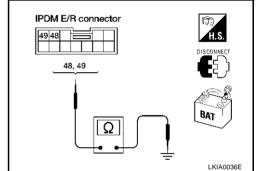
- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-223}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-193, "Work Flow"</u>.

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



CAN SYSTEM (TYPE 6)

[CAN]

IPDM E/R Ignition Relay Circuit Check

AKS006RW

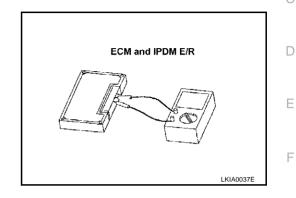
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



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CAN SYSTEM (TYPE 7)

PFP:23710

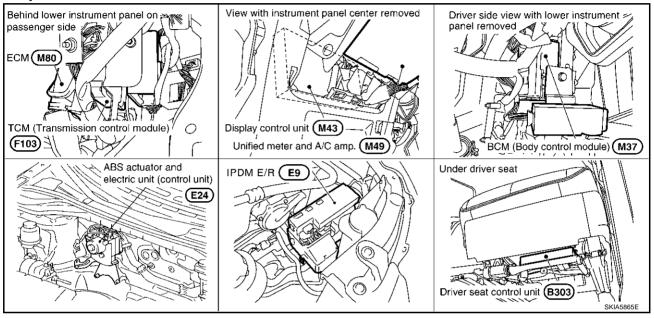
System Description

AKS006RZ

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

AKS006S0



Schematic AKS006S1 Α IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 49 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) С D Е 9 F G Н J 2 DATA LINK CONNECTOR LAN DISPLAY CONTROL UNIT M 35 TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 2 86 ECM 8

LAN-225 Revision; 2004 April 2003 Murano

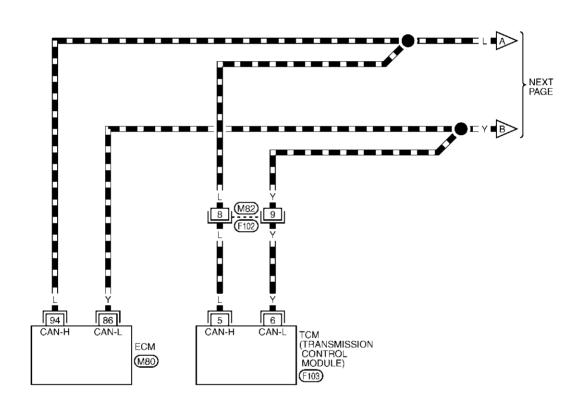
TKWA0947E

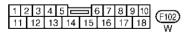
Wiring Diagram - CAN -

AKS006S2

LAN-CAN-19

: DATA LINE





REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL
UNITS

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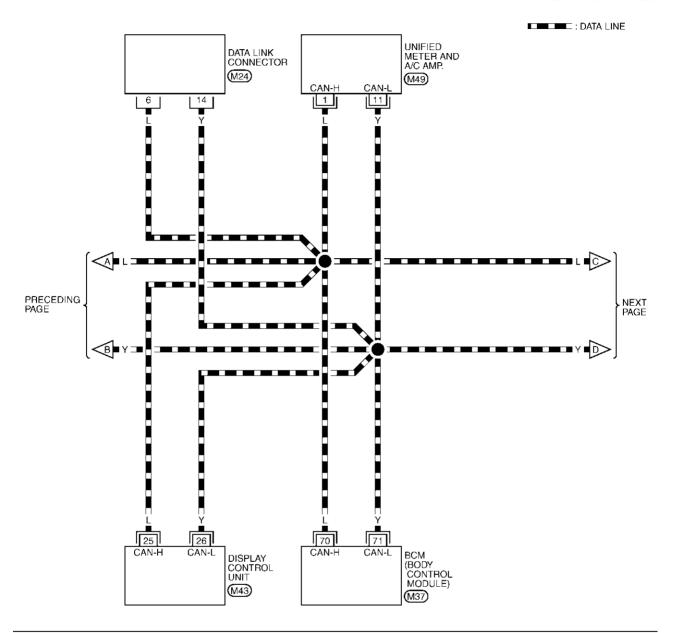
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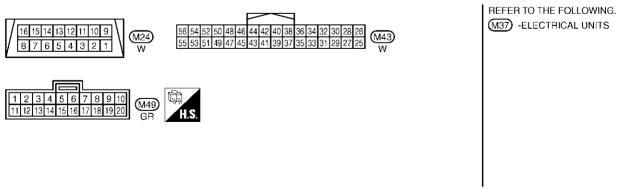
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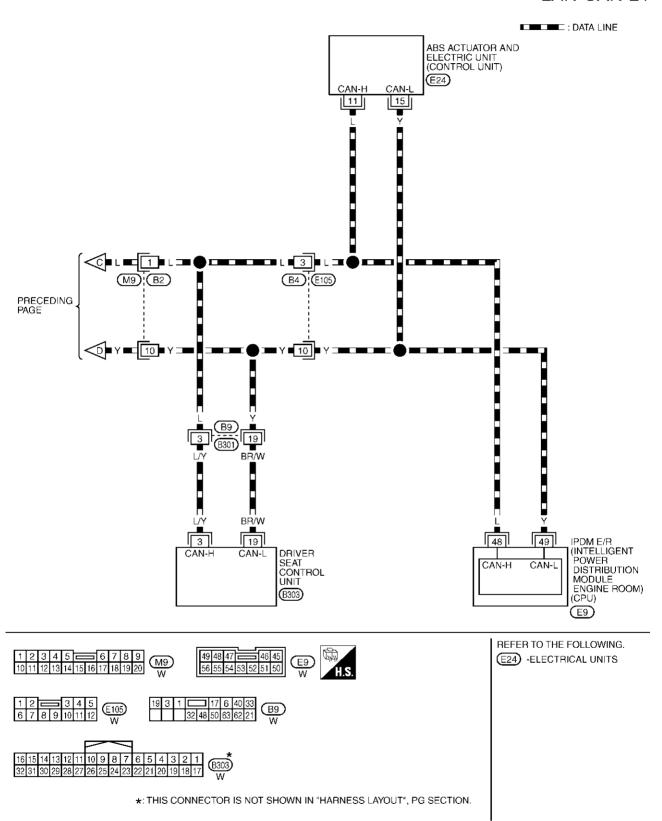
LAN-CAN-20





TKWA0949E

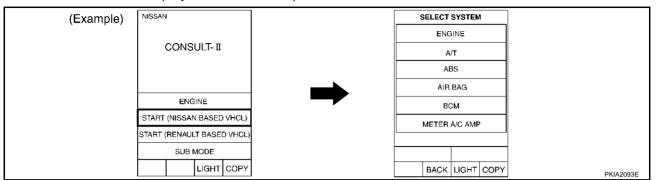
LAN-CAN-21



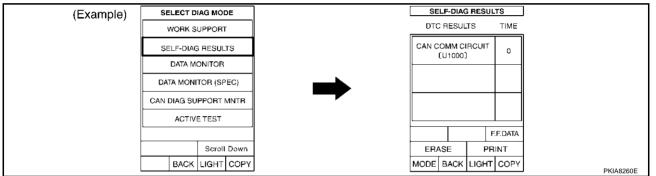
TKWA0950E

Work Flow

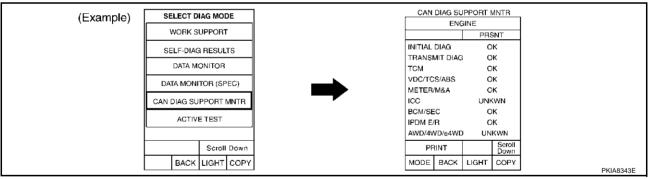
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-231</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-231, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line <u>Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-231</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 7)

[CAN]

 Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-231</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-233, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

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

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

Symptoms :		

Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM

Attach copy of display control unit CAN DIAG SUPPORT MONITOR check sheet

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR
		Pk

CHECK SHEET RESULTS (EXAMPLE)

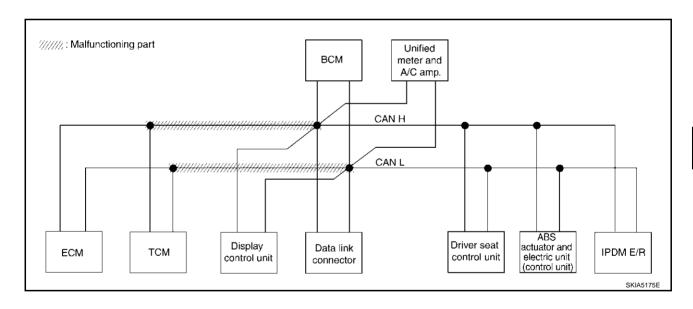
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-246</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLO1 0101	LIVI SOLCOIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	1 1913	
ENGINE	1	NG	UNKWN	_	UNKWN	_	UN K ₩N	UN K ∕WN	_	η νκ ⁄νν
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN ORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
ВСМ	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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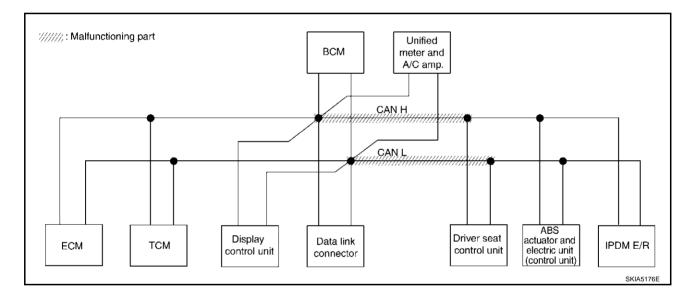
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Case 2
Check harness between data link connector and driver seat control unit. Refer to LAN-246, "Circuit Check Between Data Link Connector and Driver Seat Control Unit".

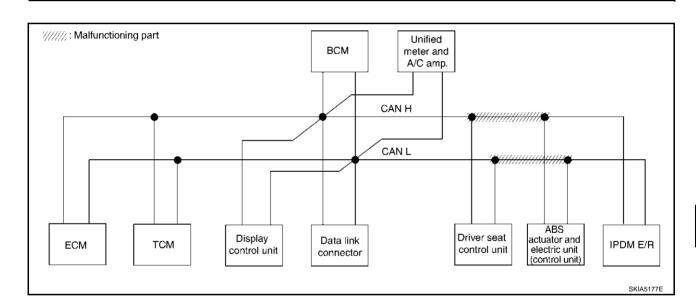
					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLOT OTOT	LIVI SUICCII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UN K ∕VN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	NNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CANORC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ИΚ ΜИ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKAVN	_	_	_	_	_	_



Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-247</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CAN DIA	AG SUPPOF	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLO1 0101	LIVI SOLCOIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	ΠΝ Κ ΛΝ
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	NNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN ORC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	NNR MN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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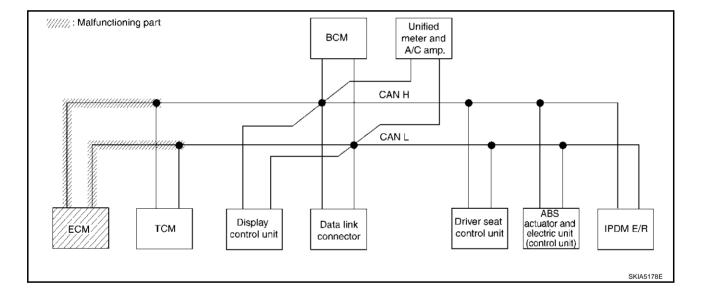
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Case 4
Check ECM circuit. Refer to <u>LAN-248</u>, "ECM Circuit Check" .

					CAN DIA	AG SUPPOF	RT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLOT OTOT	EN SOICCIT	diagnosis	diagnosis		ТСМ	DISPLAY	BCM/SEC	METER /M&A	//&A /ABS IPDM	
ENGINE	_	NG	NNKWN	_	UNKWN	_	UNK WN	NNKWN	_	UNK VN
TRANSMISSION	No indication	NG	UNKWN	UN K ₩N	_	_	_	UNKWN	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC
ВСМ	_	NG	UNKWN	Π ΜΑ ΜΝ	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKAN	_	_	_	_	_	_



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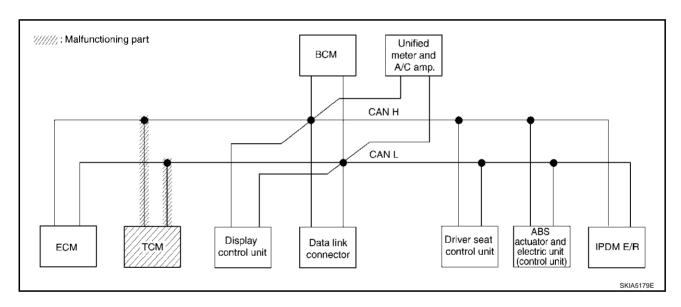
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Case 5
Check TCM circuit. Refer to <u>LAN-248</u>, "TCM Circuit Check".

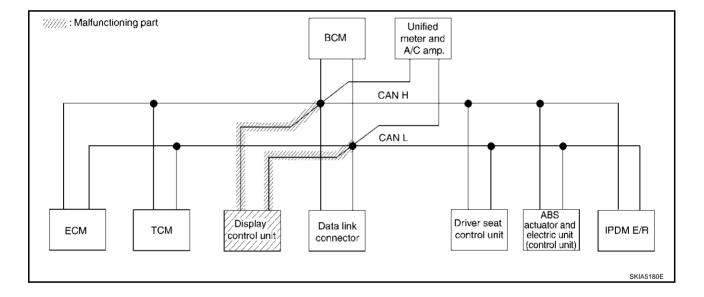
					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLOT OTOT	LIM SOLCON	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



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Case 6
Check display control unit circuit. Refer to <u>LAN-249</u>, "<u>Display Control Unit Circuit Check"</u>.

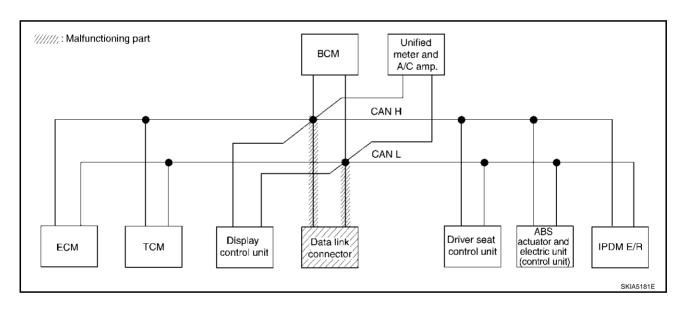
					CAN DIA	AG SUPPOR	RT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLOT GTGT	LIVI SOLCOIT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	I I I I I I I I I I I I I I I I I I I	
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	=	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CAC 1	CAN ORC 3	_	_	CAN C RC 2	CAN CIRC 5	_	CANORC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	η νικ ⁄ων	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



Case 7

Check data link connector circuit. Refer to LAN-249, "Data Link Connector Circuit Check" .

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



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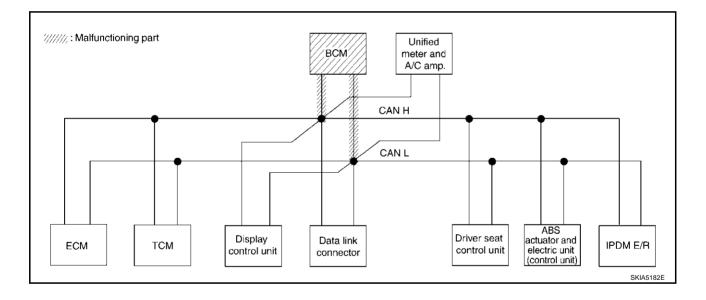
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Case 8
Check BCM circuit. Refer to <u>LAN-250, "BCM Circuit Check"</u>.

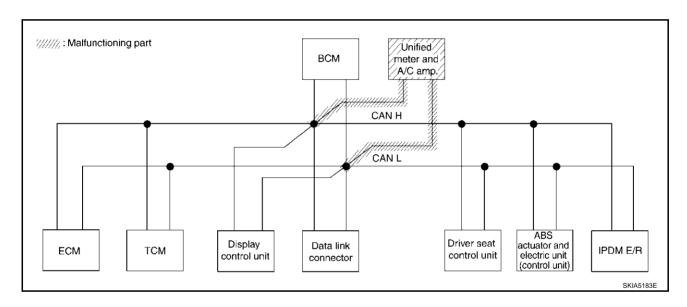
					CAN DIA	AG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			Re	ceive diagno	sis		
OLLLOT GTGT	LIVI 3010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK WN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN C RC 2	CAN CIRC 5	_	CAN CIRC
ВСМ	_	NG	υ κ /νν	UNK WN	_	_	_	UN K WN	_	UNK VN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	Π ΝΚ ΜΝ	=	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-250, "Unified Meter and A/C Amp. Circuit Check".

					CAN DIA	AG SUPPOF	RT MNTR					
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis								
OLLLO1 OTOT	2141 301 2011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNK WN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	η νκ (ΛΝ	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CANOTRC 5	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNK WN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	=	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_		



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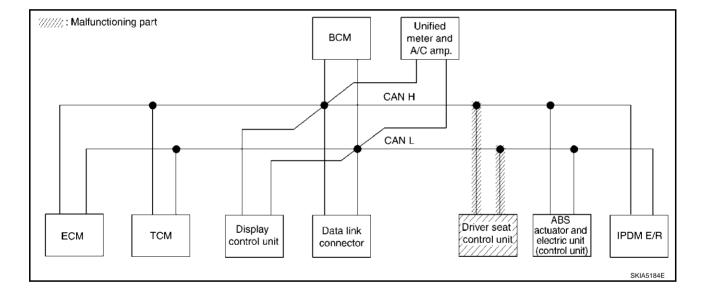
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Case 10
Check driver seat control unit circuit. Refer to <u>LAN-251</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

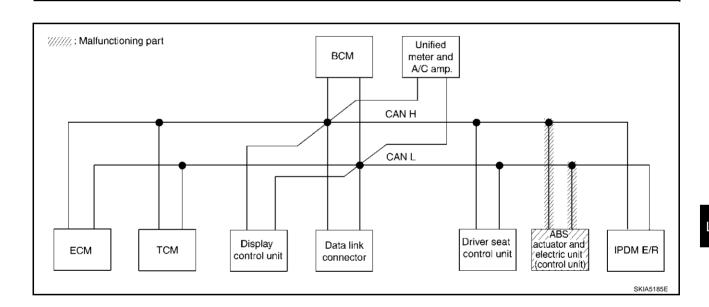
					CAN DIA	AG SUPPOF	RT MNTR				
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis							
322231 3131	2.11 001 0011	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	



Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-251</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

				CAN DIAG SUPPORT MNTR								
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis								
OLLLOT OTOT	LIVI SUICCII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	n uk (MN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_		



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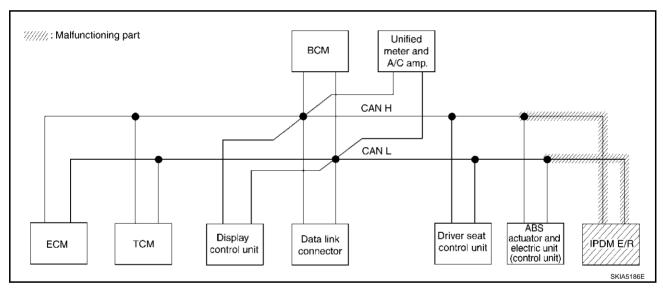
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Case 12
Check IPDM E/R circuit. Refer to LAN-252, "IPDM E/R Circuit Check".

					CAN DIA	AG SUPPOR	RT MNTR			
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis						
U		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CAC 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNK/VN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_



Case 13
Check CAN communication circuit. Refer to <u>LAN-253</u>, "CAN Communication Circuit Check" .

					CAN DIA	AG SUPPOR	T MNTR					
SELECT SYSTEM screen		Initial Trans	Transmit	Receive diagnosis								
022201 0101		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	-	NG	η νιΚ γνν	_	UNK WN	_	UN K ₩N	ΩΝ Κ ∕ΛΝ	_	UN K ∕VN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_		
Display control unit	_	CAN COMM	CAN CAC 1	CAN CRC 3	_	_	CAN CRC 2	CANOTRC 5	_	CAN CARC 7		
всм	_	NG	UNK/WN	UNKWN	_	_	_	UNKWN	_	UNK/VN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNK WN	UNK A VN	_	_	_	_	_	_		

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-256, "IPDM E/R Ignition Relay Circuit Check"</u> .

			_	CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
OLLLOT OTOT	LIVI SUICCII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UN K ∕VN	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKAN	UNKWN	UNKWN	_	∩ νκ γνν	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK/WN	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_		

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-256, "IPDM E/R Ignition Relay Circuit Check" .

				CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
OLLLOT GTGT	LIW SCIEGII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	METER /M&A	VDC/TCS /ABS	IPDM E/P		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UN K ₩N	-	_	-	NNK WN	UNKWN	-		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7		
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	=	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

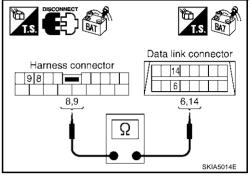
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

() : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-229, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

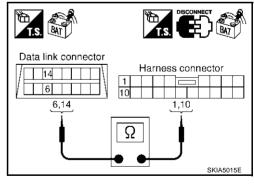
: Continuity should exist. : Continuity should exist.

14 (Y) - 10 (Y)

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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

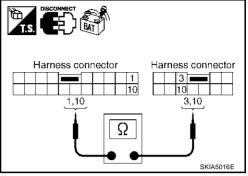
- 1. Disconnect harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L). 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-229, "Work Flow".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

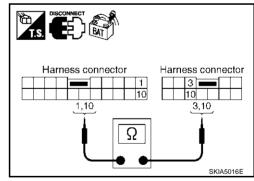
1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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

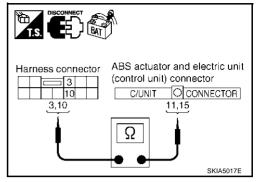
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-229, "Work Flow".

NG >> Repair harness.



AKS006S7

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

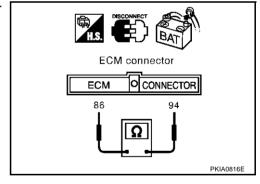
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006S8

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

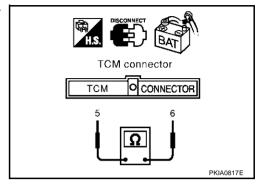
5 (L) - 6 (Y)

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

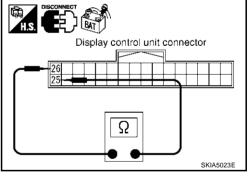
- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace display control unit.

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



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

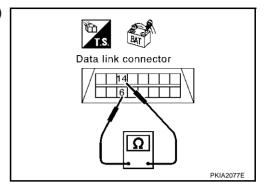
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

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

OK or NG

OK >> Diagnose again. Refer to LAN-229, "Work Flow".

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



AKS006SB

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

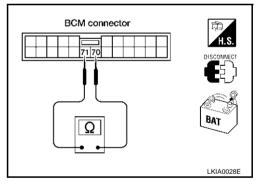
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - **71** (Y) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

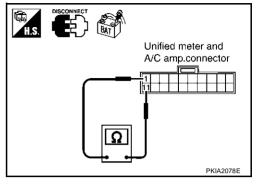
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



AKS006SD

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66Ω

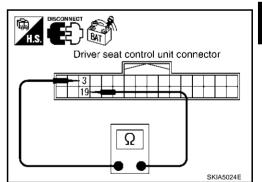
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS006SE

1. CHECK CONNECTOR

- 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

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

11 (L) - 15 (Y)

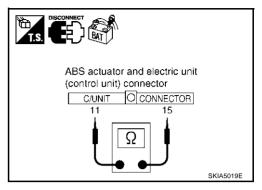
: Approx. 54 - 66 Ω

OK or NG

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

NG

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



AKS006SF

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

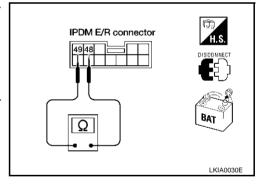
OK or NG

OK

NG

>> Replace IPDM E/R.

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



CAN SYSTEM (TYPE 7)

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AKS006SG

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

OK or NG

OK >> GO TO 3.

NG >> Check

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

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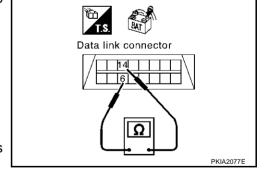
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3. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 4.

NG

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

4. CHECK HARNESS FOR SHORT CIRCUIT

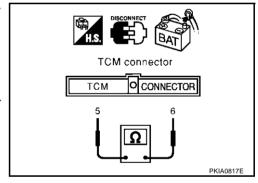
- 1. Disconnect TCM connector.
- Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



Data link connector

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6, 14,

5. CHECK HARNESS FOR SHORT CIRCUIT

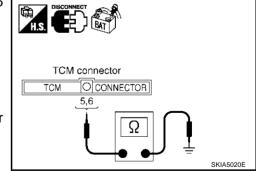
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

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

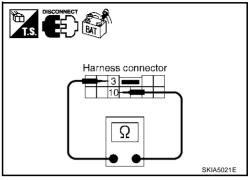
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

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



7. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 8.

NG

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

8. CHECK HARNESS FOR SHORT CIRCUIT

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

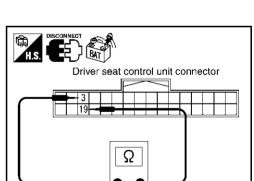
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

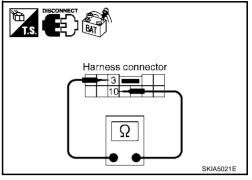
OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.





Harness connector 3

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9. CHECK HARNESS FOR SHORT CIRCUIT

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

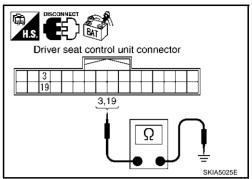
> 3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK

NG >> Repair harness between driver seat control unit and har-

>> GO TO 10. ness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

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

48 (L) - 49 (Y)

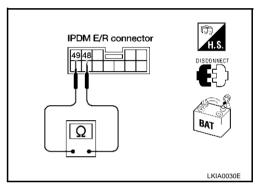
: Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

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



11. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 12.

NG

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

IPDM F/R connector 48, 49 Ω LKIA0036F

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-257, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-229, "Work Flow".

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

IPDM E/R Ignition Relay Circuit Check

AKS006SH

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

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

CAN SYSTEM (TYPE 7)

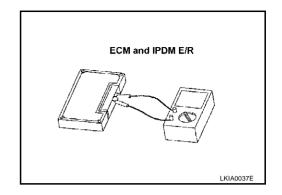
[CAN]

AKS006SI

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



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CAN SYSTEM (TYPE 8)

PFP:23710

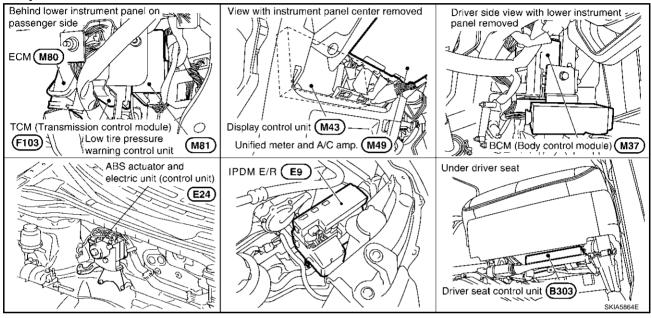
System Description

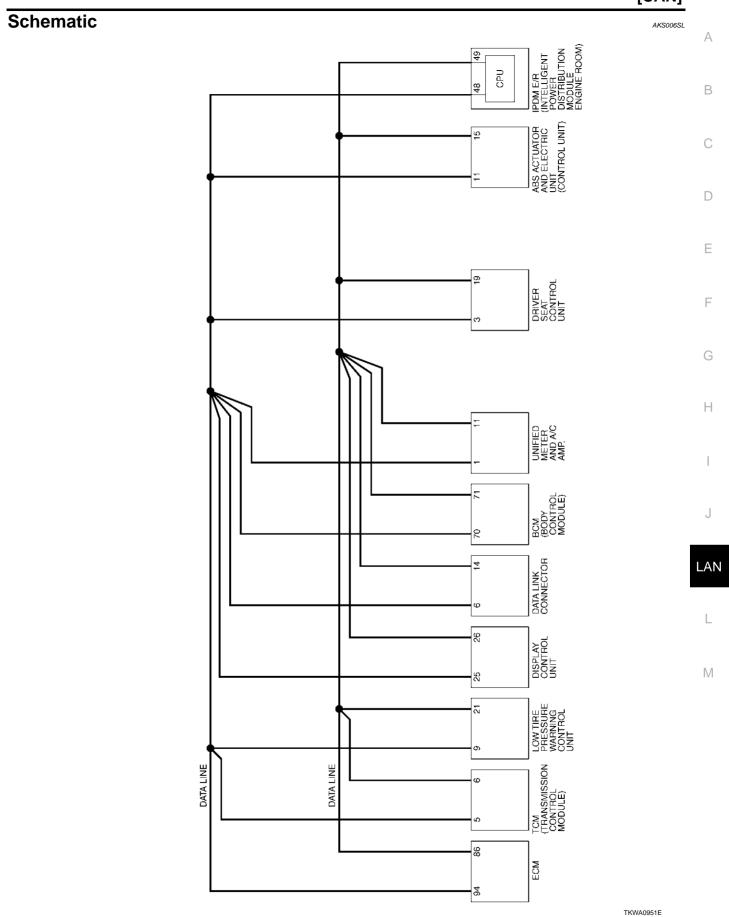
AKS006S

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

AKS006SK



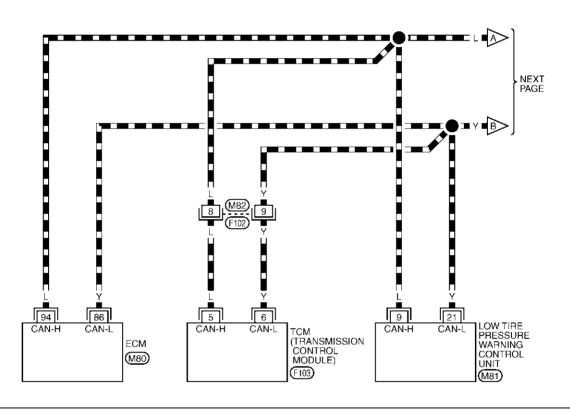


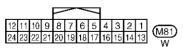
Wiring Diagram - CAN -

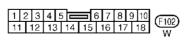
AKS006SM

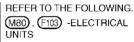
LAN-CAN-22

: DATA LINE









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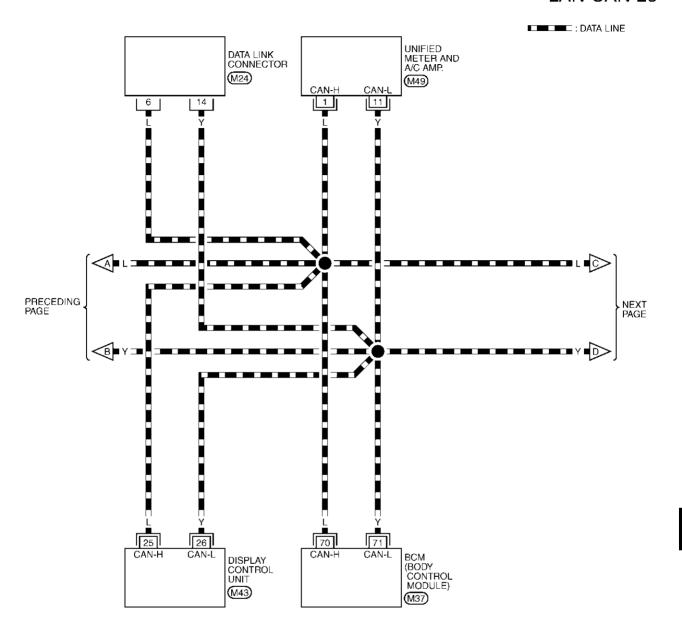
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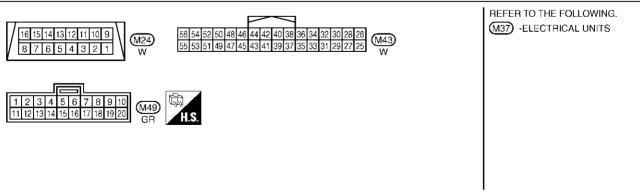
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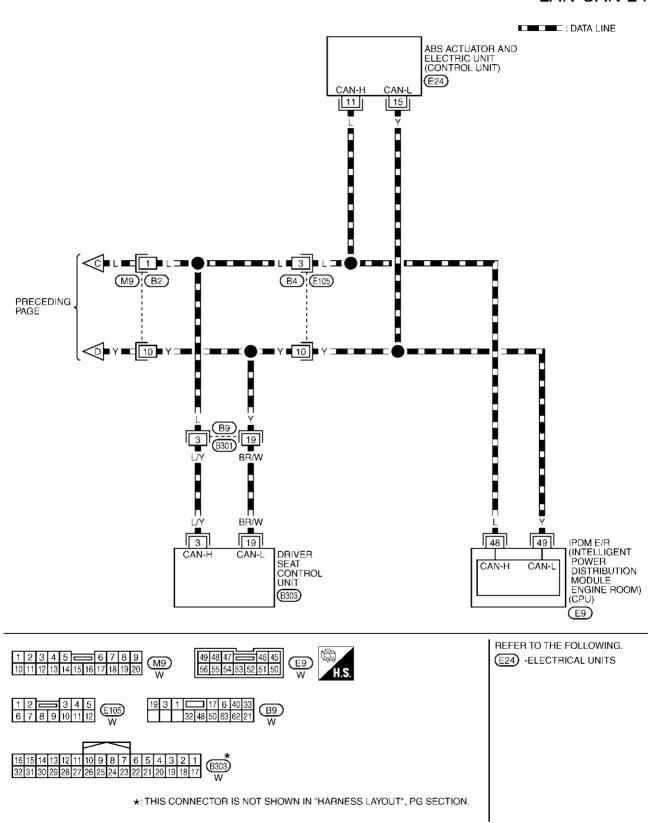
LAN-CAN-23





TKWA0953E

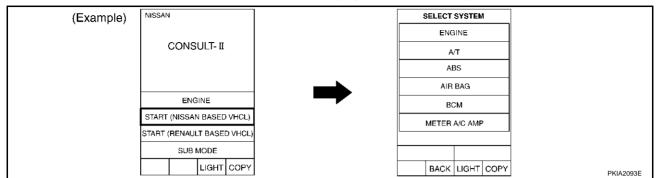
LAN-CAN-24



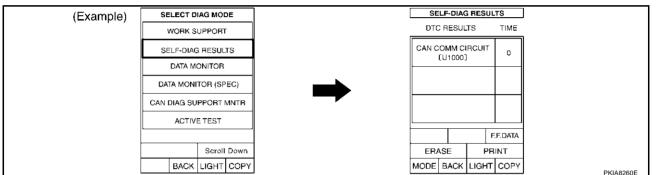
TKWA0954E

Work Flow

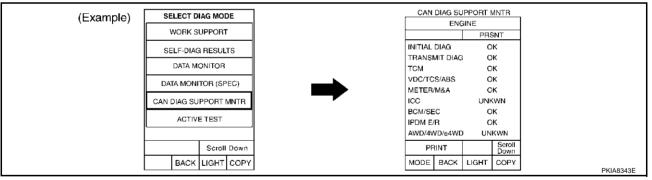
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-265</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-265, "CHECK SHEET".

NOTE:

cated in check sheet table.

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indi-
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-265</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 8)

[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-265</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-267, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

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

			r		CAI	N DIAG SU					
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	diagnosis BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN		UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_		_
		A SEI	utach copy LECT SYS	of FEM		SE	Attach copy LECT SYS	of TEM			
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Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of TRANSMISSION SELF-DIAG RESULTS Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS

Attach copy of BCM SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR

Attach copy of BCM CAN DIAG SUPPORT MNTR

Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

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CHECK SHEET RESULTS (EXAMPLE)

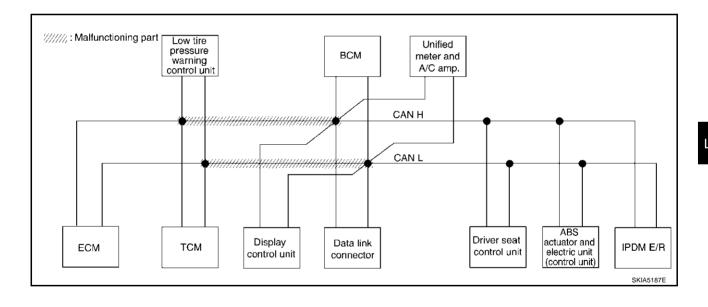
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-281</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAN	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
322231 3131	diagno	diagnosis	diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	NNR MN	η νκ {νν	_	UNI WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	İ	_	_	UNKWN	UNKWN	ı
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	-	CANORC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 1
всм	_	NG	UNKWN	υ νκ ων	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication		UNKWN	UN A WN	UNR WN	UNK WN	UNKWN	UNKWN	_	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN		_	UNKWN	UNKWN	-	1
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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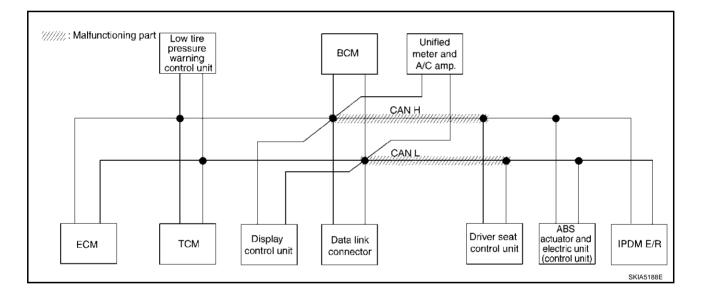
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Case 2
Check harness between data link connector and driver seat control unit. Refer to <u>LAN-281</u>, "Circuit Check Between Data Link Connector and Driver Seat Control Unit".

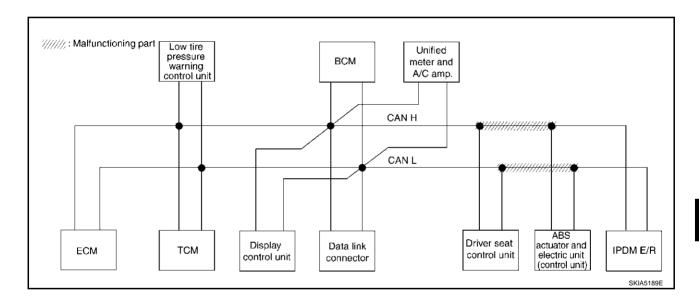
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SCICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNI WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UN K ₩N	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	CANCAC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	ΠΝΚ ∕ ΛΝ	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN		_	UNKWN	UNKWN	1	-
ABS	_	NG	UNKWN	UNK WN	_	_	_	-	_	_	_



Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-282</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SCICCII	diagnosis	diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UN K ₩N	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_		_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	=	CAN CIRC 2	CAN CIRC 5	_	CAN CAC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UN K ₩N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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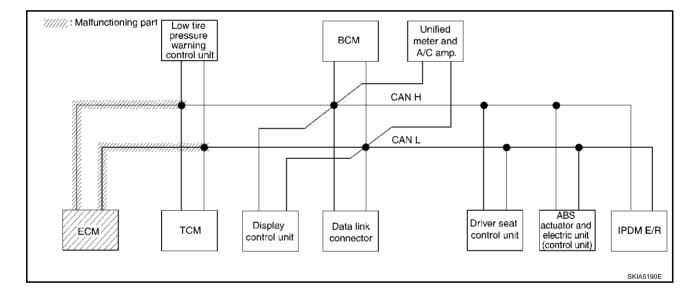
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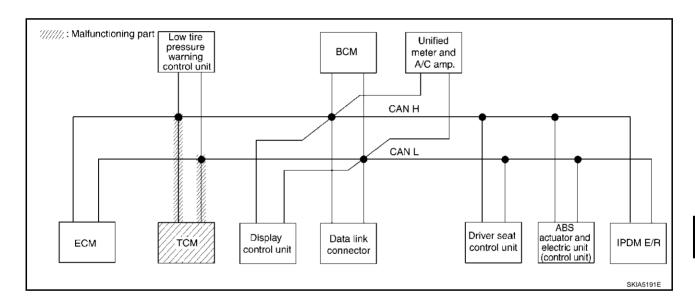
Case 4
Check ECM circuit. Refer to <u>LAN-283</u>, "ECM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	2117 0010011	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKAN	1	UNKWN		_	NNKAN	NNKAN	ı	UNKWN
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚγ ΛΝ	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	1	1
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CAC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	1	CAN CIRC 7
всм	_	NG	UNKWN	UN K IN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNK VN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	1	_
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_



Case 5
Check TCM circuit. Refer to <u>LAN-283, "TCM Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIVI SCICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 1
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKYN	_	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNKWN	_	-	-	_	_	_	_



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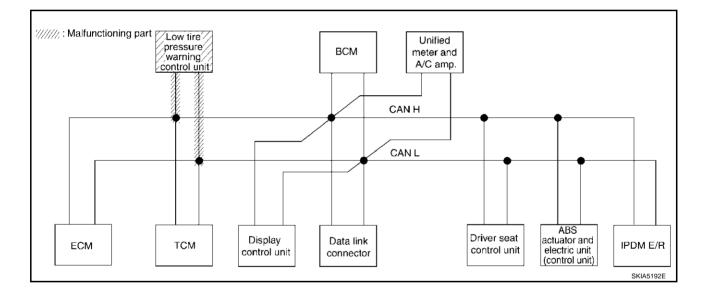
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Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-284, "Low Tire Pressure Warning Control Unit Circuit Check"</u> .

					CAN	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	diagnosis — NG	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CANORC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	-	-	_	ı	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKAN	UNKWN	UNKWN	_	UNKWN	=
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	_	_	_

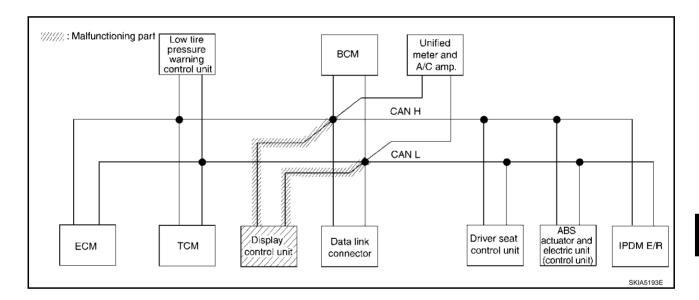


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Case 7
Check display control unit circuit. Refer to <u>LAN-284</u>, "<u>Display Control Unit Circuit Check</u>".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
322231 3131	Elvi Scicon	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	1	UNKWN	ı	_	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	-	1	_	_	UNKWN	_	-
Display control unit	_	CAN COMM	CAN C/RC 1	CANCIRC 3	_	CAN C RC 6	_	CAN CRC 2	CANORC 5	_	CAN CRC 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_	_

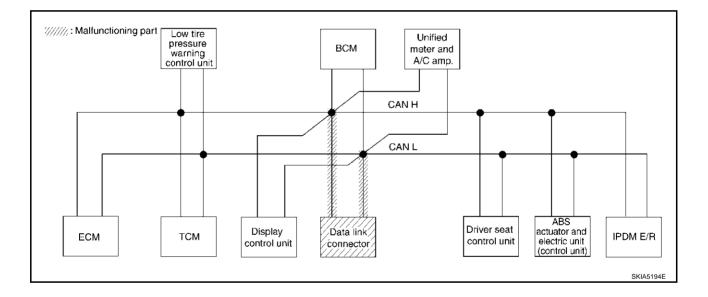


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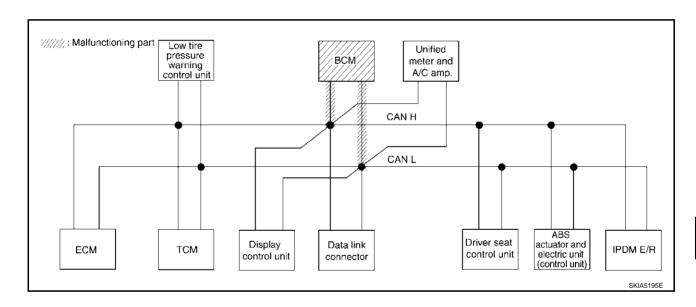
Case 8
Check data link connector circuit. Refer to <u>LAN-285</u>, "<u>Data Link Connector Circuit Check</u>".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
322231 3131	LIVI SCICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	1	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	1	1
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	1	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	1	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	_	-	_



Case 9
Check BCM circuit. Refer to <u>LAN-285, "BCM Circuit Check"</u>.

					CAN	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	2117 3013 311	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	NNKWN	UNKWN	1	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	1	1
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CRC 2	CAN CIRC 5	1	CAN CIRC 7
ВСМ	_	NG	UN K ∕VN	υ νκ νν	_	_	_	_	Π ИΚ ΑΝ	_	UNKAN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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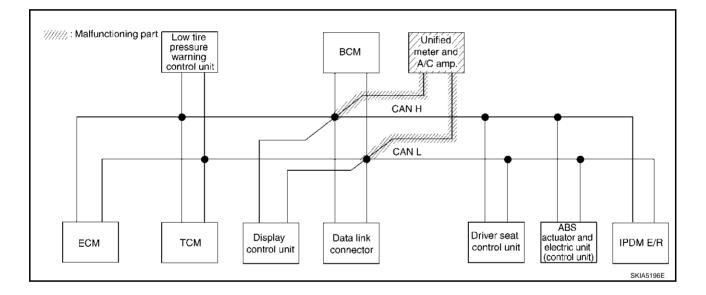
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Case 10
Check unified meter and A/C amp. circuit. Refer to LAN-286, "Unified Meter and A/C Amp. Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	2.07 3010311	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	-	UNKWN	NNKWN	ı	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	Π ΝΚ ΑΝΝ	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNK WN	1	1
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CRC 5	1	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	Π ИΚ ΑΝ	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	Π ΝΚ (ΛΝ	1	
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



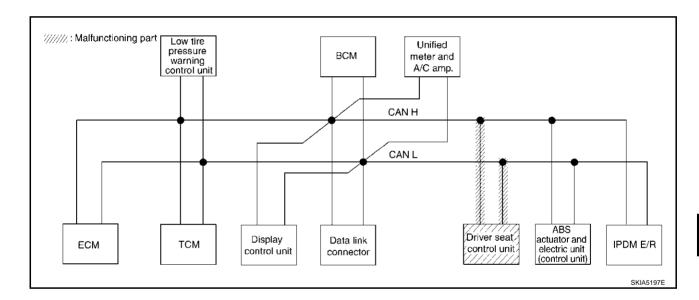
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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-286</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

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

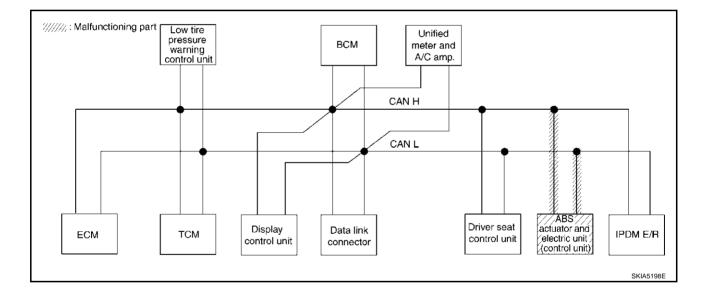


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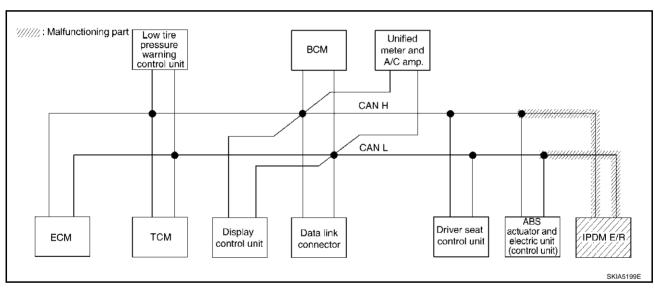
Case 12
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-287</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial	Transmit				Receive (diagnosis					
		Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_		UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	Π ΝΚ ΜΝ	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	-	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK W N	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNK/WN	UNK WN	_	_	_	_	_	_	_		



Case 13
Check IPDM E/R circuit. Refer to LAN-287, "IPDM E/R Circuit Check" .

		CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	1	UNKWN		_	UNKWN	UNKWN	1	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	_	-	_	_	UNKWN	_	_			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	CANCIRC			
всм	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNK VN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		_	UNKWN	UNKWN	-	_			
ABS	_	NG	UNKWN	UNKWN	_	-	-	_	_	_	_			



Case 14
Check CAN communication circuit. Refer to <u>LAN-288</u>, "CAN Communication Circuit Check" .

		CAN DIAG SUPPORT MNTR											
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis					
SELECT STOTEM SCIENT		diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	Ω ΝΚ ΜΝ	_	_	NNR MN	NNR WN	_	Π ΝΚ ΜΝ		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-		_	UNKWN	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_			_	UNKWN	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CANOIRC 6	-	CANOTRC 2	CANORC 5	_	CANOTEC 7		
всм	_	NG	UNKWN	nukwu	_	_	_	_	UNKVN	_	UNMWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_		
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	-		
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Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-292, "IPDM E/R Ignition Relay Circuit Check".

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	-	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 1		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	Π ΝΚ(ΛΝ	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_		

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-292, "IPDM E/R Ignition Relay Circuit Check".

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR											
		Initial	Transmit		Receive diagnosis									
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UN K ∕VN	_	_	_	_	пикул	UNKWN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	_	-			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	CAN CIRC 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		-	UNKWN	UNKWN	_	_			
ABS	_	NG	UNKWN	UNK/VN	_	_	_	_	_	_	_			
											PKIB0547E			

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

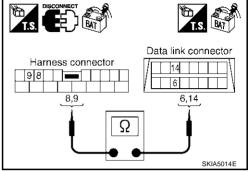
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-263, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

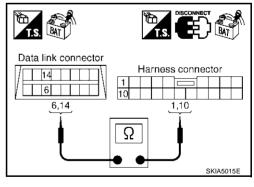
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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

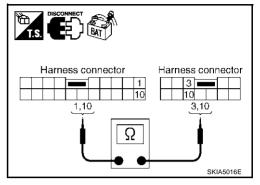
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-263, "Work Flow"</u>.

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

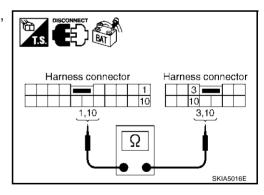
- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

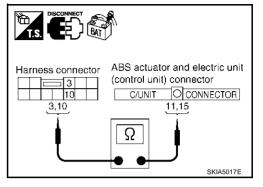
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-263, "Work Flow".

NG >> Repair harness.



AKS006SR

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

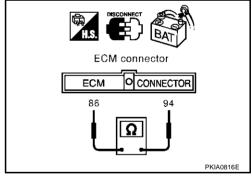
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006SS

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

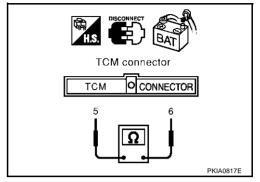
5 (L) - 6 (Y) : Approx. **54 - 66** Ω

OK or NG

NG

OK >> Replace TCM.

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS006ST

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

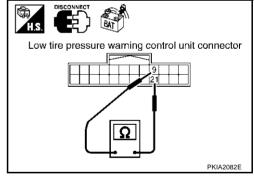
- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y) : Approx. $54 - 66\Omega$

OK or NG

OK >> Replace low tire pressure warning control unit.

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



Display Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

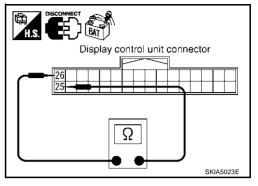
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

NG

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



AKS006SV

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

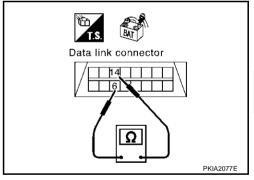
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-263, "Work Flow".

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



AKS006SW

BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

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

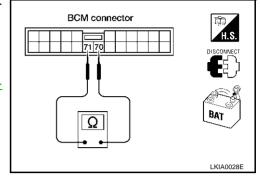
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36, "Removal and Installation of BCM"</u>.

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



AKS006SX

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

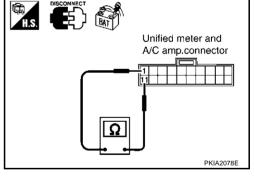
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace unified meter and A/C amp.

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



AKS006SY

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

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

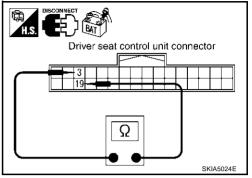
3 (L/Y) - 19 (BR/W) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

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

: Approx. 54 - 66 Ω

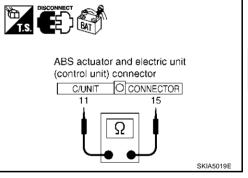
OK or NG

NG

OK

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

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



AKS006T0

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2003 Murano

2. CHECK HARNESS FOR OPEN CIRCUIT

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

48 (L) - 49 (Y)

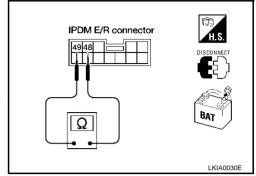
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



AKS006T1

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR SHORT CIRCUIT

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

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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

$oldsymbol{3}_{ ext{-}}$ check harness for short circuit

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

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

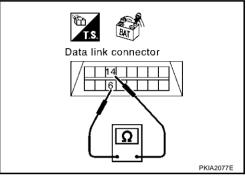
> 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

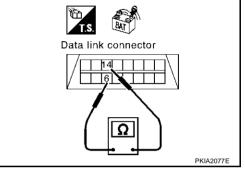
- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data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



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

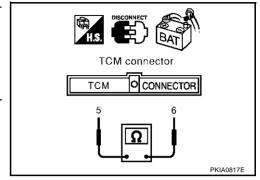
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

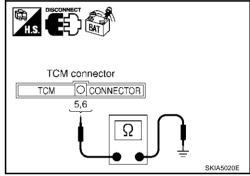
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

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

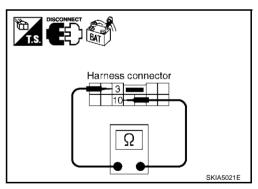
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Check the

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



SKIA5022E

7. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 8.

NG

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

8. CHECK HARNESS FOR SHORT CIRCUIT

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

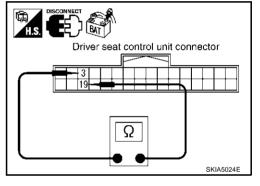
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

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9. CHECK HARNESS FOR SHORT CIRCUIT

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

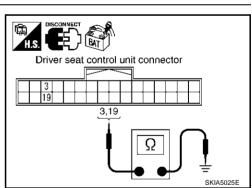
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

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

48 (L) - 49 (Y)

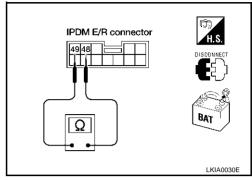
: Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

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



11. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK

NG

>> GO TO 12.

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

IPDM E/R connector 4948 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-292</u>, <u>"ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"</u>. OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-263, "Work Flow"</u> .

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

IPDM E/R Ignition Relay Circuit Check

AKS006T2

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

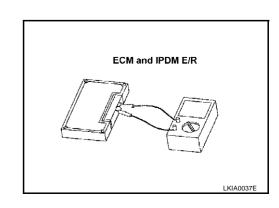
- IPDM E/R power supply circuit. Refer to <u>PG-45</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006T3

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



CAN SYSTEM (TYPE 9)

PFP:23710

System Description

AKS006T4

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.

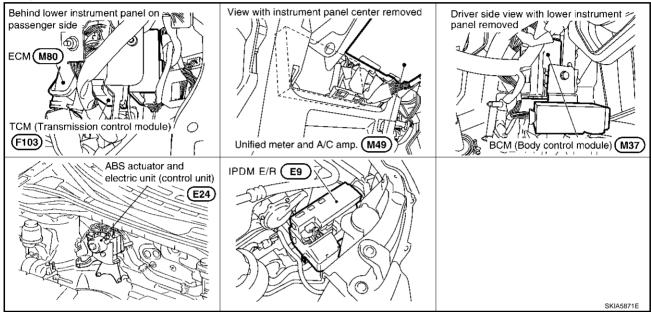
Component Parts and Harness Connector Location

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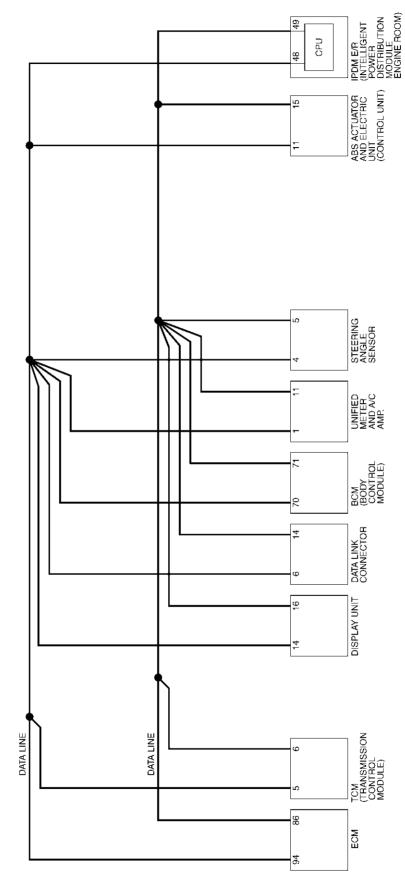
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Schematic AKS006T6



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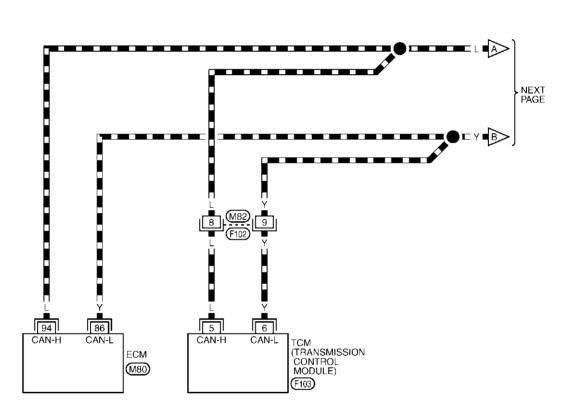
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LAN-CAN-25

: DATA LINE



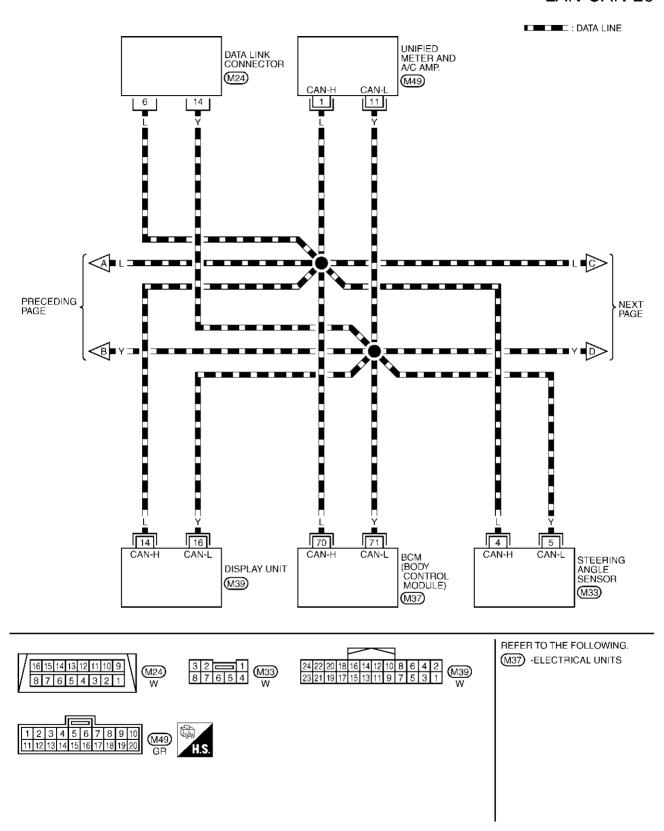
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

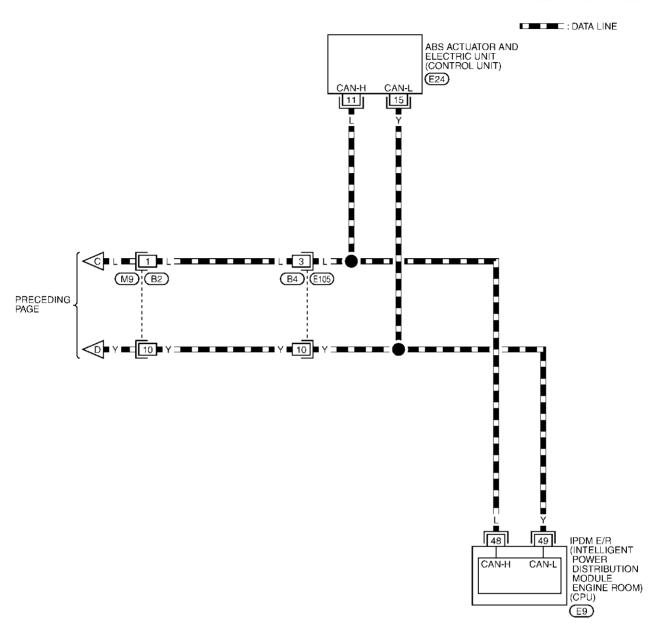
TKWA0956E

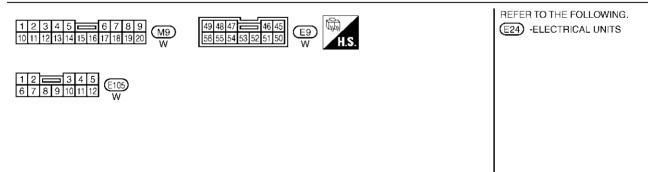
LAN-CAN-26



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LAN-CAN-27





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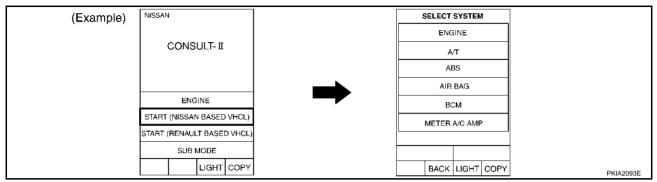
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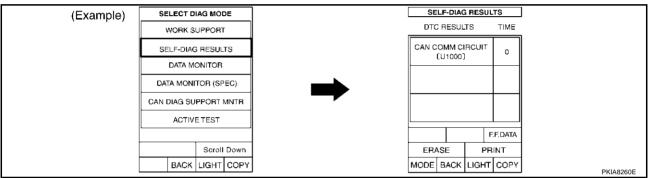
L

Work Flow

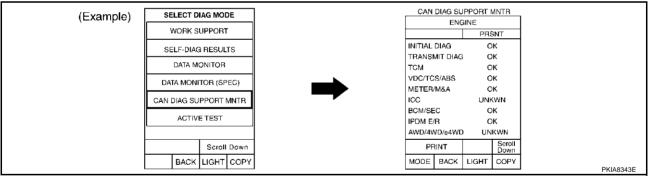
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP" and "ABS" 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-300, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-300, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication</u> Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-300</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 9)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-300</u>, "CHECK SHEET".

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-302</u>, "CHECK SHEET <u>RESULTS</u> (EXAMPLE)".

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CHECK SHEET

NOTE:

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

					CA	N DIAG SU					
SELECT SYST	EM screen	Initial	Transmit				Receive BCM	diagnosis METER		VDC/TCS	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	/SEC	/M&A	STRG	/ABS	IPDM E/F
NGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_
Symptoms :											
		A	Attach copy of Attach copy of SELECT SYSTEM								
		JE	2201 313	ILIVI		J.	2201 313	TLIVI			
				, CAN DIAG	Attach copy display un MONITOR	of it check shee	et				

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Attach copy of Attach copy of Attach copy of ENGINÉ TRANSMISSION всм SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of METER A/C AMP ABS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of ENGINÉ TRANSMISSION всм CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR **MNTR** MNTR Attach copy of METER A/C AMP Attach copy of ABS CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR

Revision; 2004 April LAN-301 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

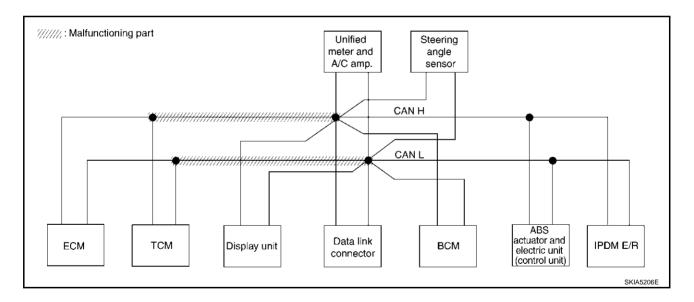
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-314</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

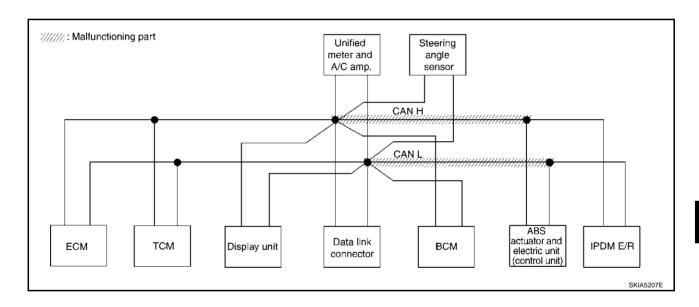
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	EW Solecii	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UN K ₩N	UNIONN	_	Ω ΝΚ ⁄ΛΝ	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	сұ√із	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNK/WN	UNK/VN	UNKWN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-314</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	EW Soreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	_	∩ NK WN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNK WN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UN K ₩N	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	-		UNIAMN	_	_



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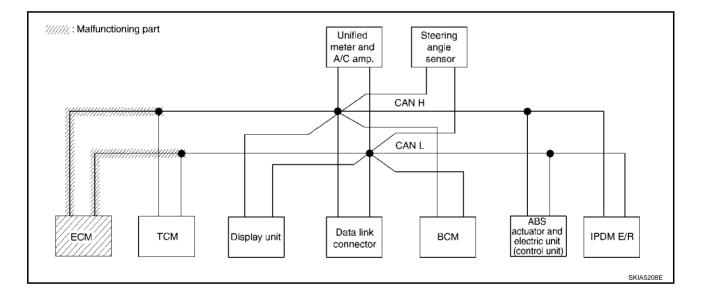
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Case 3
Check ECM circuit. Refer to <u>LAN-315</u>, "ECM Circuit Check".

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022207 0101	EW Sorceri	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	Ω ΝΚ ⁄ΜΝ	_	NM MN	UNK VN	_	∩ ИК \\	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	с₩(з	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN K WN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNIMN	UNKWN	_	_	_	UNKWN	_	_



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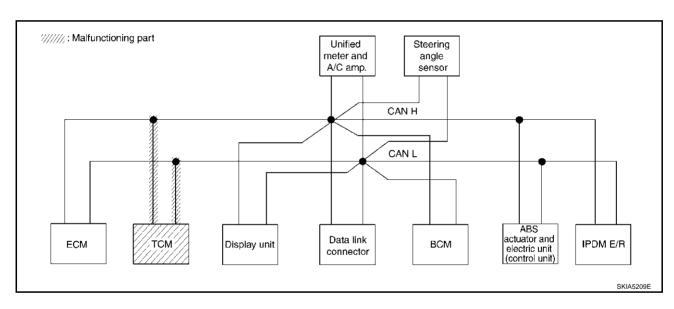
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Case 4
Check TCM circuit. Refer to <u>LAN-316</u>, "TCM Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	ZW Soreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	_	_



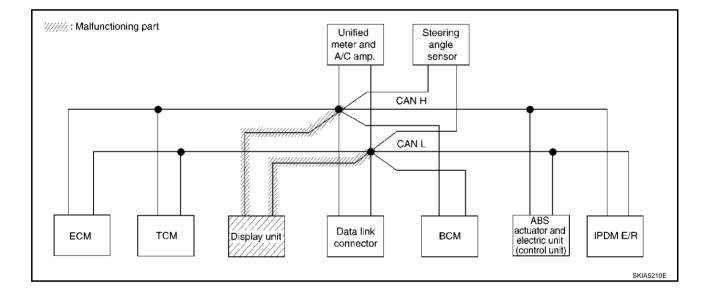
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Case 5
Check display unit circuit. Refer to <u>LAN-316</u>, "<u>Display Unit Circuit Check</u>" .

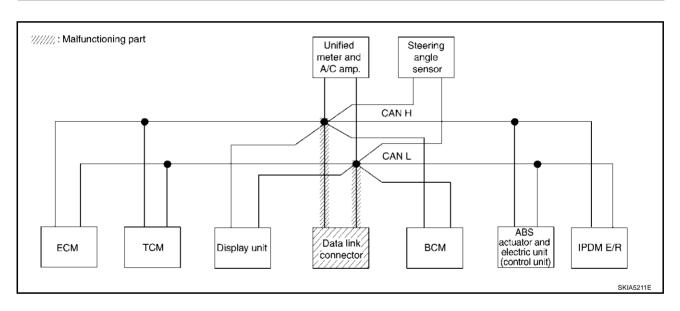
					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
322237 3737	EW Sorceri	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	с₩(з	_	_	CAN 2	CAN 5	_	_	CM17
всм	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 6

Check data link connector circuit. Refer to LAN-317, "Data Link Connector Circuit Check" .

					CAI	N DIAG SU	PPORT MI	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
022207 0101	EW Soreen	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_		UNKWN	_	_



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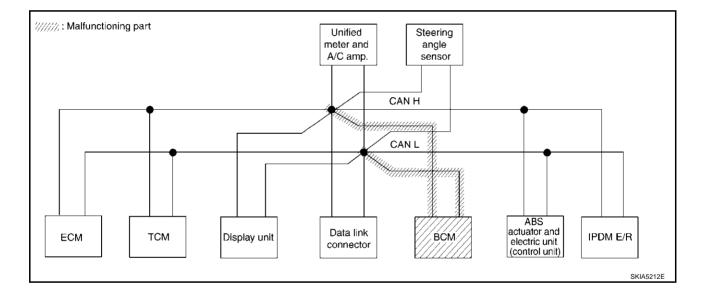
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Case 7
Check BCM circuit. Refer to <u>LAN-317, "BCM Circuit Check"</u>.

					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	EW Sorceri	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK WN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNK/WN	UNK WN	-	_	_	UNK/WN	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



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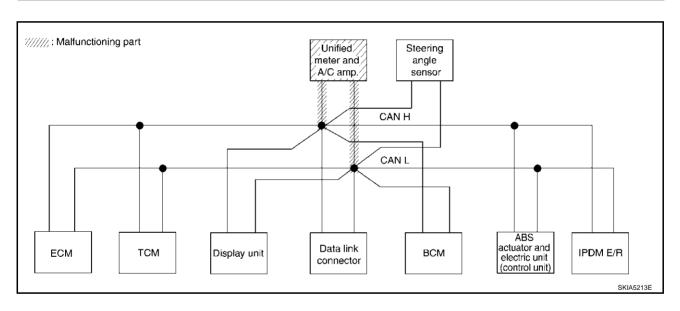
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Case 8

Check unified meter and A/C amp. circuit. Refer to LAN-318, "Unified Meter and A/C Amp. Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022207 0101	ZW Soreen	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	Π ΝΚ /ΜΝ	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNK WN	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	-	NG	UNKWN	UNKWN	_	_	_	UNK/WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	-	_



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Case 9
Check steering angle sensor circuit. Refer to <u>LAN-318</u>, "Steering Angle Sensor Circuit Check".

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIW Sorcen			ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	-	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNK WN	_	_

//////;: Malfunctioning part Steering Unified meter and angle A/C amp. sensor CANH CAN L ABS actuator and electric unit (control unit) Data link ТСМ IPDM E/R всм ECM Display unit connector SKIA5214E

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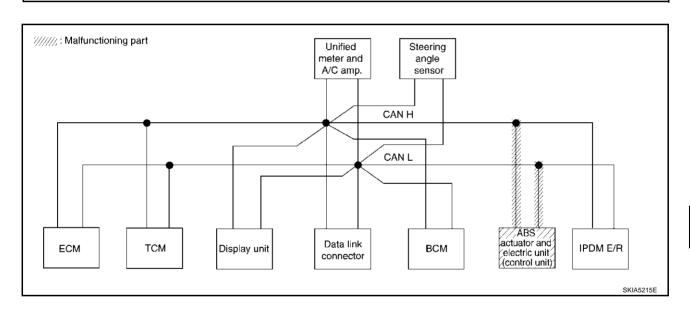
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Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-319</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	diagnosis			
322237 3737	ZW Goroch	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	∩ ИК {\v}N	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UN K ₩N	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UN ∳ WN	=
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



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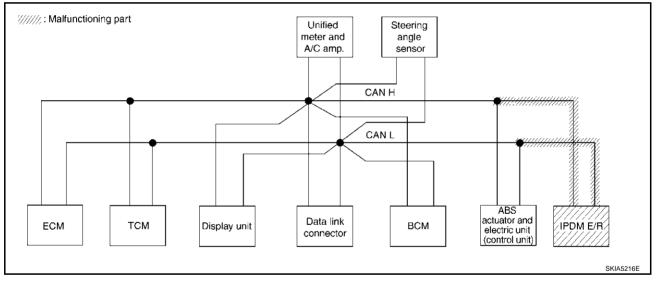
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Case 11
Check IPDM E/R circuit. Refer to LAN-319, "IPDM E/R Circuit Check".

	CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis								
022201 0101	T SYSTEM screen Initial diagnosis		Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UN K ₩N	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	Ω ΝΚ ΑΝ	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_	



Case 12
Check CAN communication circuit. Refer to <u>LAN-320</u>, "CAN Communication Circuit Check" .

		CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis							
·		diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNK WN	_	υ νκ⁄ νν	UNK/WN	_	∩ ИК МИ	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CA V 15	-	_	CAN 7	
всм	_	NG	∩ NK WN	NURWN	_	_	_	NNRWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-		UNKWN	_	_	
											PKIB0581	

CAN SYSTEM (TYPE 9)

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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-323</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

	CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis							
0LLL01 0101	EW Solcen			ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	_	∩ NK WN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-323, "IPDM E/R Ignition Relay Circuit Check" .

		CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		en Initial	Transmit	Receive diagnosis								
022201 0101	EW Soreen	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	NUK WN	_	_	_	UNK WN	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNKWN	_	_	

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

AKS006T9

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

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

9 (Y) - 14 (Y)

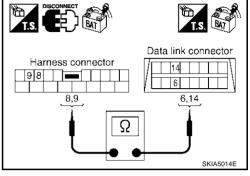
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to <u>LAN-298, "Work Flow"</u>.

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

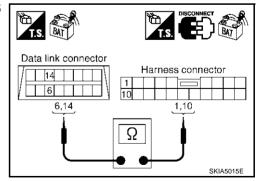
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

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

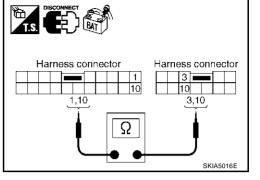
1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.

...

: Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (L) - 11 (L)

: Continuity should exist.

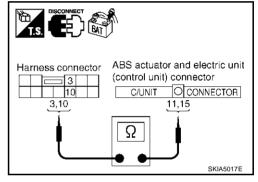
10 (Y) - 15 (Y)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-298, "Work Flow".

NG >> Repair harness.



AKS006TB

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

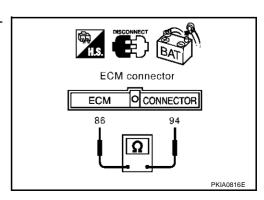
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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Revision; 2004 April LAN-315 2003 Murano

TCM Circuit Check

1. CHECK CONNECTOR

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AKS006TD

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

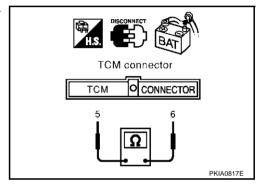
- Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

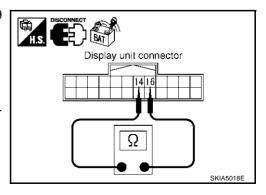
- Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

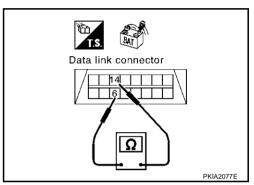
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - **14 (Y)** : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-298, "Work Flow".

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



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

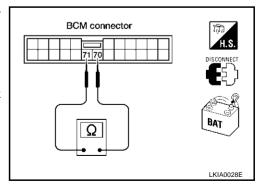
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - 71 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

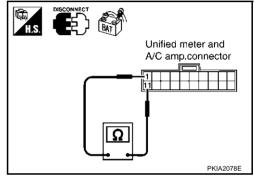
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



Steering Angle Sensor Circuit Check

AKS006TH

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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

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

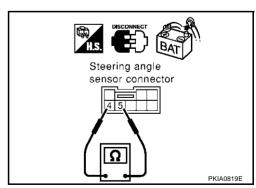
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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- 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

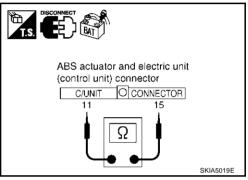
- Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

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

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



IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

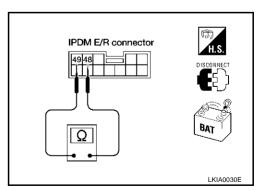
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



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CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

6 (L) - 14 (Y) : Co

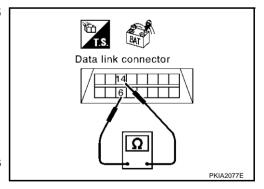
: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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



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

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

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

OK or NG

OK >> GO TO 4.

NG

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

4. CHECK HARNESS FOR SHORT CIRCUIT

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

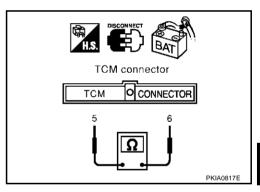
5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

>> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

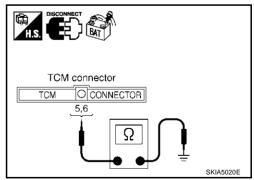
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



Data link connector 6 6, 14

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6. CHECK HARNESS FOR SHORT CIRCUIT

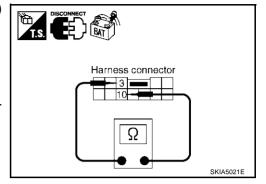
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

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

OK or NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

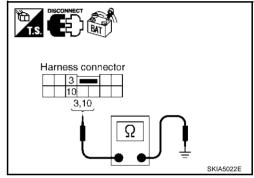
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

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

OK or NG

OK >> GO TO 8.

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



8. CHECK HARNESS FOR SHORT CIRCUIT

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

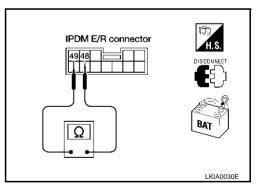
48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

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



9. CHECK HARNESS FOR SHORT CIRCUIT

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

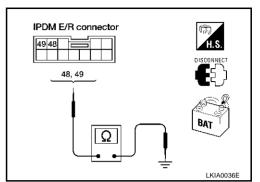
48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

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



10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-323}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ $\underline{\mathsf{INTERNAL}}$ $\underline{\mathsf{CIRCUIT}}$ $\underline{\mathsf{INSPECTION}}$ ". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-298</u>, "Work Flow".

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

IPDM E/R Ignition Relay Circuit Check

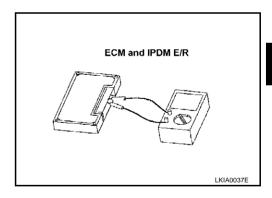
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "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 48 and 49.

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



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CAN SYSTEM (TYPE 10)

PFP:23710

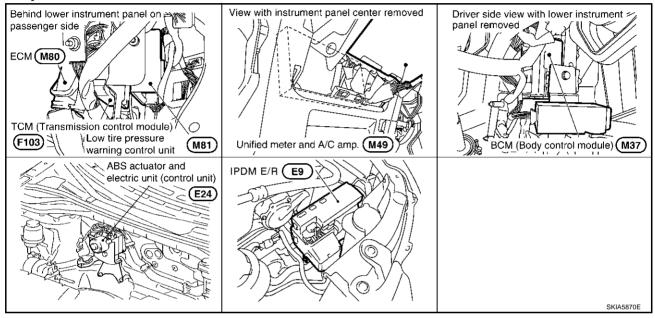
System Description

AKS006TN

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

AKS006TO



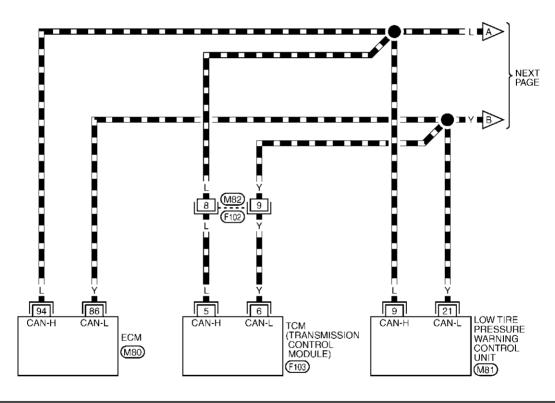
TKWA0959E

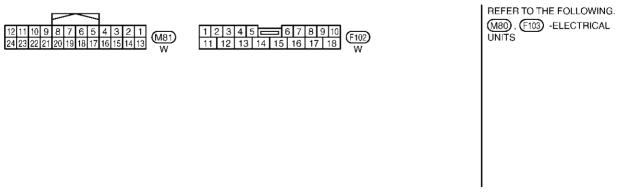
Wiring Diagram - CAN -

AKS006TQ

LAN-CAN-28

: DATA LINE





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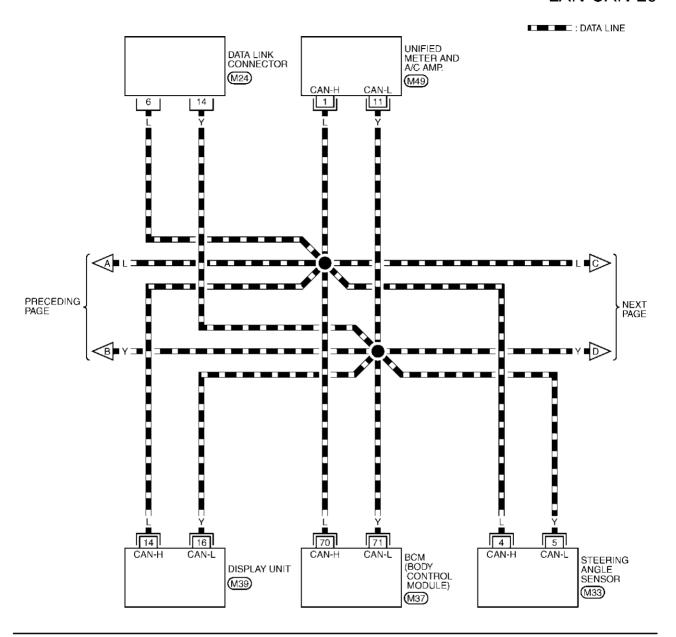
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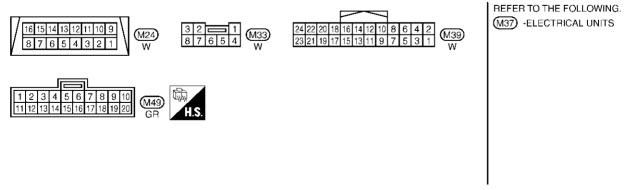
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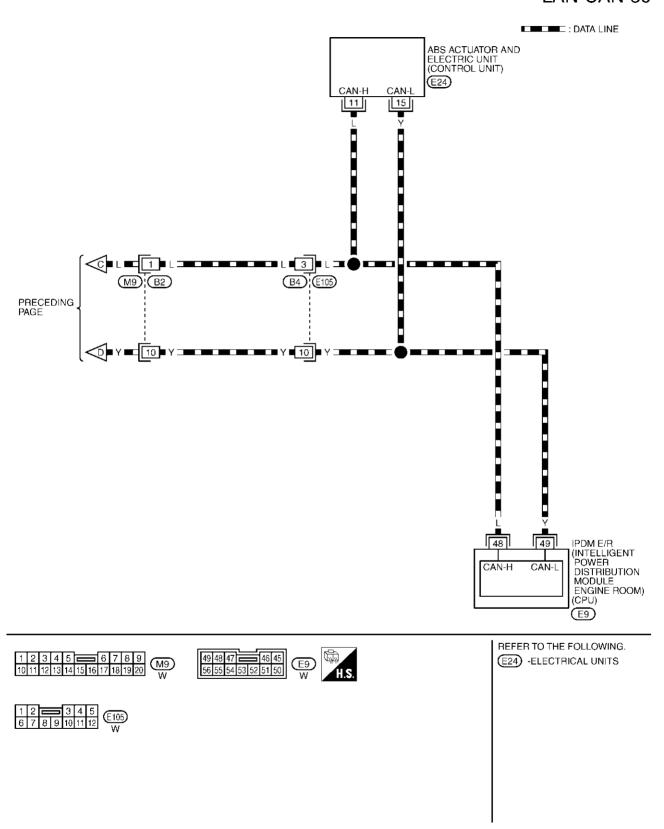
LAN-CAN-29





TKWA0961E

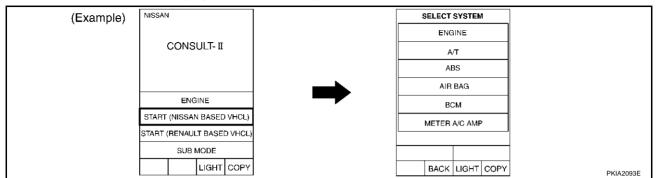
LAN-CAN-30



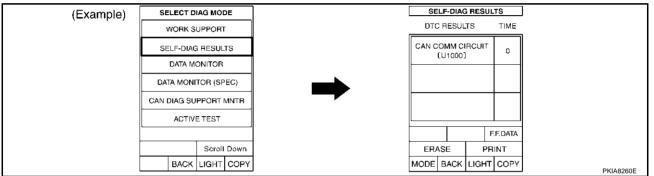
TKWA0962E

Work Flow

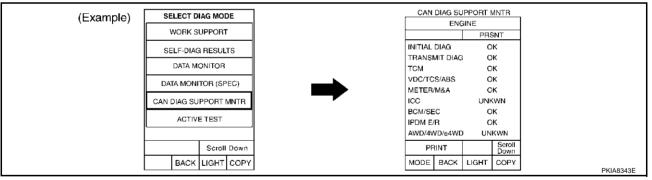
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-331</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-331</u>, "CHECK SHEET".

NOTE:

cated in check sheet table.

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indi-
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication</u> Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-331</u>, "CHECK SHEET"

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CAN SYSTEM (TYPE 10)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-331</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-333, "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.

	9					O 4 N 1 TO 1	OURRE	T 145'TE				
						CAN DIA	SUPPOR Rec	eive diagn	osis			
SELECT SYST		Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	1	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_
		SE	Attach cop	y of STEM			Attach SELECT	ocopy of SYSTEM				
				CAN DIA	Attach c display AG MONIT	unit	sheet					

PKIB0584E

Attach copy of BCM SELF-DIAG RESULTS Attach copy of METER A/C AMP SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS Attach copy of ARR PRESULTS Attach copy of ARR PRESULTS Attach copy of ARR PRESULTS	SELF-DIAG RESULTS METER A/C AMP SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of	Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS
Attach copy of Attach copy of Altach copy of AIR PRESSURE	Attach copy of ENGINE CAN DIAG SUPPORT MNTB Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTB Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT CAN DIAG SUPPORT	BCM	METER A/C AMP	ABS
	CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT		Attach copy of TRANSMISSION	AIR PRESSURE

CHECK SHEET RESULTS (EXAMPLE)

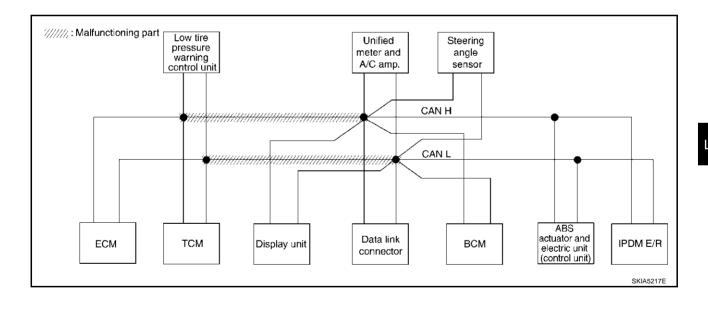
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-346</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131	Liii ooroon	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNI W N	Π ИΚ ₩И	-	Π ΝΚ ΑΝΙ	UNK WI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	-	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	Π ΝΚ ΑΝΙ	_	-	_	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKVN	UNK WN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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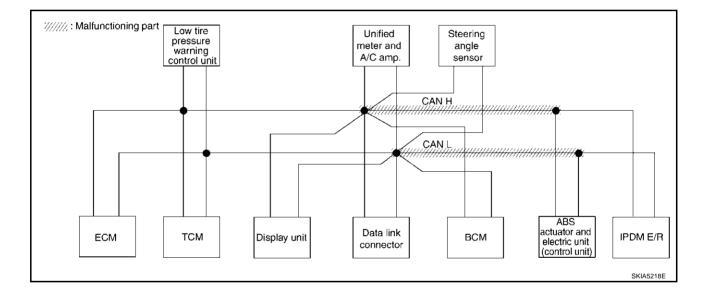
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-346</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	3 SUPPOR					
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E
ENGINE	1	NG	UNKWN	-	UNKWN	1	-	UNKWN	UNKWN	_	UNK A VN	nv k (vi
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	Π ИΚ ΜИ	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	UNK WI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	NNK WN	_
ABŞ	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	υ νκ ∕νν	_	_



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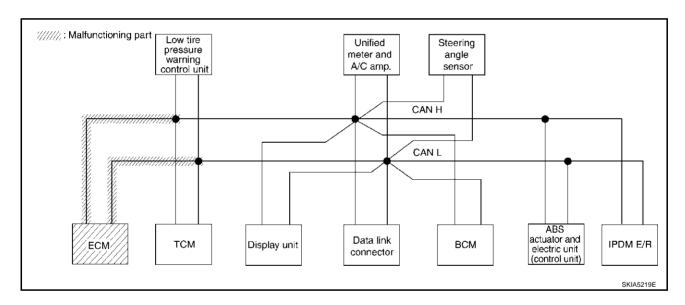
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Case 3
Check ECM circuit. Refer to <u>LAN-347, "ECM Circuit Check"</u>.

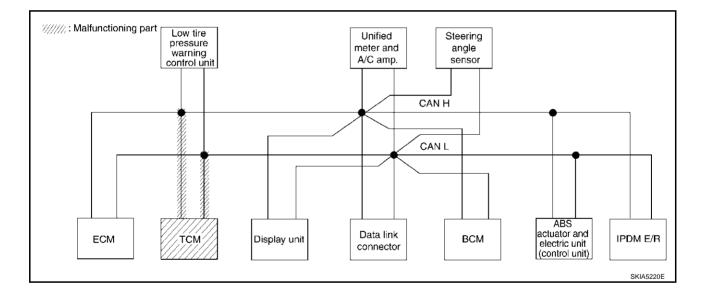
						CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNK WN	-	UNK WN	_	_	UNK WN	UNK WN	-	UNK A VN	UNKW N
TRANSMISSION	No indication	NG	UNKWN	∩ NR WN	_	_	_	-	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	-	_	_
Display unit	_	CAN COMM	CAN 1	C√ 13	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7
всм	-	NG	UNKWN	Π ΝΚ ΜΝ	_	_	_	-	UNKWN	=	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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Case 4
Check TCM circuit. Refer to <u>LAN-348</u>, "TCM Circuit Check" .

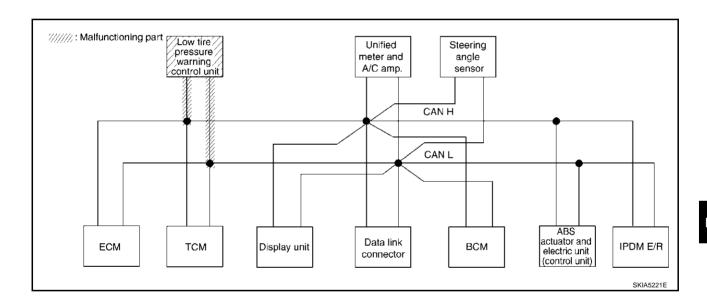
						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagr	osis			
022201 0101	LIVI GOLGGII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	1	NG	UNKWN	-	UN K WN	-	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	NNAMN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNIWN	_	_	_	_	UNKWN	_	_



Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-348</u>, "Low <u>Tire Pressure Warning Control Unit Circuit Check"</u>.

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



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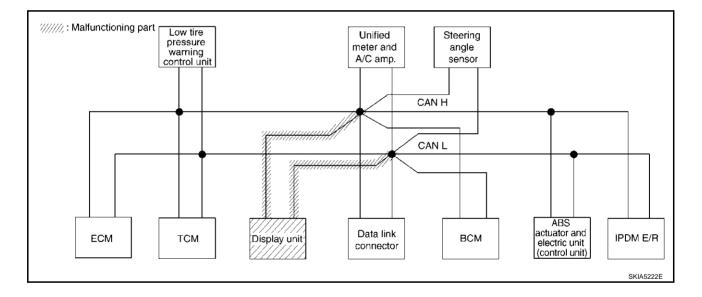
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Case 6
Check display unit circuit. Refer to <u>LAN-349</u>, "<u>Display Unit Circuit Check</u>" .

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	1	NG	UNKWN	1	UNKWN	ı	_	UNKWN	UNKWN	ı	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	-	_	-	UNKWN	_	_	_
Display unit	_	CAN COMM	C A 1	CW 3	_	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	1	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	NNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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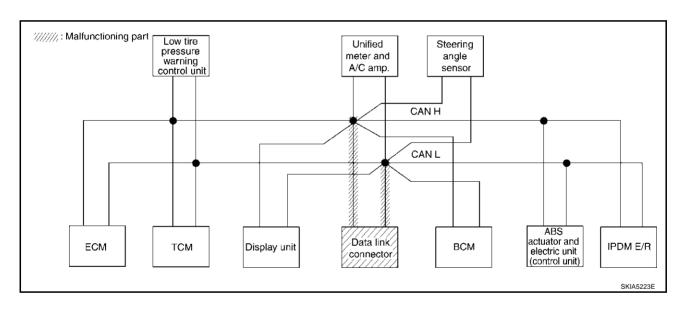
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Case 7

Check data link connector circuit. Refer to LAN-349, "Data Link Connector Circuit Check" .

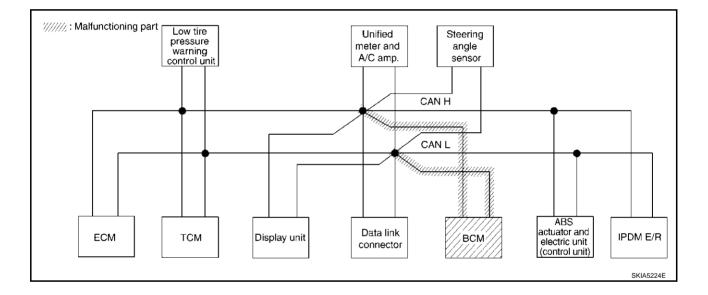
						CAN DIA	3 SUPPOR					
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	1	UNKWN	-	UNKWN	-
AIR PRESSURE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



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Case 8
Check BCM circuit. Refer to LAN-350, "BCM Circuit Check".

			Г			CAN DIA	3 SUPPOF					
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNK WN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7
всм	_	NG	UNK WN	Π ΝΚ ΑΝΙ	_	-	_	1	Π ΜΑ ΜΝ	_	_	UNK WI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_



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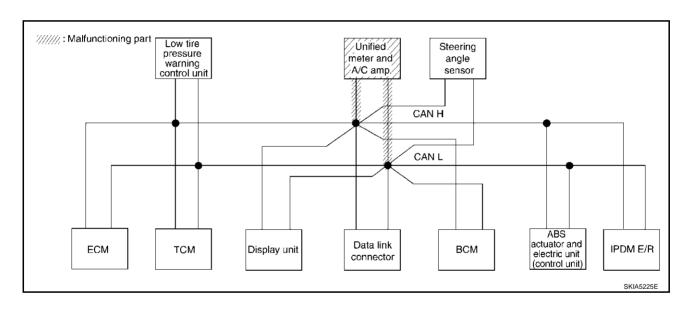
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Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-350, "Unified Meter and A/C Amp. Circuit Check".

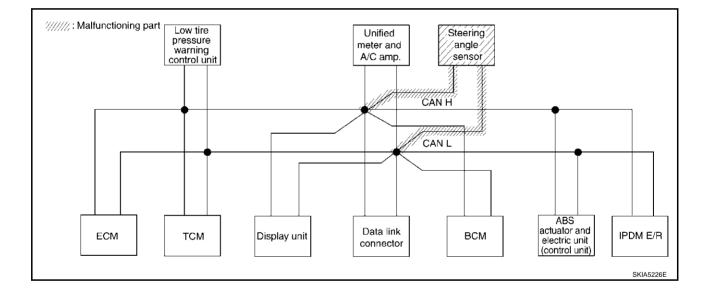
						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	1	NG	UNKWN	1	UNKWN	-	_	UNKWN	Π ИΚW M	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	Π ИΚ (ΛΙΝ	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNK/WN	-	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	Π ΜΑ ΜΝ	_	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_



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Case 10
Check steering angle sensor circuit. Refer to <u>LAN-351</u>, "Steering Angle Sensor Circuit Check".

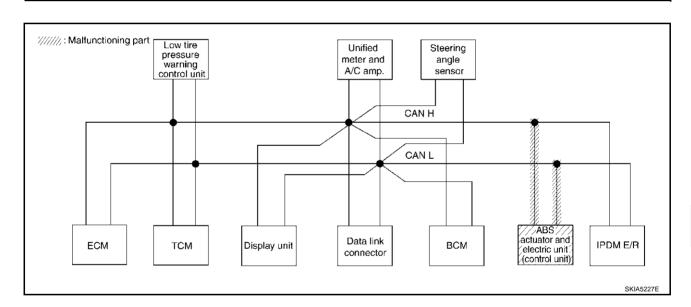
						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLGGII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	1	NG	UNKWN	1	UNKWN	ı	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	-	UNKWN	_	_	-
Display unit		CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	_	1	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABŞ	_	NG	UNKWN	UNKWN	UNKWN	-	_	-	_	n uk wu	_	_



Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-351</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR												
		Initial	Transmit				Rec	eive diagn	osis						
			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/			
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UM € \\	UNKWI			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	NWWW	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	-	-	UNKWN	_	_	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	_			
ABS	_	NG	UN K ∕WN	UNRWN	UNKWN	_	_	_	_	NNKWN	_	_			



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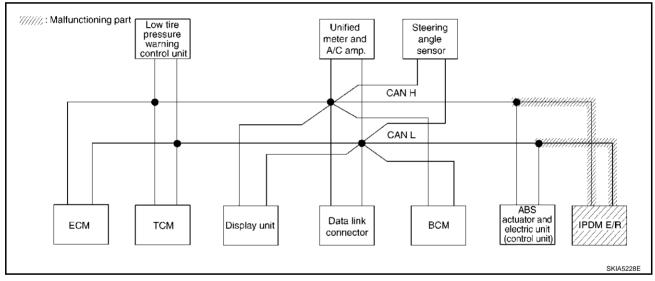
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Case 12
Check IPDM E/R circuit. Refer to <u>LAN-352</u>, "IPDM E/R Circuit Check".

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR												
		Initial	Transmit				Red	eive diagn	osis						
0222010101	"""		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	1	UNKWN	-	_	UNKWN	UNKWN	_	UNKWN	UNK WN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	_			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	-	UNKWN	_	_	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	-	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	_	UNK WN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_			
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_			



Case 13
Check CAN communication circuit. Refer to <u>LAN-352</u>, "CAN Communication Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
			Transmit	Receive diagnosis										
			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I		
ENGINE	_	NG	UNK WN	-	Π Μ ΜΝ	=	=	UN K ∕WN	Π ΛΚ ΜΝ	_	UN A MN	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	-	_	_		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNK WN	UNK WN	_	-	_	_	UNI WN	_	_	UNK WI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNK WN	UNKWN	UNK WN	_	_	_	_	υ νκ ⁄ΜΝ	_	_		

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-355</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

		CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit				Rec	eive diagn	osis					
			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	∩ NR MN	=	-	UNKWN	UNKWN	-	Π ΜΑ ΜΝ	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	1	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	1	UNKWN	-	_	_		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	1	_	ı	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_		

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-355, "IPDM E/R Ignition Relay Circuit Check".

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial	Transmit				Rec	eive diagn	osis				
322237 3737			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	∩ NK WN	-	-	-	_	Π ΝΚ (ΜΝ	-	UNKWN	-	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	-	UNKWN	-	_	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	=	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-	
ABS	_	NG	UNKWN	UNKAN	UNKWN	_	_	_	_	UNKWN	_	-	

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

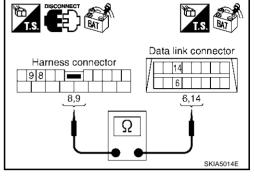
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-329, "Work Flow".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

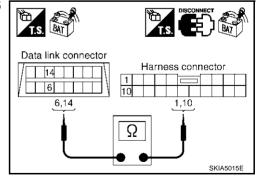
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

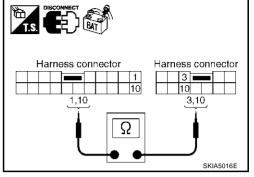
- 1. Disconnect harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L). 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y)

: Continuity should exist. : Continuity should exist.

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (L) - 11 (L)

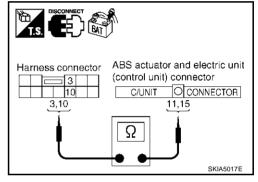
: Continuity should exist.

10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-329, "Work Flow".

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

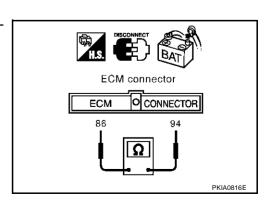
94 (L) - 86 (Y)

: **Approx.** 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 54 - 66 Ω

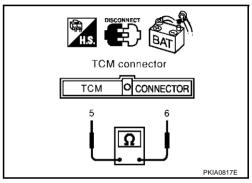
OK or NG

OK

>> Replace TCM.

NG

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS006TW

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y)

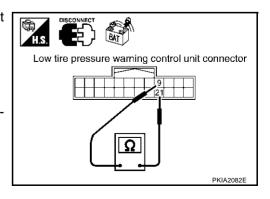
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace low tire pressure warning control unit.

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



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Display Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

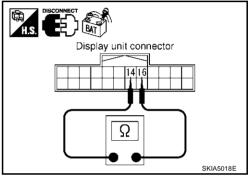
- Disconnect display unit connector.
- Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

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



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

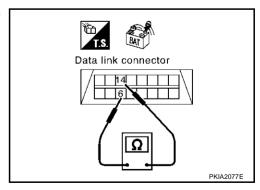
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-329, "Work Flow".

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



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BCM 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 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

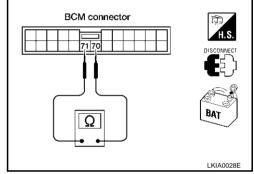
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



AKS006U0

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

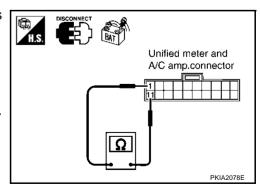
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66Ω

OK or NG

OK >> Replace unified meter and A/C amp.

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



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Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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

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

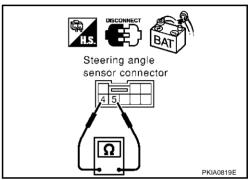
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

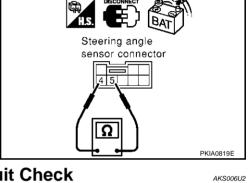
: Approx. 54 - 66 Ω

OK or NG

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

NG

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



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IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

: Approx. 108 - 132 Ω

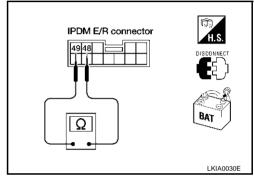
OK or NG

OK

>> Replace IPDM E/R.

NG

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



AKS006U4

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

OK or NG

OK >> GO TO 3.

NG

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

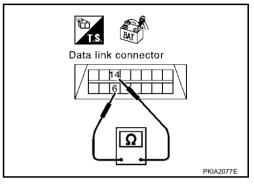
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

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



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

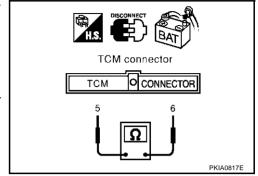
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

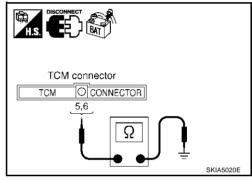
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

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

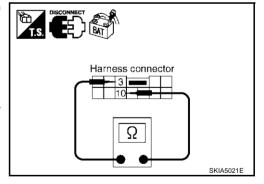
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

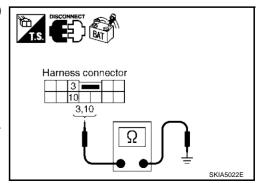
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

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

OK or NG

OK >> GO TO 8.

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



8. CHECK HARNESS FOR SHORT CIRCUIT

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

48 (L) - 49 (Y)

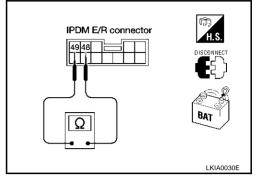
: Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

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



9. CHECK HARNESS FOR SHORT CIRCUIT

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

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

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

OK or NG

OK >> GO TO 10.

NG

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

IPDM E/R connector 48, 49 BAT LKIA0036F

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-355, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-329, "Work Flow".

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

IPDM E/R Ignition Relay Circuit Check

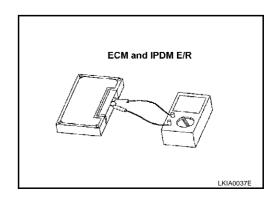
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



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CAN SYSTEM (TYPE 11)

PFP:23710

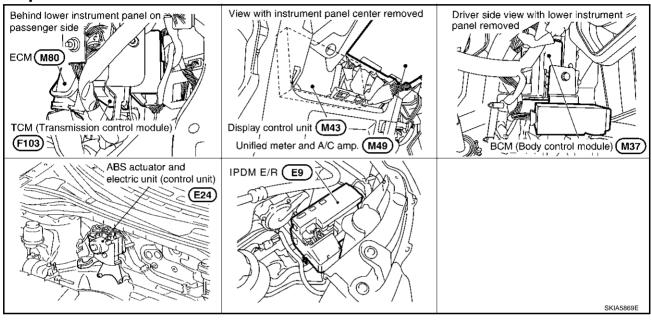
System Description

AKS006117

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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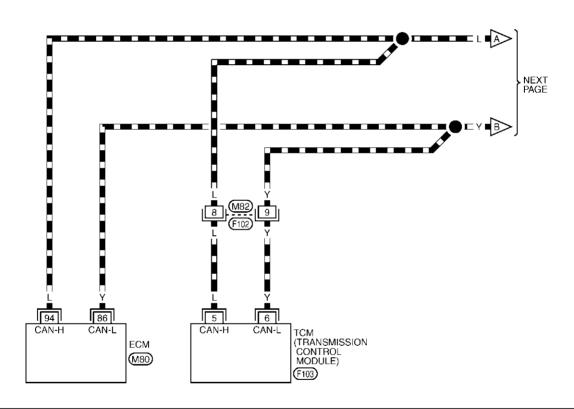
Schematic AKS006U9 Α IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) С D Е F G Н J DATA LINK CONNECTOR LAN DISPLAY CONTROL UNIT M TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 98 ECM 94 TKWA0963E

Wiring Diagram - CAN -

AKS006UA

LAN-CAN-31

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

TKWA0964E

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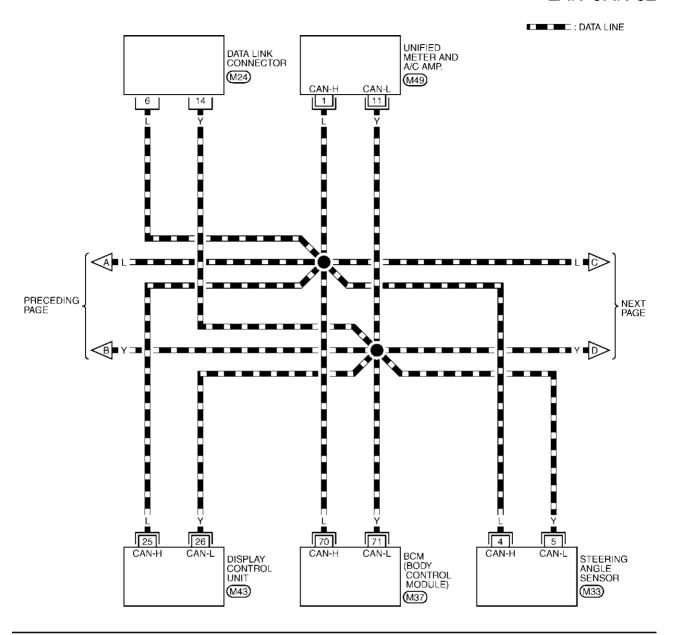
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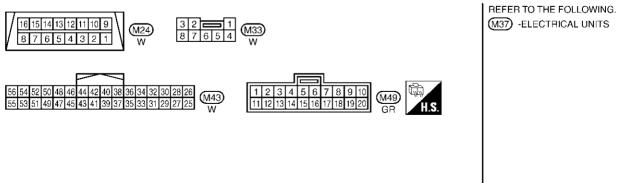
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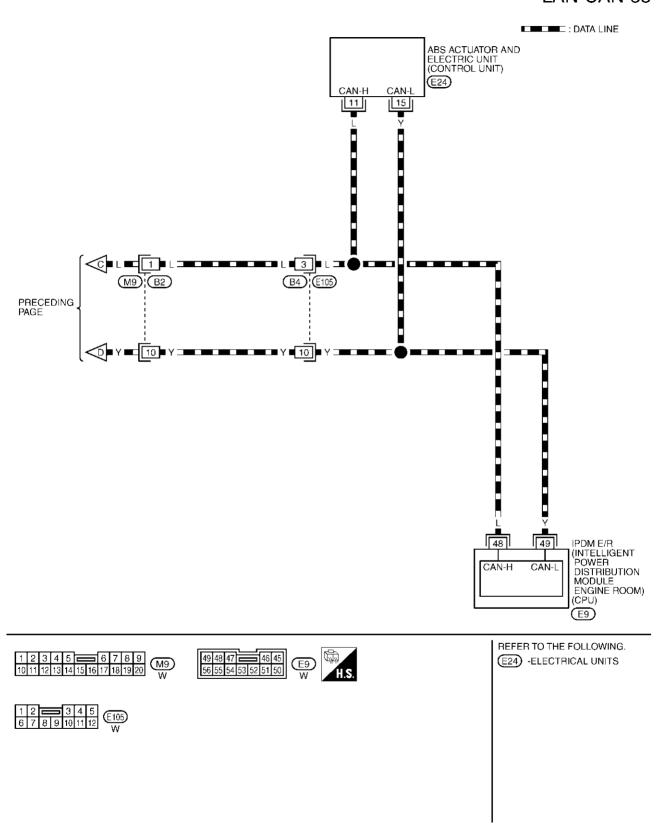
LAN-CAN-32





TKWA0965E

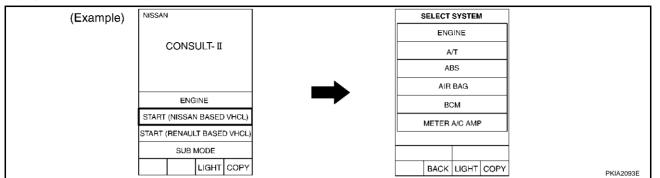
LAN-CAN-33



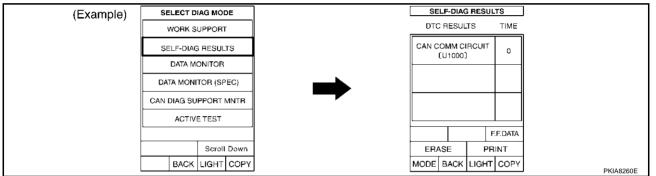
TKWA0966E

Work Flow

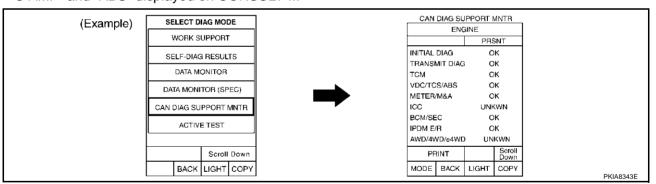
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-363</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-363</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-363</u>, "CHECK SHEET".

LAN-361

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CAN SYSTEM (TYPE 11)

[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-363</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-365, "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.

					CAI	N DIAG SU					
SELECT SYST	EM screen	Initial	Transmit				Receive -	diagnosis METER		VDC/TCS	
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	/SEC	/M&A	STRG	/ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWI
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
isplay control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_
		A SEI	uttach copy LECT SYST	of TEM		, SE	Attach copy LECT SYS	of TEM			
			CANI	A disp DIAG SUPF	Attach copy play control PORT MON	l unit	k sheet				

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR	
		PKIB0422

CHECK SHEET RESULTS (EXAMPLE)

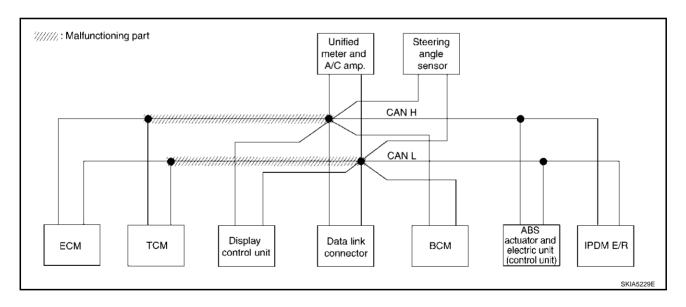
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-377</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
022201 0101	2111 0010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UN K ₩N	UNK WN	_	UNK WN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CANORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK/WN	UNK WN	UNKWN	UNKWN	-	_	UNKWN	=
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	-	UNKWN	_	_



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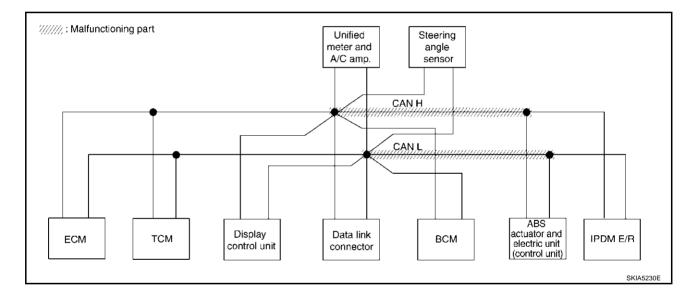
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Case 2

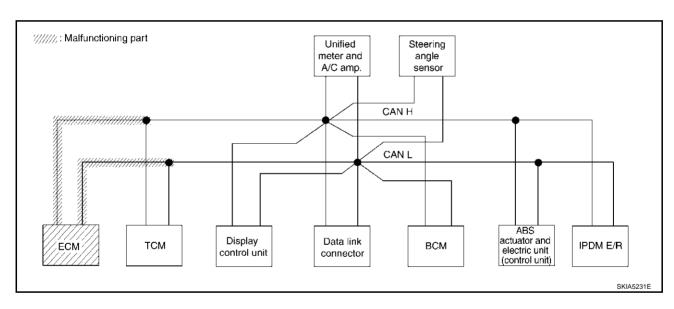
Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-377</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
022201 0101	2.010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	UNKWN	UNKWN	_	∩ NR WN	UNKVN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	_	UNR WN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CANOTRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKAVN	_
ABS	-	NG	UNKWN	UNKAN	UNKWN	_	_	_	NNKWN	_	_



Case 3
Check ECM circuit. Refer to LAN-378, "ECM Circuit Check".

				Г	CAI	N DIAG SU					
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	BCM.	diagnosis METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNK VN	_	UNK/WN	UNK WN	_	UNK WN	UNK A VN
TRANSMISSION	No indication	NG	UNKWN	UN W WN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UN K ₩N	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK/WN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_
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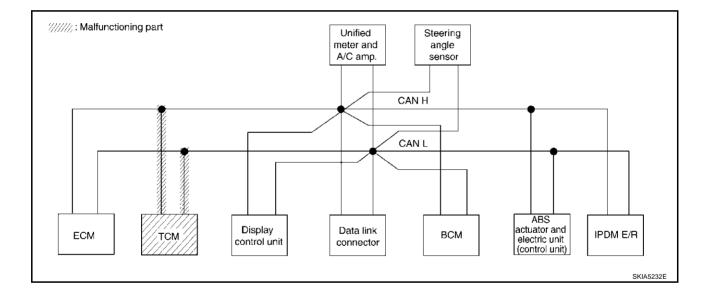
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Case 4
Check TCM circuit. Refer to <u>LAN-379</u>, "TCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Tuomomia				Receive	diagnosis			
3222013101	LIVI GOICCII	diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNIX WN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNIMAN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	UNKWN	_	_
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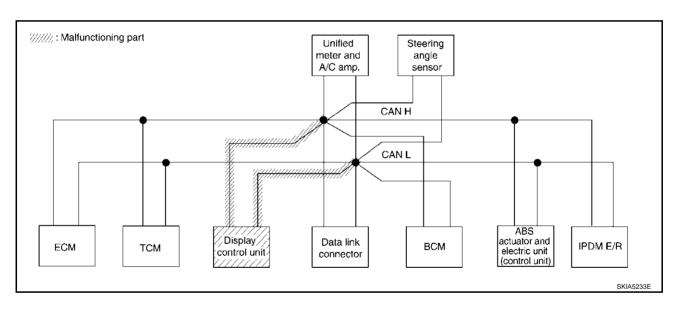
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Case 5

Check display control unit circuit. Refer to LAN-379, "Display Control Unit Circuit Check".

					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
0222010101	EN SOICEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
Display control unit	_	CAN COMM	CANORC 1	CANCIRC 3	_	_	CANOTEC 2	CANORC 5	_	_	CANORC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Ω ΝΚ /WN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_
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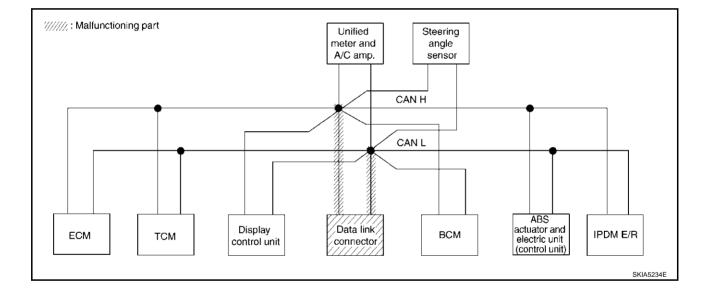


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Case 6
Check data link connector circuit. Refer to <u>LAN-380</u>, "<u>Data Link Connector Circuit Check</u>" .

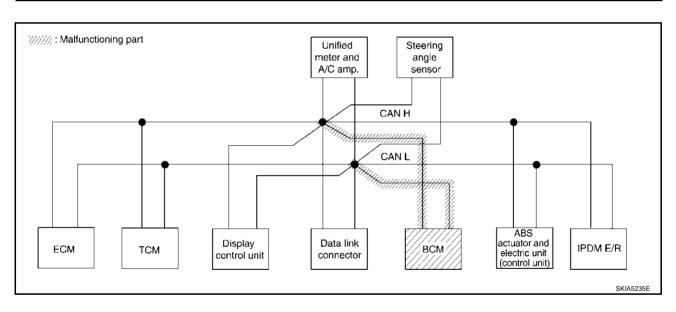
					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM scroon	Initial	Tuamamaia				Receive	diagnosis			
0222010101	LIVI GOICCII	diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 7

Check BCM circuit. Refer to LAN-380, "BCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	FM screen	Initial	Tuamamia				Receive	diagnosis			
GEEEOT STOT	LIVI 301CCII	diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CANCAC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UN K ₩N	UNIX WN	_	_	_	Π ΛΚ ΑΝΙ	_	_	Π ΝΚ ΑΝ
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK/WN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_
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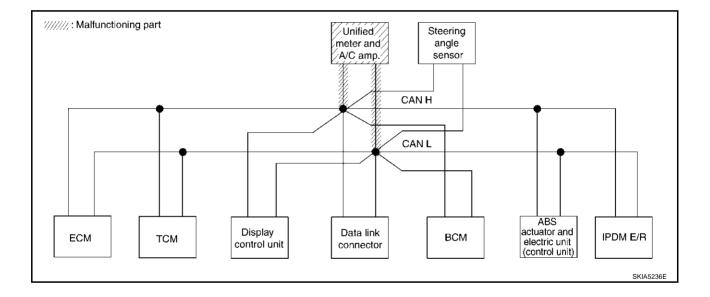
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Case 8
Check unified meter and A/C amp. circuit. Refer to LAN-381, "Unified Meter and A/C Amp. Circuit Check".

					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
322231 3131	LIVI SOLCCII	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	Π ΝΚ ΑΝ	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UN K ₩N	-	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN C/RC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	Π Μ ΑΝΙ	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_
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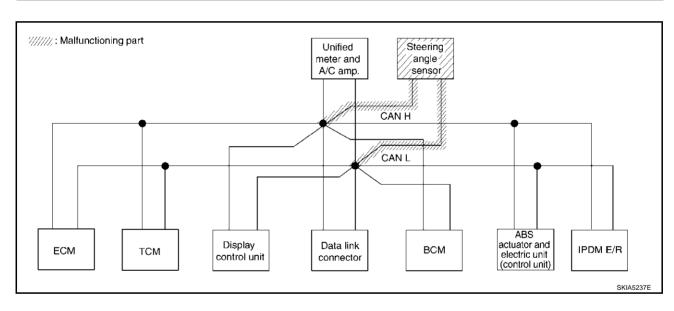
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Case 9

Check steering angle sensor circuit. Refer to LAN-381, "Steering Angle Sensor Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
0222010101	EW GOICETT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	NMMAN	_	_
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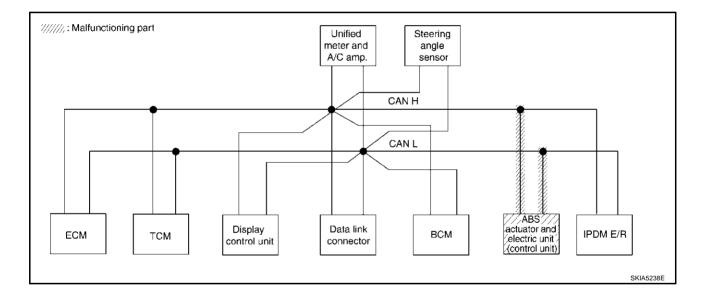
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Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-382</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

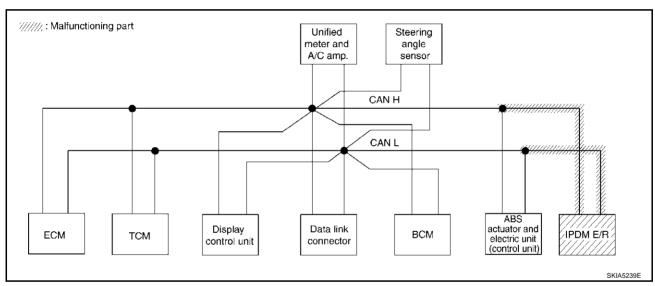
					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222373731	LIVI GOLDON	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	=	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNI W N	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	UMMAN	_	_



Case 11

Check IPDM E/R circuit. Refer to LAN-382, "IPDM E/R Circuit Check" .

					CAI	N DIAG SU	PPORT MN	JTR				
SELECT SYSTEM screen		Initial	Tuomomia	Receive diagnosis								
GEEEOT STOT	LIVI 301CCII	diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UN K ₩N	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN ORC 7	
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	Ω ΝΚ (ΛΝ	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_	
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Case 12

Check CAN communication circuit. Refer to LAN-383, "CAN Communication Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial diagnosis	Transmit		Receive diagnosis								
			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNWWN	_	UNK WN	_	UNK WN	UNK WN	_	UNK WN	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-		
Display control unit	-	CAN COMM	CANOTEC 1	CANORC 3	_	_	CANCAC 2	CANC/RC 5	_	-	CANORC 7		
всм	_	NG	UNKWN	UNK WN	_	-	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	UNK WN	_	_		

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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-386, "IPDM E/R Ignition Relay Circuit Check"</u> .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM scroon	Initial	Tuemenia		Receive diagnosis								
022201 0101	ION No indication	diagnosis		Transmit diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	-	UNK WN	_	UNKWN	UNKWN	_	Ω ΝΚ(ΛΝ	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK#VN	UNKWN	UNKWN	_	_	UNK/WN	=		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_		

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-386, "IPDM E/R Ignition Relay Circuit Check".

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
322237 3737	diag			ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UN K WN	_	_	_	UNKWN	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNK	UNKWN	_	_	_	UNKWN	_	_		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

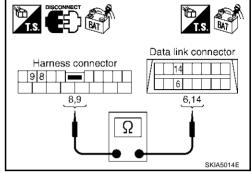
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-361, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (L) - 1 (L)

: Continuity should exist.

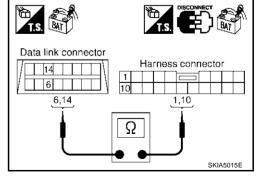
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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LAN-377 Revision; 2004 April 2003 Murano

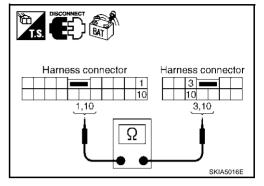
3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

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

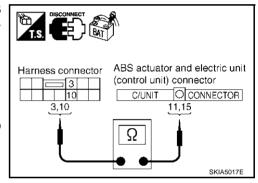
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-361, "Work Flow".

NG >> Repair harness.



AKS006UE

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

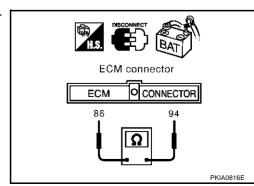
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

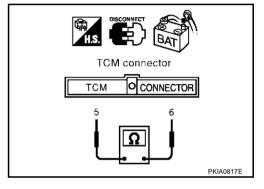
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

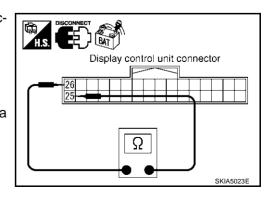
- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

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



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

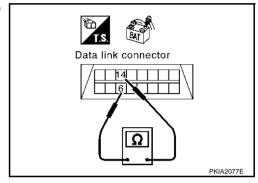
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to <u>LAN-361</u>, "Work Flow".

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



BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

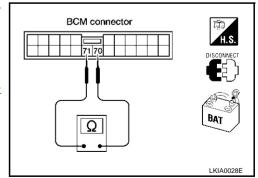
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36</u>, "Removal and Installation of BCM".

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



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

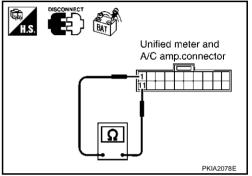
- Disconnect unified meter and A/C amp, connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

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



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 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

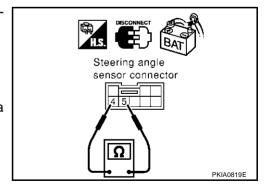
- Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

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



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LAN-381 Revision; 2004 April 2003 Murano

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

: Approx. 54 - 66Ω

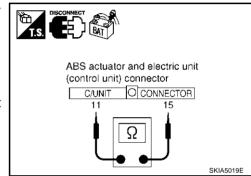
OK or NG

OK

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

NG

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



AKS006UM

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

: Approx. 108 - 132 Ω

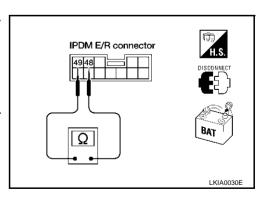
OK or NG

OK :

>> Replace IPDM E/R.

NG

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



CAN SYSTEM (TYPE 11)

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CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

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

Data link connector

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3. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 4.

NG

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

4. CHECK HARNESS FOR SHORT CIRCUIT

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

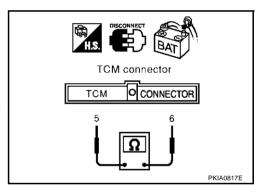
5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair ha

>> Repair harness between TCM and harness connector F102.



Data link connector

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5. CHECK HARNESS FOR SHORT CIRCUIT

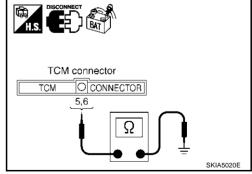
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

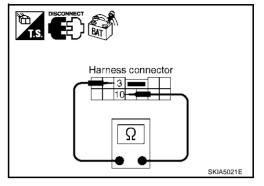
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

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

OK or NG

OK >> GO TO 7.

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



7. CHECK HARNESS FOR SHORT CIRCUIT

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

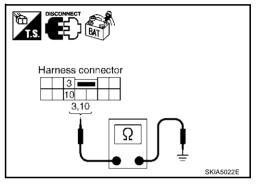
3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 8.

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



8. CHECK HARNESS FOR SHORT CIRCUIT

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

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

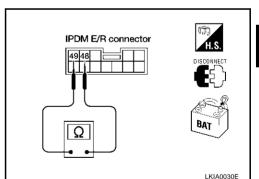
OK or NG

NG

OK >> GO TO 9.

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

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



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9. CHECK HARNESS FOR SHORT CIRCUIT

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

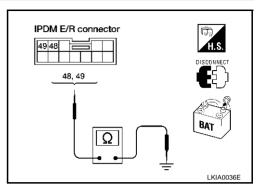
48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

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



10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-386}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ $\underline{\mathsf{INTERNAL}}$ $\underline{\mathsf{CIRCUIT}}$ $\underline{\mathsf{INSPECTION}}$ ". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-361, "Work Flow"</u>.

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

IPDM E/R Ignition Relay Circuit Check

AKS006UO

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

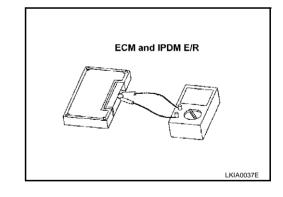
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006UP

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



CAN SYSTEM (TYPE 12)

PFP:23710

System Description

AKS006UQ

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

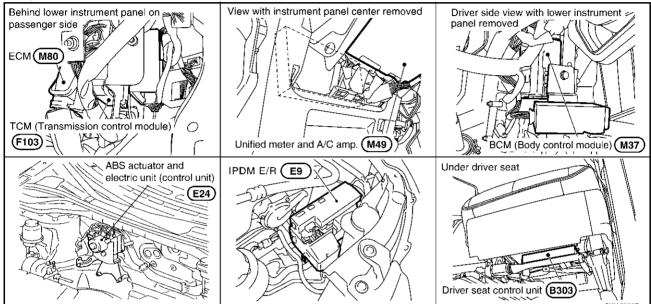
Component Parts and Harness Connector Location

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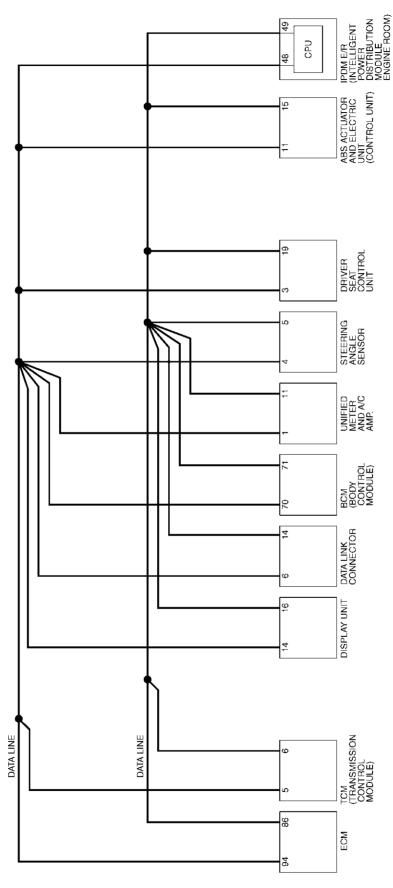
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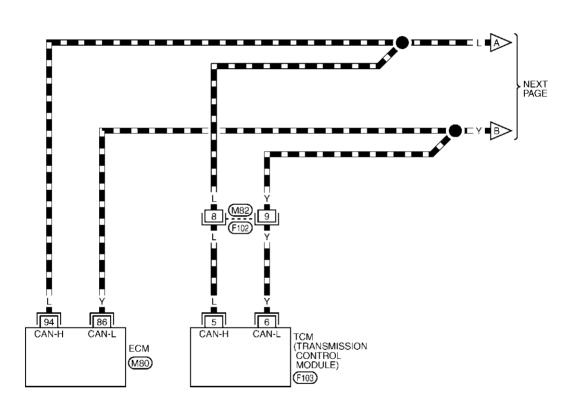


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LAN-CAN-34

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.
(M80), (F103) -ELECTRICAL
UNITS

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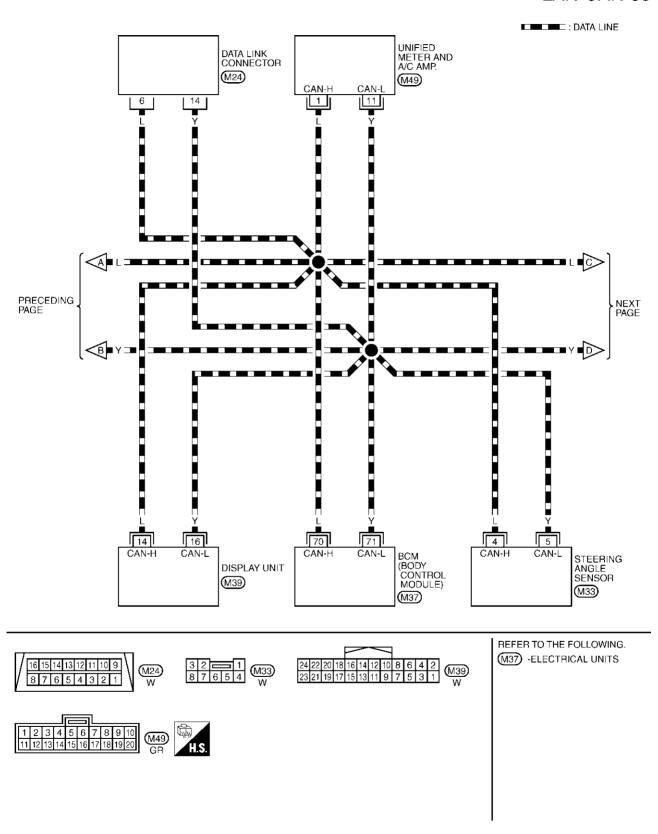
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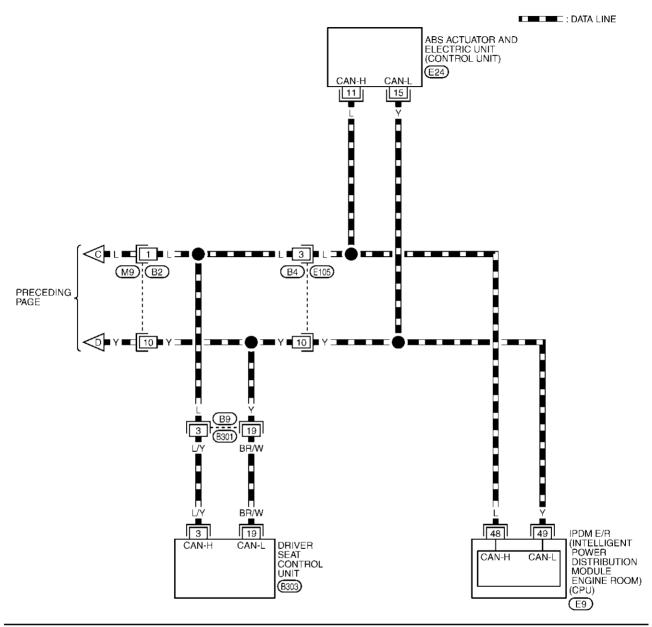
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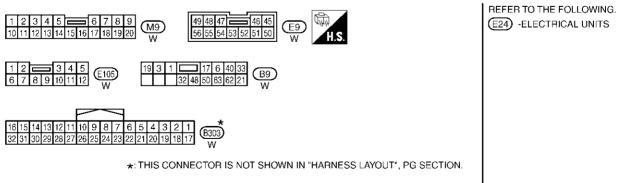
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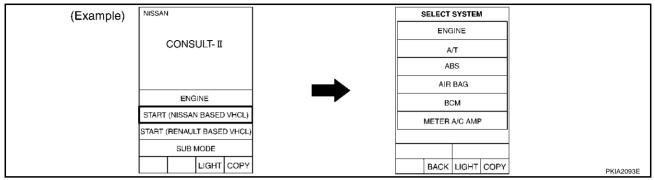




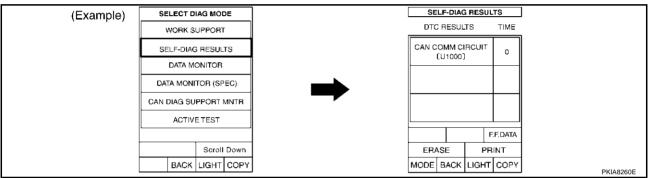
TKWA0970E

Work Flow

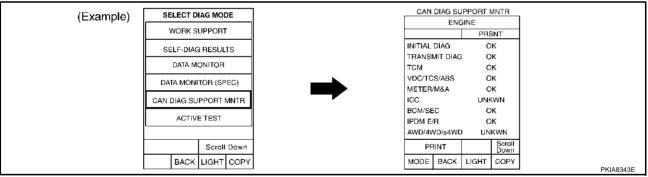
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-394</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-394</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication</u> Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-394</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 12)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-394, "CHECK SHEET"</u>.

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-396, "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.

					CAI	N DIAG SUF	PPORT MN	ITR					
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	=		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	-		
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_		
		SEI	.ttach copy ∟ECT SYST	ΓEM		SEI	ittach copy LECT SYS	TEM					
			,		uttach copy display uni MONITOR		ŧ						

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR

Revision; 2004 April LAN-395 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

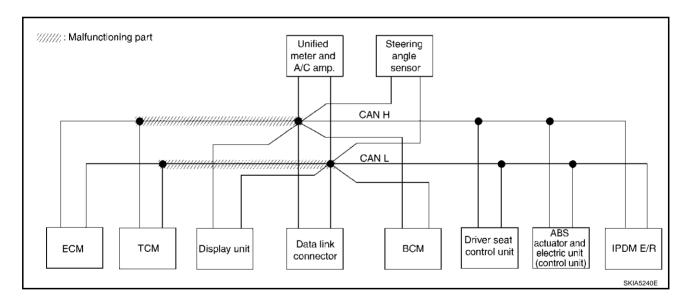
NOTE:

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

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-410</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

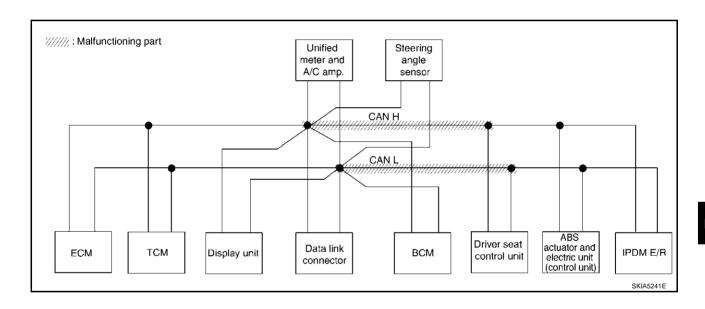
			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	Receive diagnosis									
022201 0101	2111 3013011			ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	∩ и‱ γνи	Ω ΝΆ (ΜΝ	_	UNK A N	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	C ∜√ 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	Π ΜΑ ΜΝ	Π ΝΚ ΑΝ	UNKWN	UNKWN	_	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_		
ABŞ	_	NG	UNKWN	UNI W WN	UNKWN	_	_	_	UNKWN	_	_		



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-410</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			,
022201 0101	LIN 30/30//	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNK A N	UNIXWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	Π ΝΚ(ΛΝ	_
AUTO DRIVE POS.	No invication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKVN	_	_



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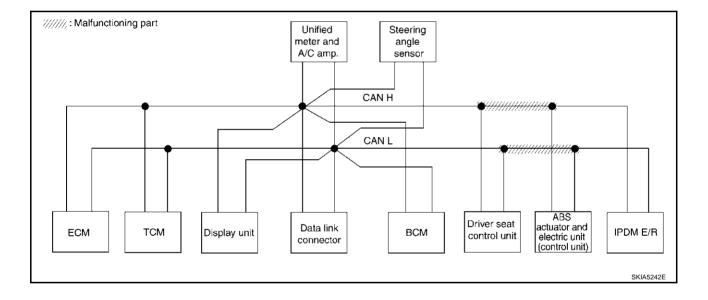
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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-411</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
322231 3131	2111 3013011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNK A N	Π ΜΑ ΜΝ
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	-	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	Π ΝΚ(ΛΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNIMAN	UNKWN	_	_	-	UNKVN	_	_



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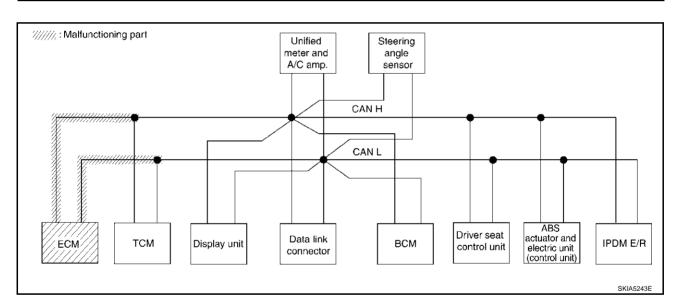
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Case 4
Check ECM circuit. Refer to LAN-412, "ECM Circuit Check".

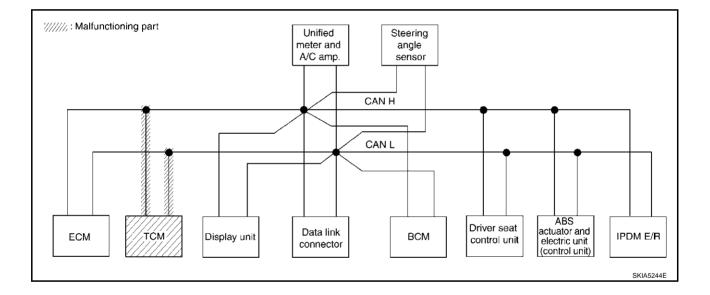
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
3222313131		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	NNR WN	NNKAN	_	NNKAN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK W N	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CA y ∕3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNIMAN	UNKWN	_	_	_	UNKWN	_	_



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Case 5
Check TCM circuit. Refer to <u>LAN-412</u>, "TCM Circuit Check" .

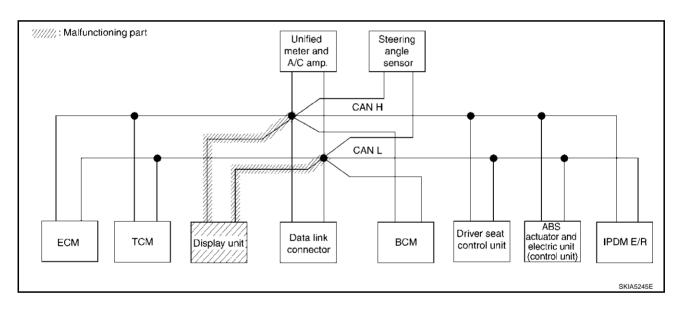
					CAN	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKAN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK\\	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNK W N	_	_	_	UNKWN	_	_



Case 6

Check display unit circuit. Refer to LAN-413, "Display Unit Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIN 30/30//	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	1	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	=	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CA 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	UNKWN	_	_



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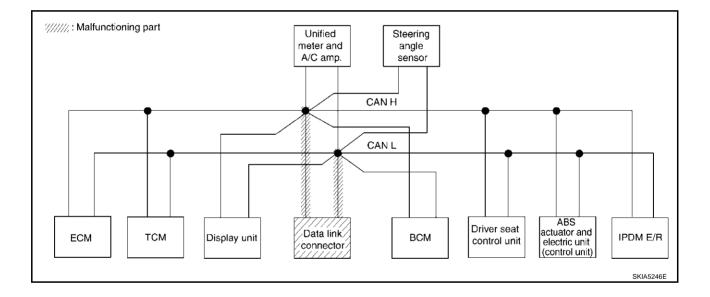
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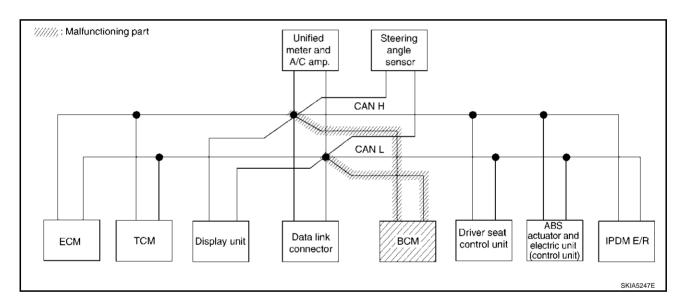
Case 7
Check data link connector circuit. Refer to <u>LAN-413</u>, "<u>Data Link Connector Circuit Check</u>".

					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
022201 0101	LIVI SCICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 8
Check BCM circuit. Refer to <u>LAN-414, "BCM Circuit Check"</u>.

					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	laitial	Transmit				Receive of	diagnosis			
SELECT STOT	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	NNK WN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	_	CAN 7
ВСМ	_	NG	UNKWN	Π ИΚ ΜИ	_	_	_	UN K ₩N	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	_	UNKWN	=
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



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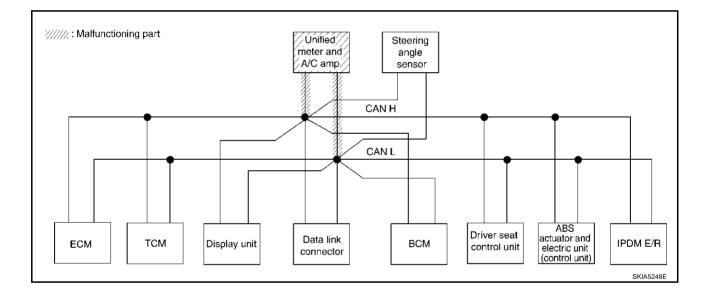
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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-414, "Unified Meter and A/C Amp. Circuit Check".

					CAN	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIW Sercen	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	Ω ΝΚW Μ	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	η νιΚ •νν	_	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UN K ∕VN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



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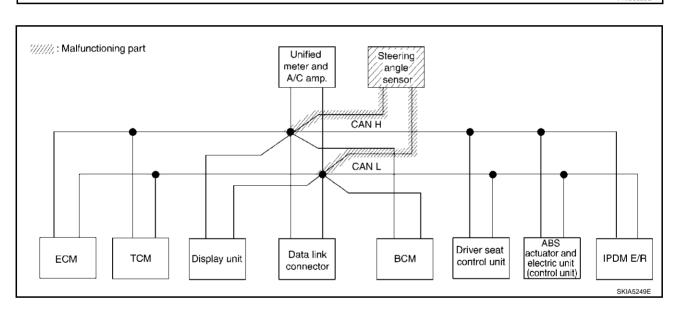
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Case 10

Check steering angle sensor circuit. Refer to LAN-415, "Steering Angle Sensor Circuit Check".

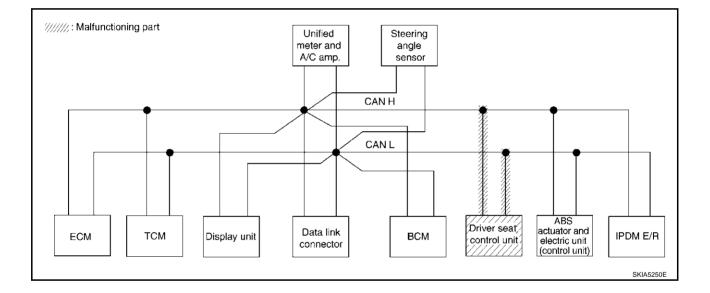
					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIN 30/30//	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	1	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKVN	_	_



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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-415</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

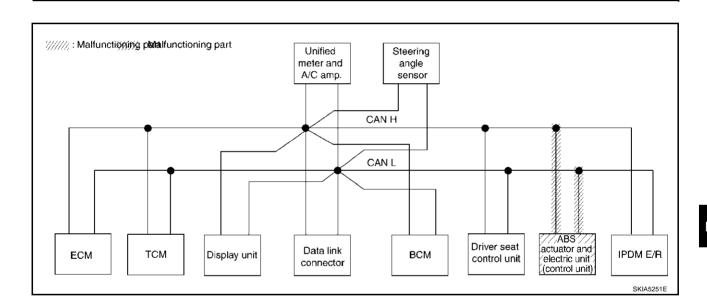
					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS UNKWN UNKWN — UNKWN	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	-	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	1	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-416</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

			Ι		CAI	N DIAG SUI					
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	η νκ γνν	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	NNRMN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK W N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABŞ	_	NG	UNK WN	UNK WN	UNKWN	_	_	_	UNKWN	_	_



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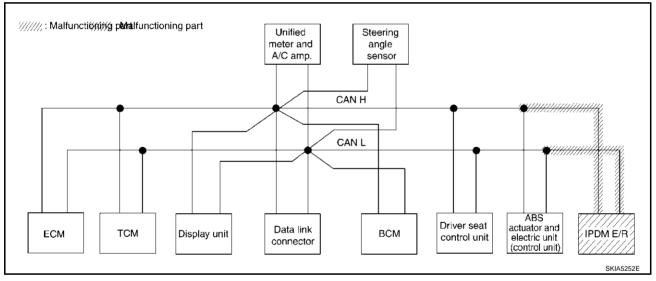
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Case 13
Check IPDM E/R circuit. Refer to LAN-416, "IPDM E/R Circuit Check".

					CAN	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SUICUII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	NNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UN K WN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 14
Check CAN communication circuit. Refer to <u>LAN-417</u>, "CAN Communication Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial	Transmit	Receive diagnosis								
		diagnosis	I	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UN K ₩N	_	Ω ΝΚ ⁄ΜΝ	_	ΩΝ Κ ΑΝ	UN K WN	-	∩ NK WN	Ω ΝΚ ⁄ΜΝ	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	C A 5	_	_	CAN 7	
всм	_	NG	UNK WN	NURWN	_	_	_	Π ΝΚ ΜΝ	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	
ABS	_	NG	UNK WN	UNK/WN	UN K WN	_	_	-	UNKWN	_	_	

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Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-422</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR											
SELECT SYST	SELECT SYSTEM screen		laitial Transmit		Receive diagnosis									
CEEE OF OTEN SOISON		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	_	υ νκ ⁄ων	_	UNKWN	UNKWN	ı	η νΚ γνν	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7			
всм	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	_	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	ı	UNKWN	_	_			

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-422, "IPDM E/R Ignition Relay Circuit Check".

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit			diagnosis	agnosis						
022201 0101	diagnos		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNK W N	_	_	_	Ω ΝΚ (ΛΝ	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_		
ABŞ	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNK WN	_	_		

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[CAN]

AKS006UV

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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

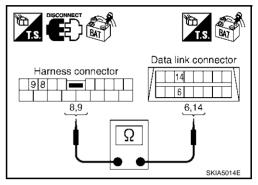
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-392</u>, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

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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 M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

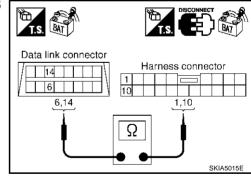
- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L) 14 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

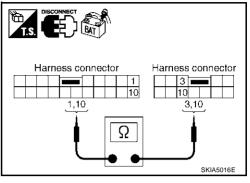
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-392, "Work Flow".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (L) - 3 (L)

: Continuity should exist.

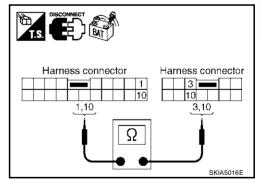
10 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

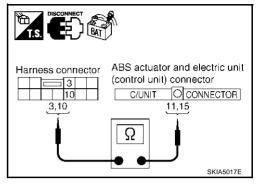
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-392, "Work Flow".

NG >> Repair harness.



AKS006UY

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

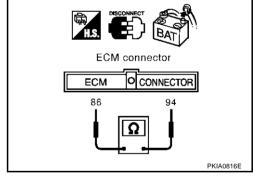
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006UZ

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

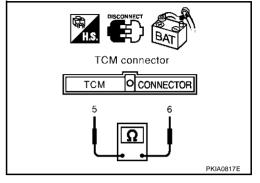
- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



AKS006V0

Display Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

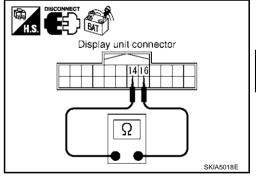
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace display unit.

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



AKS006V1

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

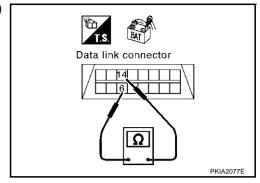
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

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

OK or NG

OK >> Diagnose again. Refer to LAN-392, "Work Flow".

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



AKS006V2

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

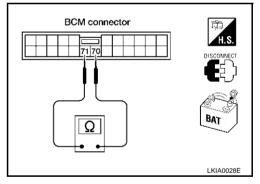
- Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - **71** (Y) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

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



AKS006V3

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

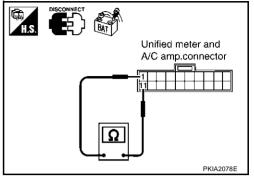
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

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



AKS006V4

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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 M33 terminals 4 (L) and 5 (Y).

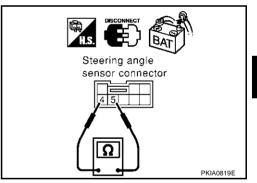
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace steering angle sensor.

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



AKS006V5

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

Driver seat control unit connector Harness connector B301 Harness connector B9

LAN-415 Revision; 2004 April 2003 Murano В

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

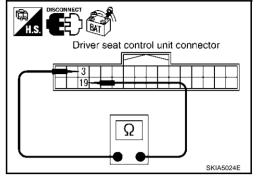
- 1. Disconnect driver seat control unit connector.
- 2. Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

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

OK or NG

OK >> Replace driver seat control unit.

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS006V6

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 E24 terminals 11 (L) and 15 (Y).

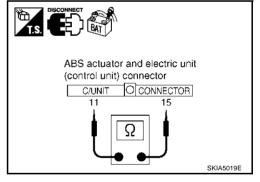
11 (L) - 15 (Y) : Approx. 54 - 66Ω

OK or NG

NG

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

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



IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

48 (L) - 49 (Y)

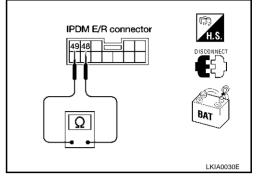
: **Approx. 108 - 132** Ω

OK or NG

OK >> Replace IPDM E/R.

NG

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



AKS006V8

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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

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

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK NG >> GO TO 3.

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

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

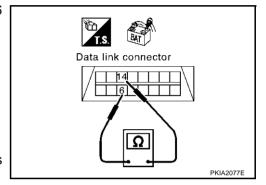
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

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



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

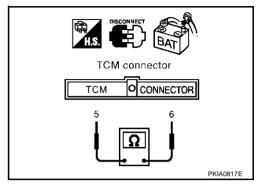
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

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

OK or NG

OK >> GO TO 5.

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



5. CHECK HARNESS FOR SHORT CIRCUIT

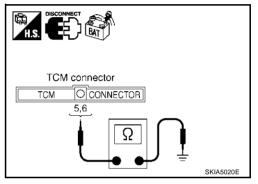
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

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

OK or NG

OK >> GO TO 6.

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



6. CHECK HARNESS FOR SHORT CIRCUIT

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

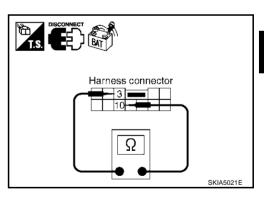
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Check th

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



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7. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 8.

NG

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

8. CHECK HARNESS FOR SHORT CIRCUIT

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

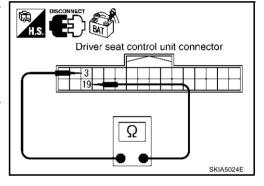
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

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3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

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

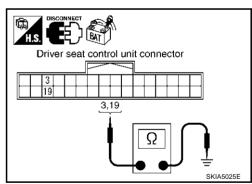
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

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

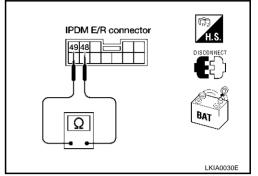
48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

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



11. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

OK >> GO TO 12.

NG

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

IPDM E/R connector 49 48 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-422</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . <u>OK or NG</u>

OK >> Connect all the connectors and diagnose again. Refer to LAN-392, "Work Flow".

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

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IPDM E/R Ignition Relay Circuit Check

AKS006V9

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

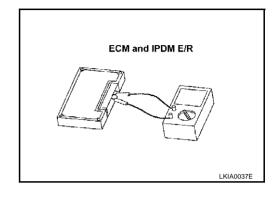
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006VA

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

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



[CAN]

CAN SYSTEM (TYPE 13)

PFP:23710

System Description

AKS006VB

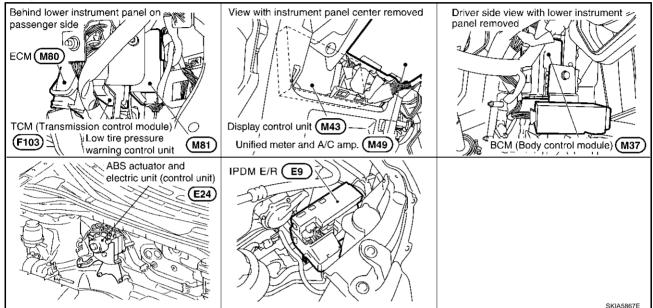
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information 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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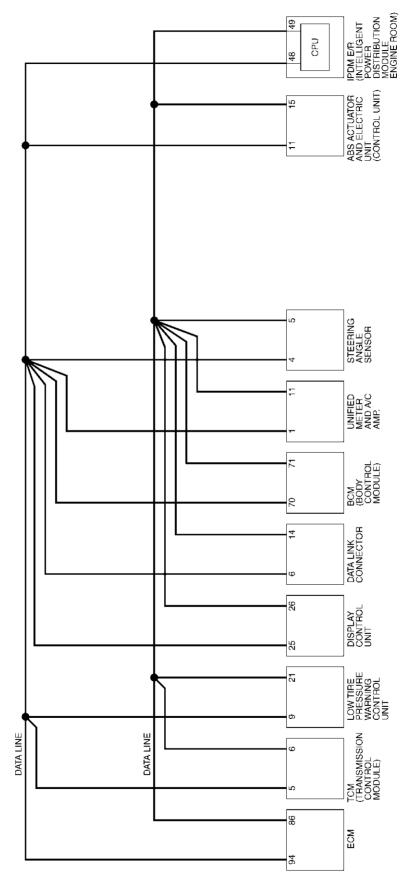
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Schematic AKS006VD



Wiring Diagram - CAN -

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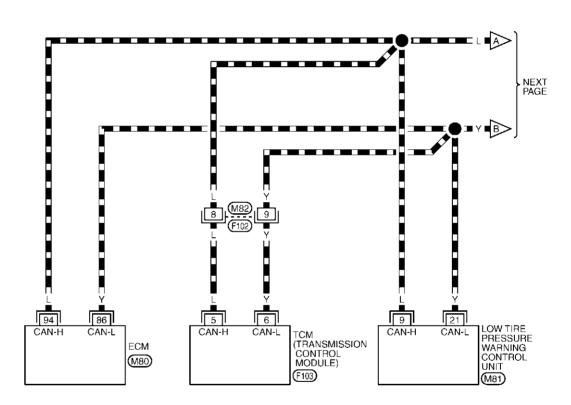
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LAN-CAN-37

: DATA LINE



12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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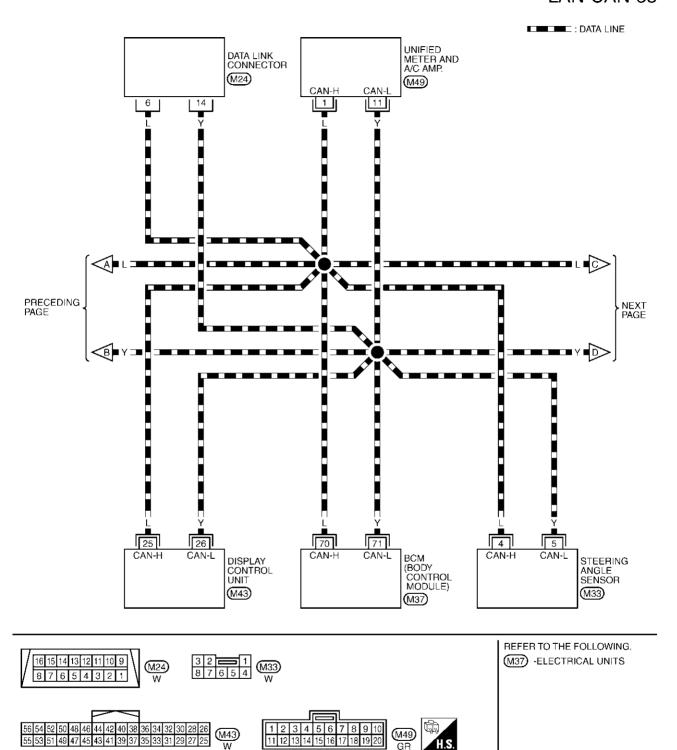
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LAN-CAN-38



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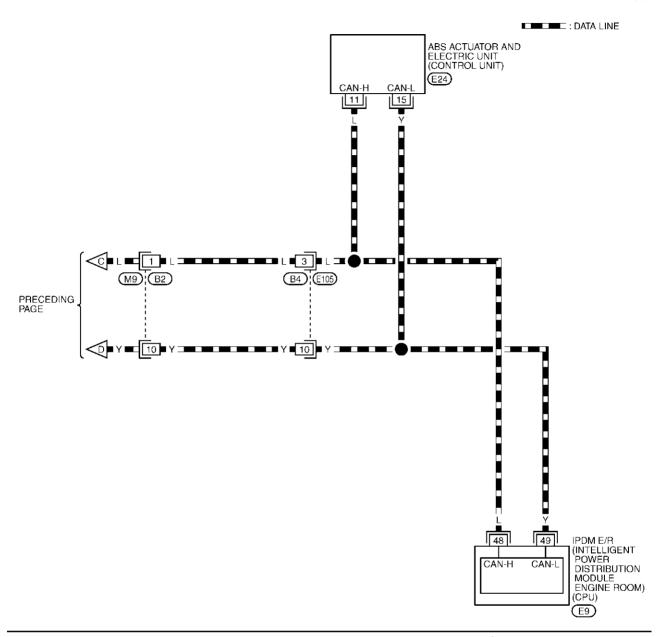
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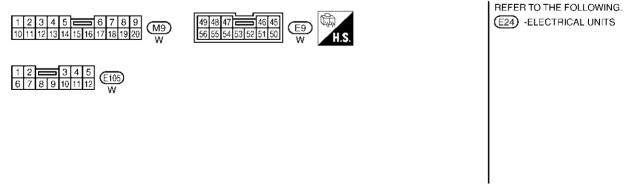
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LAN-CAN-39

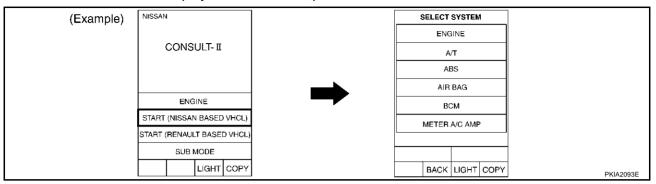




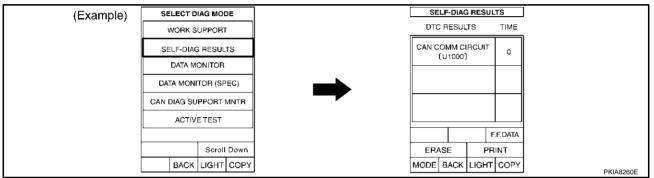
TKWA0974E

Work Flow

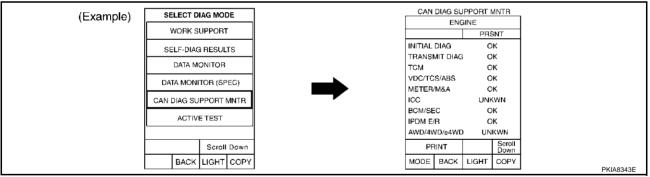
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-430</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-430</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-430</u>, "CHECK SHEET".

CAN SYSTEM (TYPE 13)

[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-430</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-203, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-432</u>, "CHECK SHEET <u>RESULTS</u> (EXAMPLE)".

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CHECK SHEET

NOTE:

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

						CAN DIA	3 SUPPOR					
SELECT SYST	EM screen	Initial	Transmit					eive diagn			VDCTCC	
		diagnosis	diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_		UNKWN	_	1
					_							
			. 1	,			.					
		SE	Attach cop LECT SY	STEM			Attach copy of SELECT SYSTEM					
]							
					Attach c	copy of						
			CAN	N DIAG SU	display cor	ntrol unit	check she	et				
			CAN	N DIAG SU	display cor	ntrol unit	check she	et				
			CAN	N DIAG SU	display cor	ntrol unit	check she	et				
			CAN	N DIAG SU	display cor	ntrol unit	check she	et				
			CAN	N DIAG SU	display cor	ntrol unit	check she	et				

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS
Attach copy of BCM SELF-DIAG RESULTS	Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR
Attach copy of BCM CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR

Revision; 2004 April LAN-431 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

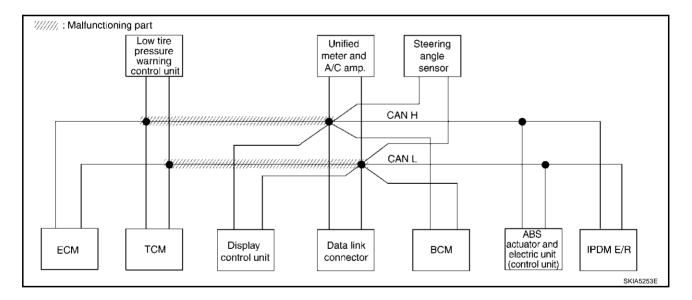
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-445</u>, "Circuit Check Between TCM and Data Link Connector" .

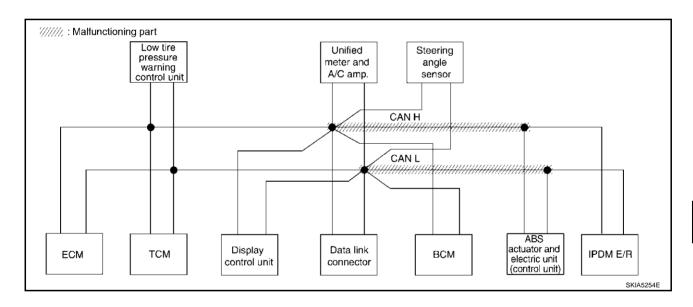
		CAN DIAG SUPPORT MNTR												
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
GEEGT GTOTEM SCICEN		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	-	UNKWN	-	_	UN K ₩N	Ω ΝΚ ⁄ΜΝ	_	η νκ ⁄νν	UNIVAN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	-	UNKWN	_	_	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN ORC 3	_	CAN C RC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC		
всм	_	NG	UNKWN	UN K ₩N	-	_	_	_	UNKWN	-	_	UNKWI		
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNK WN	UNK WN	UNKWN	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_		



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-445</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313101	2111 0010011	diagnosis	I ' '	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	-	UNKWN	_	ı	UNKWN	UNKWN	_	Ω ΝΚ ∕ΝΝ	UNIVAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_		ı	UNKWN	1	UNK W N	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	-	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNI W N	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	_	UNK WN	_	_



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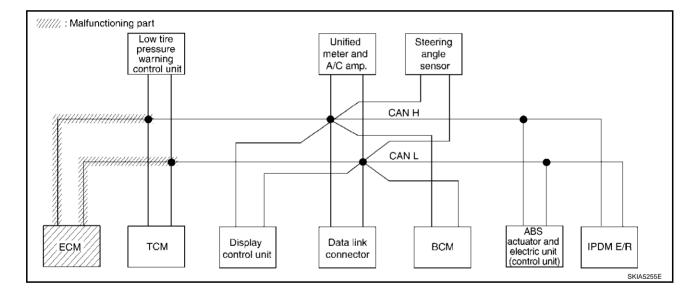
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Case 3
Check ECM circuit. Refer to <u>LAN-446</u>, "ECM Circuit Check".

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	∩ NK WN	_	_	∩ NK WN	NNAMN	_	n uk wu	NNNNN
TRANSMISSION	No indication	NG	UNKWN	UNI W N	_	-	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CAC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNK VN	_	_	_	_	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	_	UNKWN	_	_



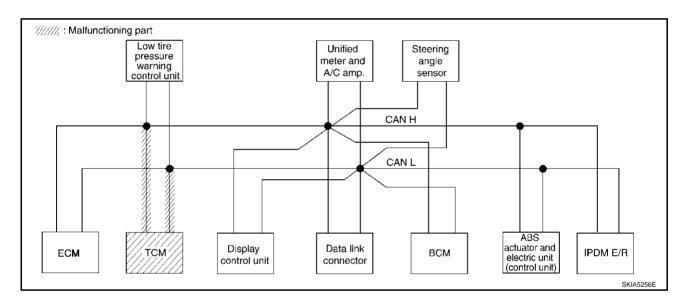
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Case 4
Check TCM circuit. Refer to <u>LAN-447, "TCM Circuit Check"</u>.

						CAN DIAG	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	iosis			
02220101011	2111 3070311	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	1	UNK WN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UN K ₩N	_	_	_	-	UNKWN	_	_



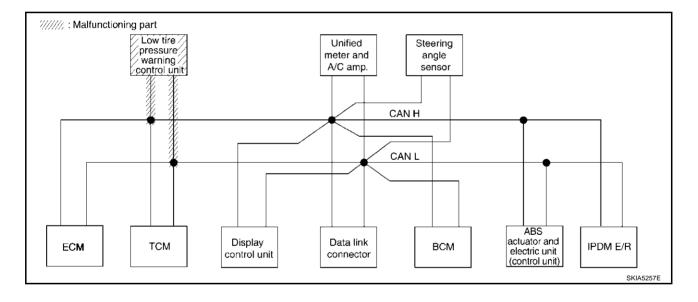
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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-447</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
522201 51011	- M 00/00/1	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	1	UNKWN	l	-	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	-	_	UNKWN	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CAC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKVN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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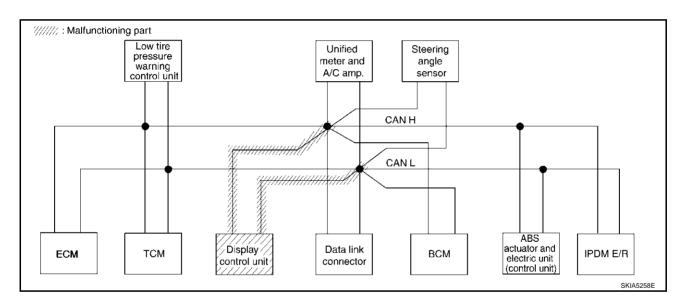
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Case 6

Check display control unit circuit. Refer to LAN-448, "Display Control Unit Circuit Check".

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	iosis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CAC 1	CANCAC3	_	CAN CAC 6	_	CAN CIAC 2	CANCAC 5	_	_	CAN CAC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



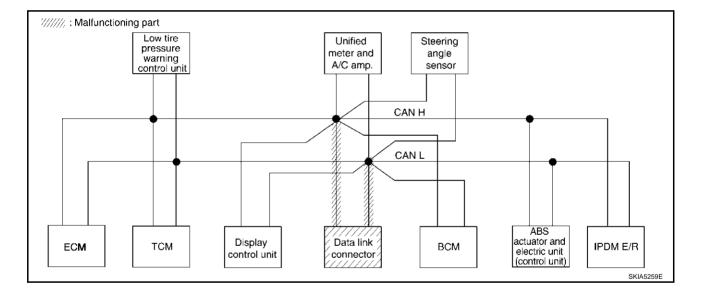
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Case 7
Check data link connector circuit. Refer to <u>LAN-448</u>, "<u>Data Link Connector Circuit Check</u>" .

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131	LIN GOIDGII	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	-	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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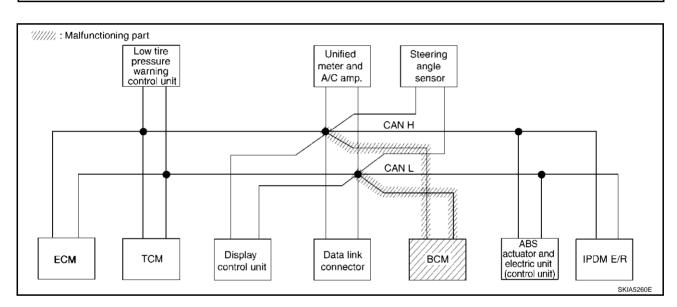
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Case 8
Check BCM circuit. Refer to <u>LAN-449</u>, "BCM Circuit Check".

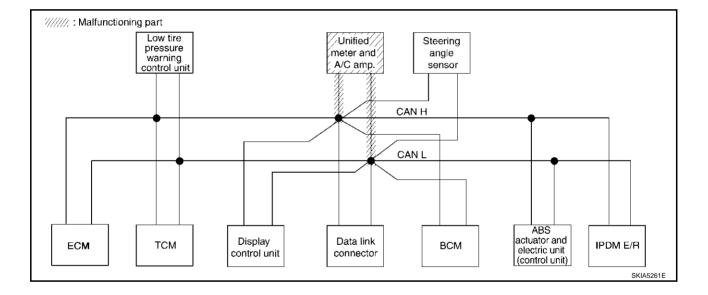
						CAN DIAG	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CRC 2	CAN CIRC 5	_	-	CAN CIRC
всм	_	NG	UNI S WN	Π ΝΚW N	-	_	-	_	NMANN	-	-	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	UNKWN	_	-



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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-449, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYSTI	EM screen	Initial	Transmit				Rec	eive diagn	osis			
32223131311		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	η νκ ⁄νν	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	_	Π ΝΚ ΑΝΝ	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	-	υ νκ⁄ ων	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CAN CIRC 6	_	CAN CIRC 2	CANCAC 5	-	_	CAN CIRC 7
всм	-	NG	UNKWN	UNKWN	-	_	_	_	Π ИΚ (ΜИ	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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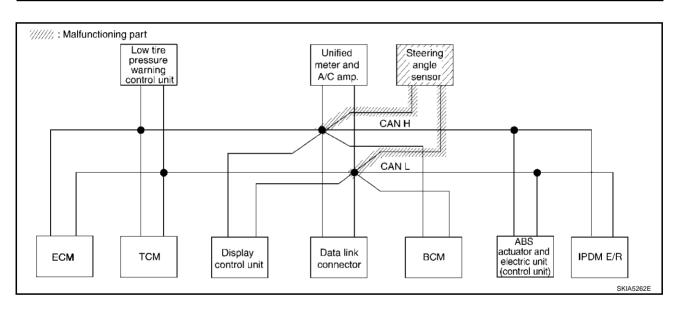
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Case 10

Check steering angle sensor circuit. Refer to LAN-450, "Steering Angle Sensor Circuit Check".

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	ı	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	1	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNK WN	_	_

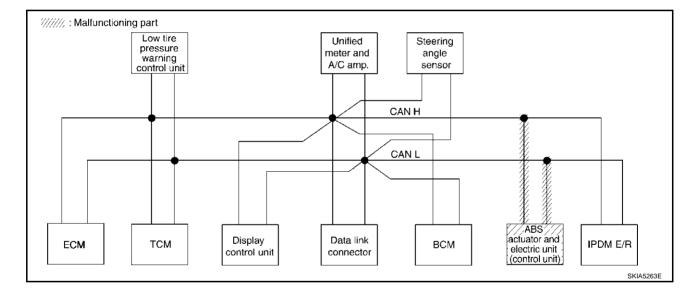


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Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-450</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	1	-	UNKWN	UNKWN	_	n nk ∕wи	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	ı	_	-	UNKWN	_	UNK WN	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	-	-	_	UNKWN	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNK WN	UNKWN	UNR WN	_	_	_	_	UNK WN	_	_

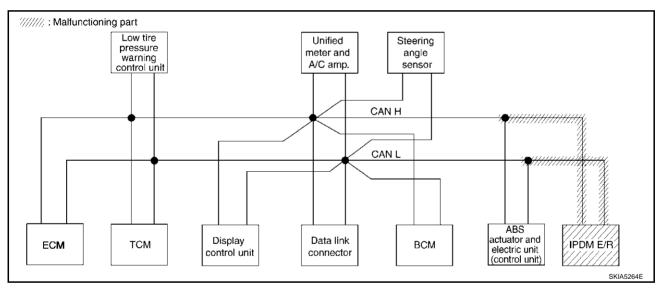


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Case 12
Check IPDM E/R circuit. Refer to LAN-451, "IPDM E/R Circuit Check".

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
322231 3101	LINI GOIOGII	diagnosis		ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	1	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	NMAMN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CANC RC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	Π ΝΚ (ΜΝ
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-



Case 13
Check CAN communication circuit. Refer to <u>LAN-451</u>, "CAN Communication Circuit Check".

						CAN DIA	3 SUPPOR					
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	ΩN K ₩N	1	∩ M NN	_	_	∩ NK MN	n M MN	_	n nk {wu	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	-
Display control unit	_	CAN COMM	CAN ORC 1	CANCRC 3	_	CAN C/RC 6	-	CAN C/RC 2	CANORC 5	_	_	CAN C RC 7
всм	_	NG	UNK WN	UNK W N	_	_	_	_	UNIVAN	-	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNK WN	UNKWN	UNRWN	_	_	_	-	UNK WN	_	

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-454, "IPDM E/R Ignition Relay Circuit Check"</u> .

						CAN DIA	3 SUPPOR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
			is diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	∩ M AN	-	_	UNKWN	UNKWN	_	η νκ ⁄γν	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	-	CAN CIRC	
всм	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	-	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNIONN	UNKWN	UNKWN	UNKWN	_	_	UN K ₩N	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-454, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	3 SUPPOI	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
	2111 3010311		osis diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	NNAMU	-	-	-	_	n M γγν	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	1	_	_	UNKWN	_	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7	
всм	_	NG	UNKWN	UNKWN	ı	ı	_	_	UNKWN	-	-	UNKWN	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	
ABS	_	NG	UNKWN	UN W WN	UNKWN	ı	_	_	ı	Π ΝΚ ΛΝ		_	
												PKIB0656E	

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

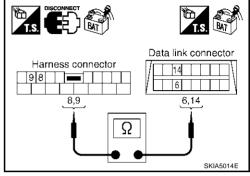
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-428, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

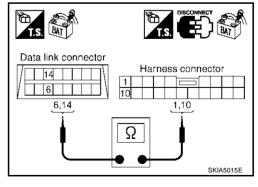
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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LAN-445 Revision; 2004 April 2003 Murano

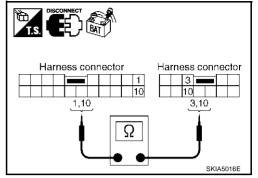
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L). 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector. 1.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L)

: Continuity should exist.

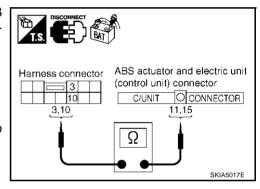
10 (Y) - 15 (Y)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-428, "Work Flow".

NG >> Repair harness.



AKS006VI

ECM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector. 1.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

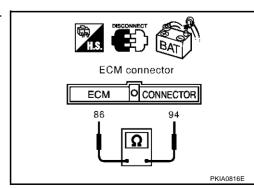
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

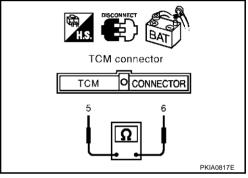
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Replace 1Clvi

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

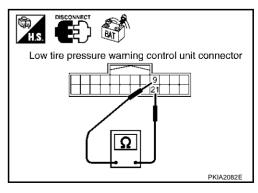
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure war

>> Repair harness between low tire pressure warning control unit and TCM.



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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 M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

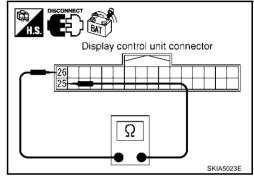
OK or NG

OK

>> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



AKS006VM

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

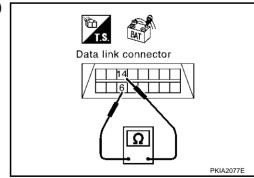
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-428, "Work Flow"</u>.

NG >> Repair harness between data link connector and BCM.



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BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

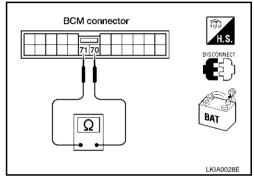
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



4KS006VO

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

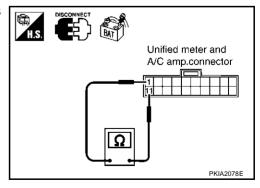
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.
NG >> Repair harness between unified me

>> Repair harness between unified meter and A/C amp. and data link connector.



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Revision; 2004 April LAN-449 2003 Murano

Steering Angle Sensor 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 steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

: Approx. 54 - 66 Ω

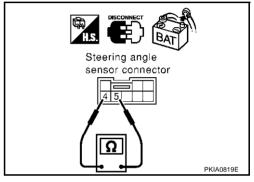
OK or NG

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

AKS006VQ

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

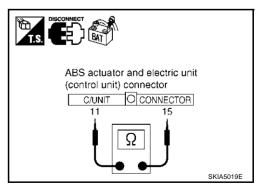
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace ABS actuator and electric unit (control unit).

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



CAN SYSTEM (TYPE 13)

[CAN]

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

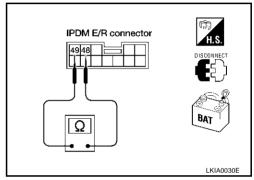
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side and harness side).
- **ECM**
- **TCM**
- Low tire pressure warning control unit
- Display control unit
- **BCM**
- Unified meter and A/C amp.
- Steering angle sensor
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. LAN

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

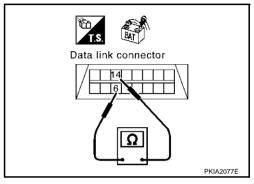
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

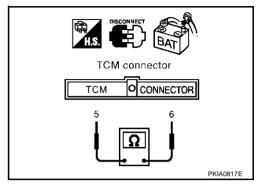
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

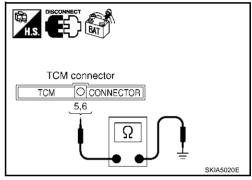
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

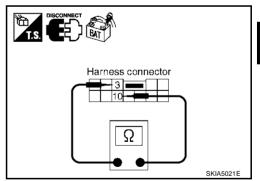
- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.

Harness connector

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Revision; 2004 April LAN-453 2003 Murano

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8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

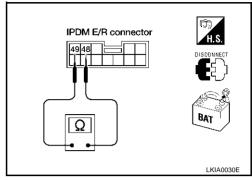
: Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 4948 48, 49 BAT LKIA0036E

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-454}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-428, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS006VT

Check the following. If no malfunction is found, replace the IPDM E/R.

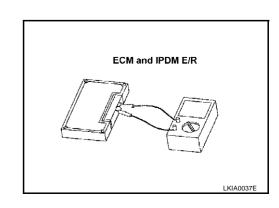
- IPDM E/R power supply circuit. Refer to <u>PG-45</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006VU

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



CAN SYSTEM (TYPE 14)

PFP:23710

System Description

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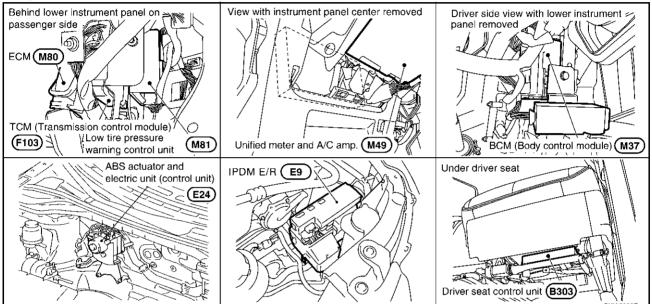
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information 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.

Component Parts and Harness Connector Location

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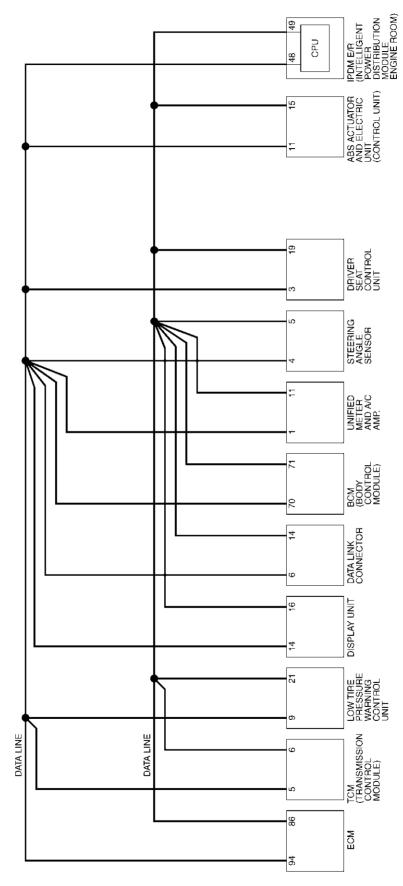
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Wiring Diagram - CAN -

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LAN-CAN-40

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12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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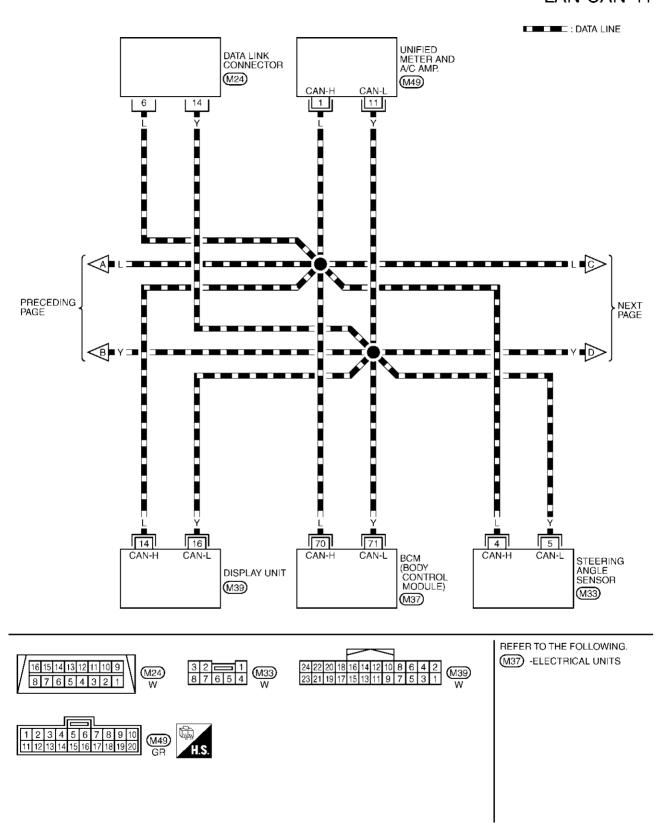
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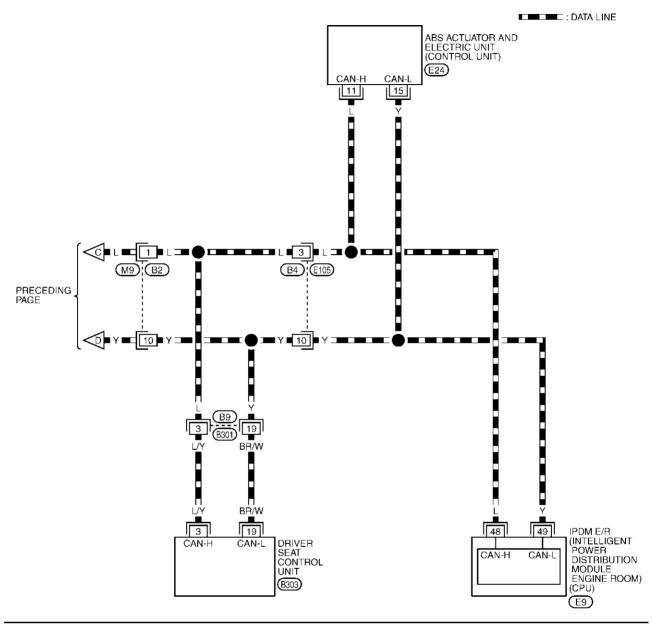
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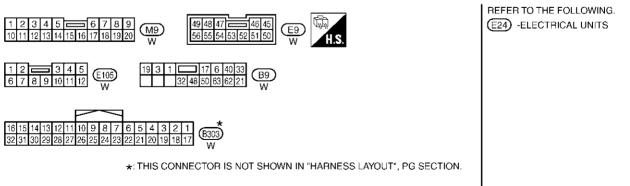
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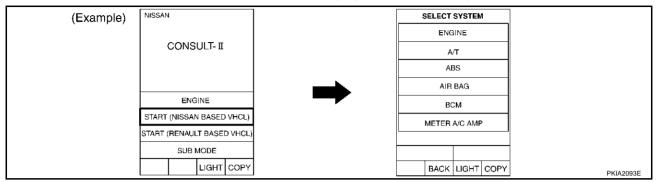




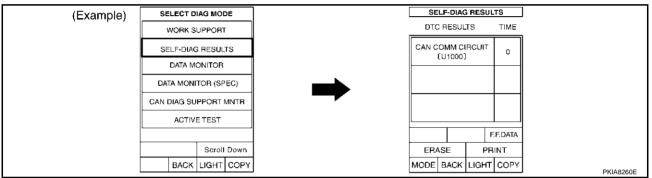
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Work Flow

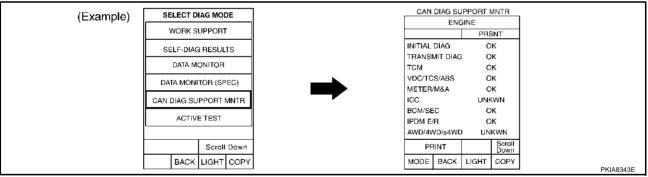
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" displayed on CONSULT-II.



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-462</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-462, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-462</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 14)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-462</u>, "CHECK SHEET".

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-464, "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.

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		П	T.	Rec	eive diagn				
		diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_		UNKWN	_	_
			Attach copy of SELECT SYSTEM SELECT SYSTEM					1				
				CAN DI	Attach c display	unit	shoot					
				CAN DIA	AG MONTI	OR check	sileet					

Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of TRANSMISSION SELF-DIAG RESULTS Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS

Attach copy of BCM SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR Attach copy of BCM CAN DIAG SUPPORT MNTR

Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

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CHECK SHEET RESULTS (EXAMPLE)

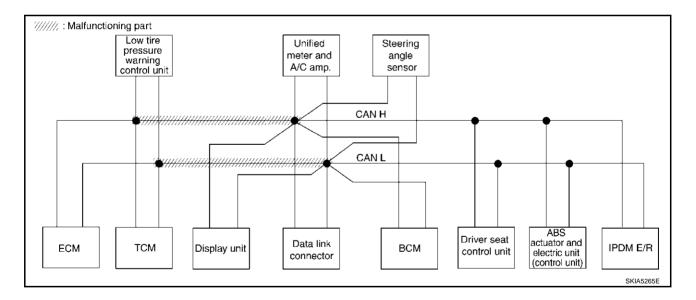
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-479</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

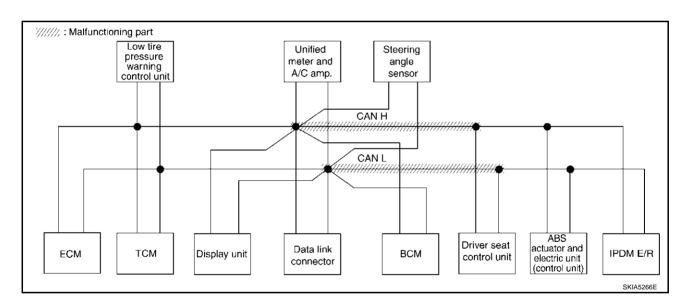
						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	2111 3013011		gnosis diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNK WN	_	η νκ ⁄γν	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKW N	_	-	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	Ω ΝΚ ΑΝ	η νκ γνν	n nk {∧ν	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNR WN	_	_	UNKWN	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	_	_	_	UNKWN	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-479</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

						CAN DIA	3 SUPPOR	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
022201 0101	2111 3013011		diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	η νΚ ⁄ΝΝ	NNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	_	n nk {∧n	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UN K ∕VN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	-	_	-	
ABS	-	NG	UNKWN	UNK WN	UNK WN	_	_	_	_	UNK WN	_	_	



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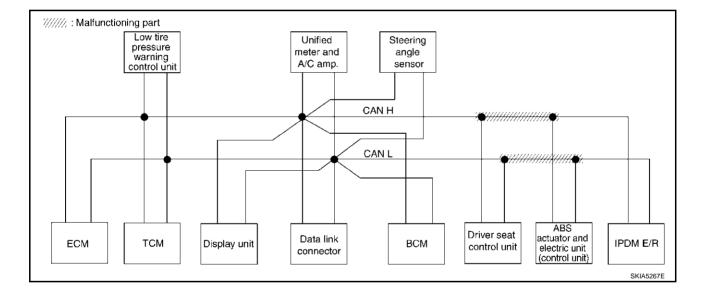
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Case 3

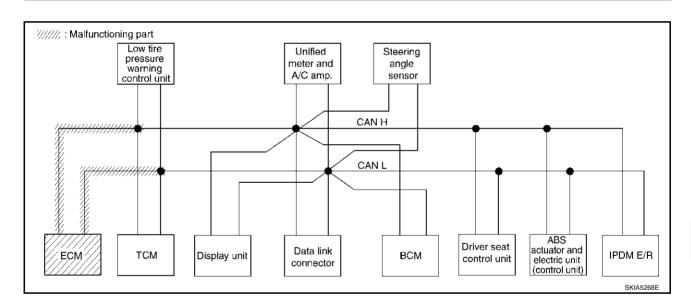
Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-480</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	3 SUPPOI	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
022201 0101	LIVI SCICCII	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	ΩN K WN	NNK WN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	_	UNK WN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	-	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	UNK WN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UN K ∜NN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	-	-	
ABS	_	NG	UNKWN	UNK/WN	UNK WN	_	_	_	_	UNK ∕ WN	_	_	



Case 4
Check ECM circuit. Refer to LAN-481, "ECM Circuit Check".

						CAN DIA	SUPPOR	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
02220101011	_m	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	-	NNRWN	-	_	UNK WN	UNKWN	_	υ νκ ⁄νν	NNKWN	
TRANSMISSION	No indication	NG	UNKWN	NNK WN	_	_	_	-	UNKWN	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	-	UNKWN	_	_	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7	
всм	_	NG	UNKWN	UN K WN	_	ı	-	ı	UNKWN	ı	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	_	_	_	
ABS	-	NG	UNKWN	UNK/WN	UNKWN	_	_	_	-	UNKWN	_	_	



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Case 5
Check TCM circuit. Refer to <u>LAN-481</u>, "TCM Circuit Check".

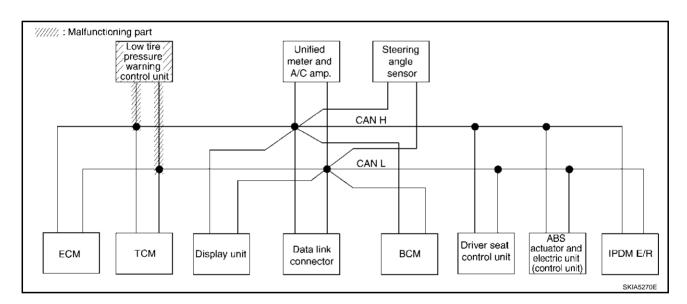
						CAN DIA	SUPPOR	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
0222010101	_m	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	NNR MN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	-	_	UNKWN	_	_	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	1	CAN 2	CAN 5	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	n uk ∕wu	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	Π ИΚW И	-	-	UNKWN	UNKWN	_	-	_	
ABS	_	NG	UNKWN	UNKWN	UN K ∳N	_	_	_	_	UNKWN	_	_	

//////,: Malfunctioning part Low tire pressure warning control unit Steering Unified meter and angle A/C amp. sensor CAN H CAN L ABS Driver seat actuator and Data link ECM **TĆM** всм IPDM E/R Display unit control unit electric unit (control unit) connector SKIA5269E

Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-482</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 3013011	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	ı	NG	UNKWN	ı	UNKWN	ı	_	UNKWN	UNKWN	-	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	ı	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	C 4√ 16	_	CAN 2	CAN 5	_	-	CAN 7
всм	-	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UN K WN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



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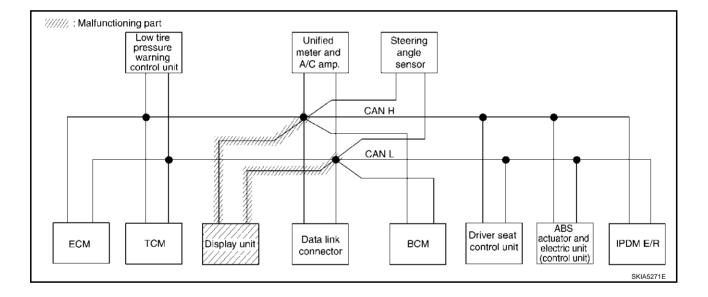
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Case 7
Check display unit circuit. Refer to <u>LAN-482</u>, "<u>Display Unit Circuit Check</u>".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIW SOICCII		diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	1	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN								_	_
Display unit	_	CAN COMM	CAN 1	C M 3	_	CAN 6	1	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-		_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	1	UNKWN	UNKWN	_	-	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



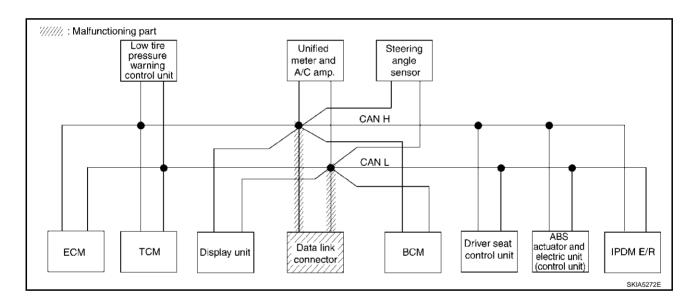
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Case 8
Check data link connector circuit. Refer to LAN-483, "Data Link Connector Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131	2111 3013011	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	-	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_

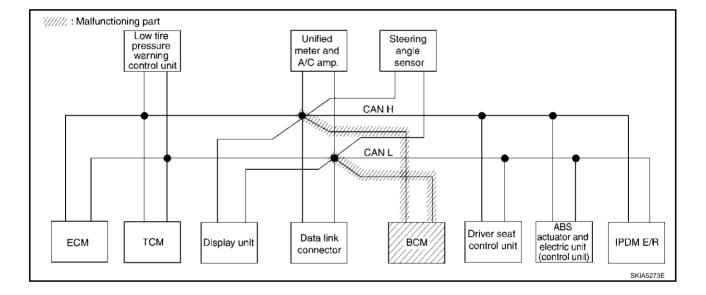


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Case 9
Check BCM circuit. Refer to <u>LAN-483, "BCM Circuit Check"</u>.

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIW SOICCII	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	UNK WN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	ı	ı	ı	UNKWN	_	ı	1
Display unit		CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNK WN	UN K WN	_	-	_	_	UNK WN	_	-	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNK WN	UNKWN	_	1	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_



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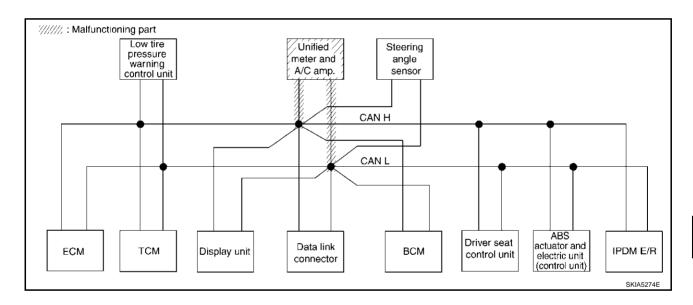
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Case 10

Check unified meter and A/C amp. circuit. Refer to LAN-484, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
GELEGI GIGI	2141 3010011	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNRWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	Π Μ ΜΝ	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNION	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UM ∳ WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNK WN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	=	UNKWN	_	_



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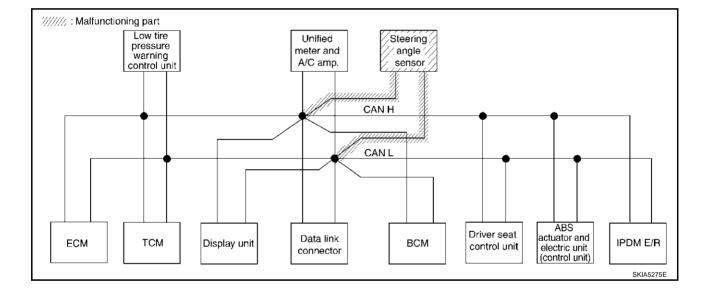
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Case 11
Check steering angle sensor circuit. Refer to <u>LAN-484</u>, "Steering Angle Sensor Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIW SOIDCIT		diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	_	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UN K ₩N	_	_



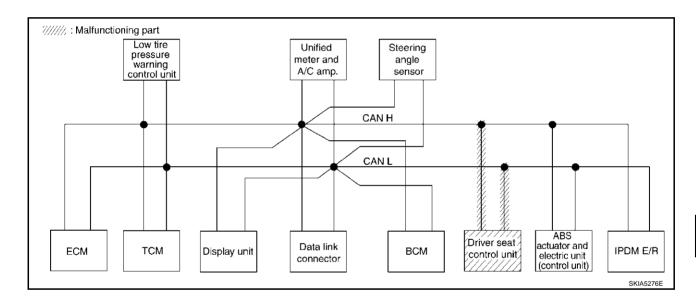
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Case 12
Check driver seat control unit circuit. Refer to <u>LAN-485</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_		_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_

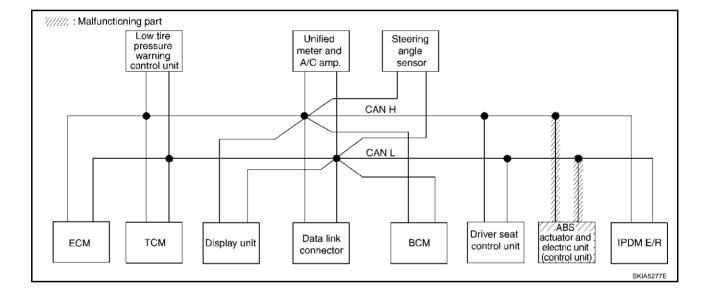


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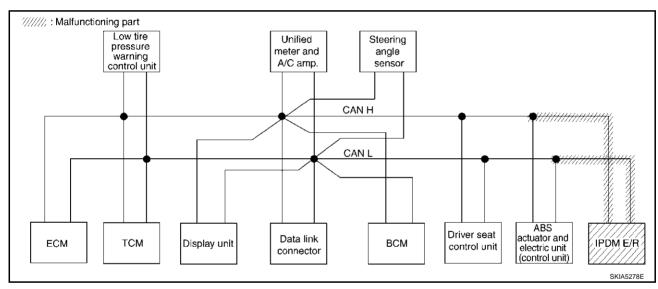
Case 13
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-485</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SCICCII	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	n иκ γνи	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNK WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	1	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	Ω ΝΚγ ΛΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNK WN	UNK WN	UNK WN	_	_	_	_	UNK WN	_	_



Case 14
Check IPDM E/R circuit. Refer to LAN-486, "IPDM E/R Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	2111 3013011	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	-		UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	1	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	1	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7
всм	-	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	1	UNKWN	UNKWN	_	_	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



Case 15
Check CAN communication circuit. Refer to <u>LAN-487</u>, "CAN Communication Circuit Check".

						CAN DIAG	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIN 30/30//	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	Ω ΝΚ ΑΝΙ	_	Ω ΝΚ ⁄ΜΝ	_	_	UNKWN	Ω ΝΚ ⁄ΜΝ	_	η νκ ⁄νν	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	=	CAN COMM	C 4√ 11	C √√ 3	-	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	1	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ABS	-	NG	UNK WN	UNK WN	UNK WN	_	_	_	_	UNK WN	_	1

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Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-491, "IPDM E/R Ignition Relay Circuit Check"</u> .

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SCICCII	diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	∩WKWN	_	_	UNKWN	UNKWN	_	η νκ γνν	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	NAMAN	UNKWN	UNKWN	UNKWN	1	_	UN K ₩N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	n uk wu	-	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-491</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN DIA	SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis		ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UN A WN	_	_	_	_	UNK WN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	-	ı	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	Ī	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	ı	1	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UN K WN	UNKWN	_	_	-	_	UN K ∕VN	_	_
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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

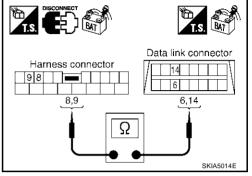
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-460, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

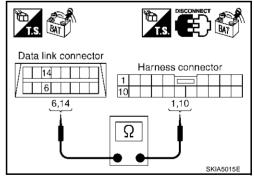
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

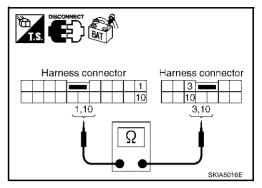
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-460, "Work Flow"</u>.

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

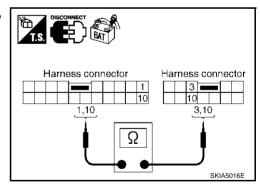
- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

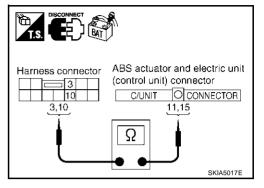
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-460, "Work Flow".

NG >> Repair harness.



AKS006W3

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

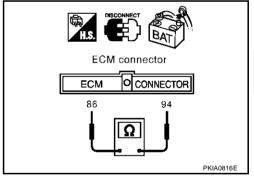
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006W4

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

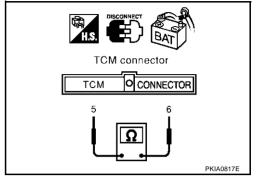
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. **54 - 66** Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

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1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

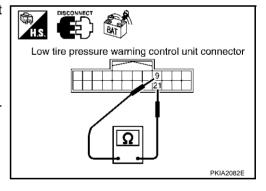
- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure warning control unit and TCM.



Display 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 display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

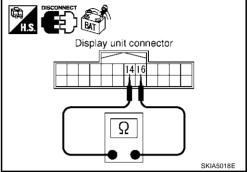
- 1. Disconnect display unit connector.
- Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

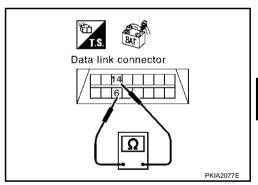
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. 54 - 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-460, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

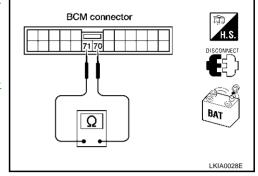
70 (L) - 71 (Y)

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS006W9

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

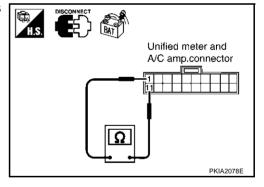
- Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace unified meter and A/C amp.

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS006WA

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

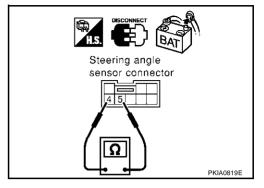
4 (L) - 5 (Y) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

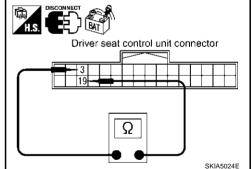
3 (L/Y) - 19 (BR/W) : Approx. 54 -
$$66\Omega$$

OK or NG

NG

OK >> Replace driver seat control unit.

> >> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

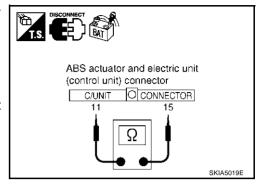
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >>

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

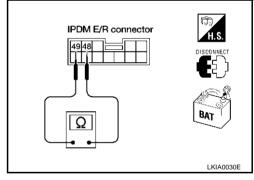
OK or NG

NG

OK >

>> Replace IPDM E/R.

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

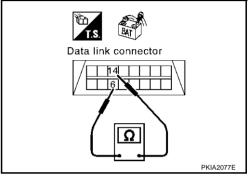
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

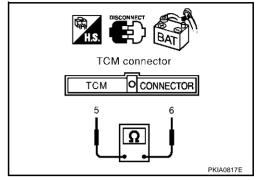
- Disconnect TCM connector. 1.
- Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

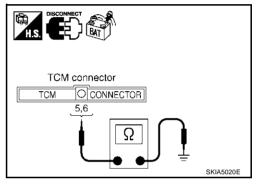
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

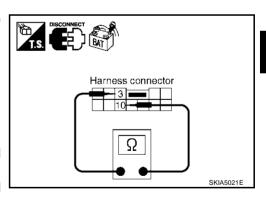
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

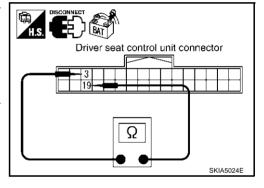
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

10

3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

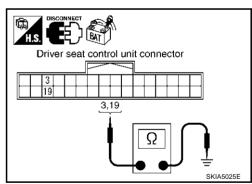
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

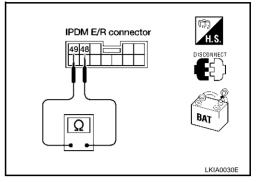
: Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 12.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 49/48 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-491</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . <u>OK or NG</u>

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-460, "Work Flow"</u> .

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

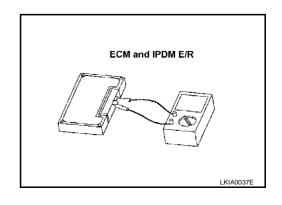
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 15)

PFP:23710

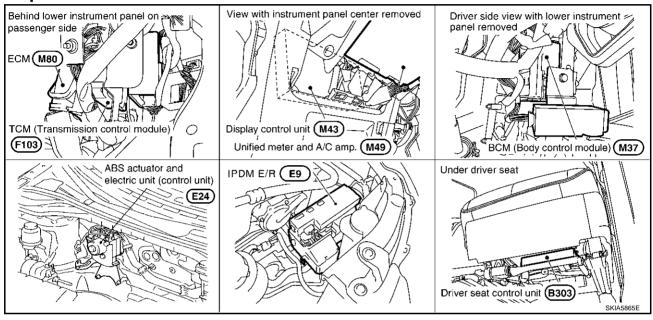
System Description

AKS006WH

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

AKS006WI



Schematic AKS006WJ Α IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM) 49 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 12 С D Е 6 DRIVER SEAT CONTROL UNIT F ß G Н J 0/ DATA LINK CONNECTOR LAN DISPLAY CONTROL UNIT M 25 TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 86 ECM 94 TKWA0979E

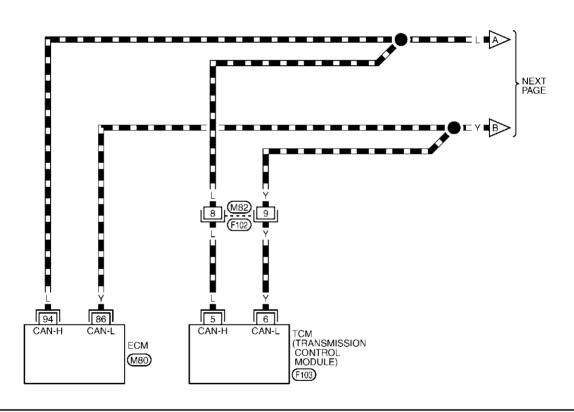
LAN-493 2003 Murano Revision; 2004 April

Wiring Diagram - CAN -

AKS006WK

LAN-CAN-43

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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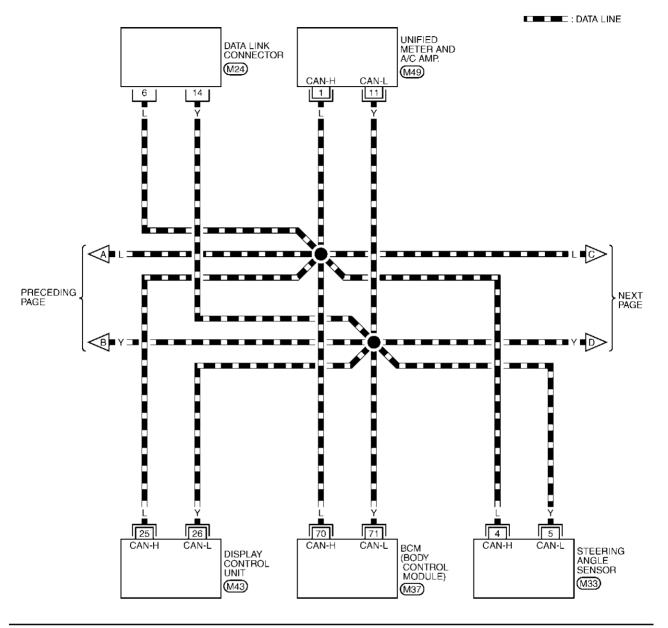
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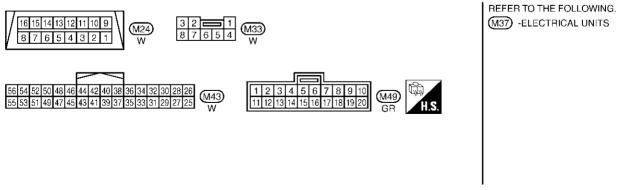
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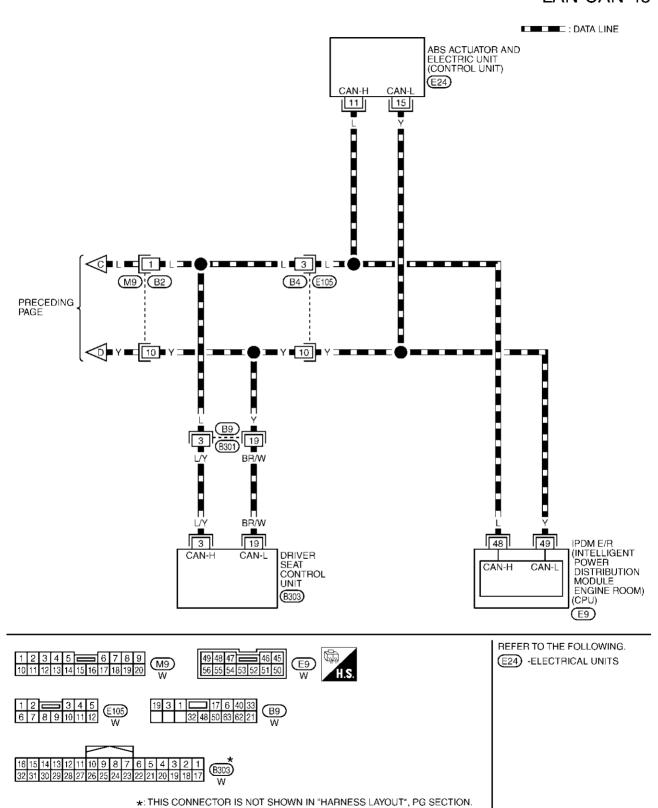
LAN-CAN-44





TKWA0981E

LAN-CAN-45

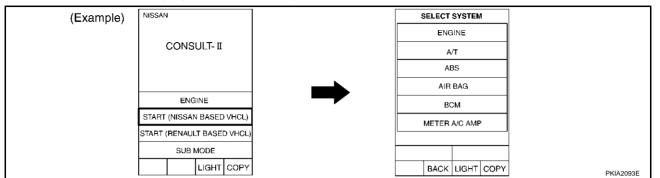


TKWA0982E

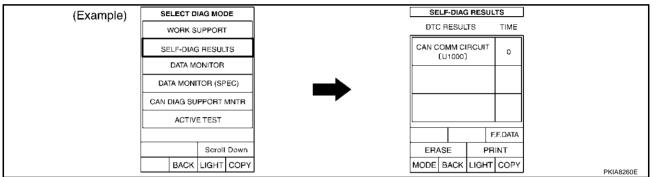
Work Flow

AKS00C59

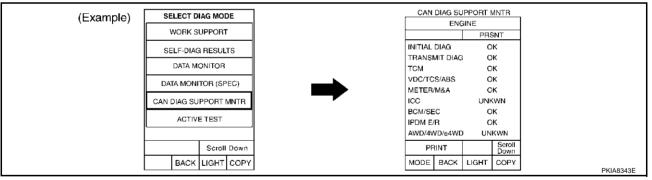
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-499</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-499</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line <u>Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-499</u>, <u>"CHECK SHEET"</u>.

Revision; 2004 April LAN-497 2003 Murano

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CAN SYSTEM (TYPE 15)

[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-499</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-501, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

			,		CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis						
			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	_	_
Symptoms :											

Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM

Attach copy of display control unit CAN DIAG SUPPORT MONITOR check sheet

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Attach copy of	Attach copy of	Attach copy of
ENGINE	TRANSMISSION	BCM
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of
ENGINE	TRANSMISSION	BCM
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR
Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR

CHECK SHEET RESULTS (EXAMPLE)

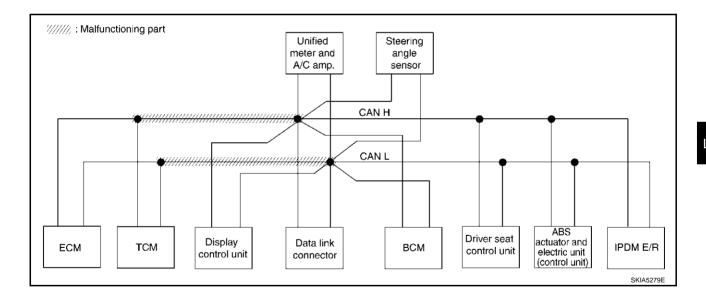
NOTE:

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 data link connector. Refer to <u>LAN-515</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

				CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial diagnosis	Transmit		Receive diagnosis								
				ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UN A WN	UNK WN	_	UN K ₩N	ΠΝ Κ (ΛΝ		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CANOTIC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNRWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_		
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNKWN	_	_		



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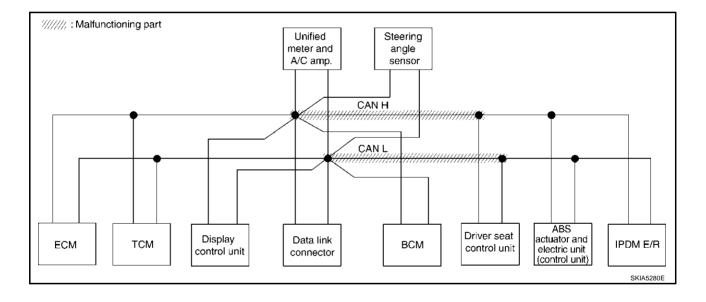
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Case 2
Check harness between data link connector and driver seat control unit. Refer to <u>LAN-515</u>, "Circuit Check Between Data Link Connector and Driver Seat Control Unit".

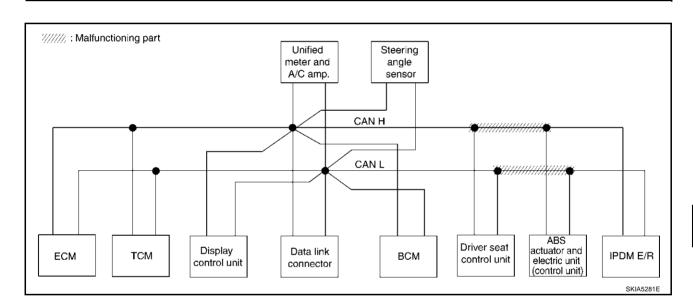
			CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial Transmit			Receive diagnosis							
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	Ω ΝΚ ΜΝ	UNK WN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNK WN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	-	_	
ABS	_	NG	UNKWN	UN K ∕WN	UNKWN	_	_	_	UNKWN	_	_	



Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-516</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

			CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis							
		diagnosis	l I	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	Ω ΝΚ(ΛΝ	UNK WN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	1	_	UNKWN	_	NNRWN	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CRC 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNK WN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	-	UNKWN	UNKWN	_	_	_	
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNKWN	_	_	



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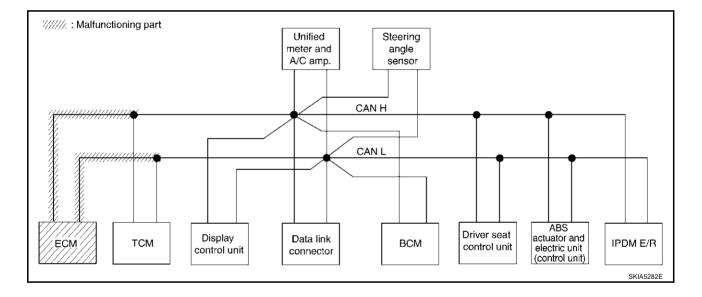
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Case 4
Check ECM circuit. Refer to <u>LAN-517</u>, "ECM Circuit Check".

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
		diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/P		
ENGINE	_	NG	∩ ИК МИ	_	Π ΝΚ ΛΝ	-	NNRWN	UNIX WN	_	ONK WN	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	Π ΝΚ ΝΝ	_	_	_	UNKWN	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	Ω ΝΚ ΑΝ	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	_	-		
ABS	_	NG	UNKWN	ONR WN	UNKWN	_	_	_	UNKWN	_	_		



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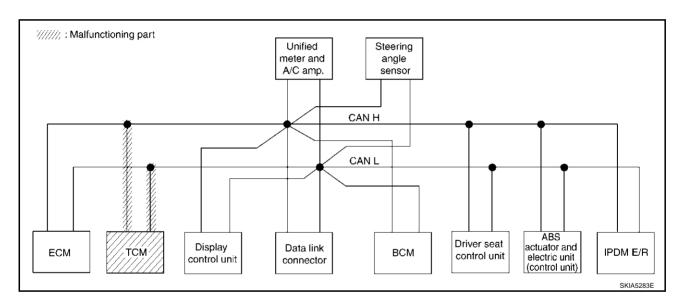
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Case 5
Check TCM circuit. Refer to <u>LAN-517</u>, "TCM Circuit Check".

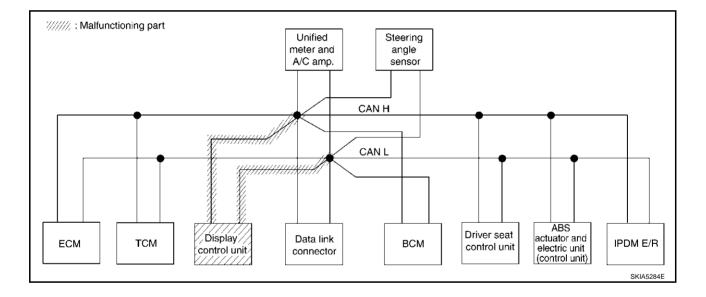
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
3222373731		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	1	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K WN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	UNKWN	_	_



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Case 6
Check display control unit circuit. Refer to <u>LAN-518</u>, "<u>Display Control Unit Circuit Check"</u>.

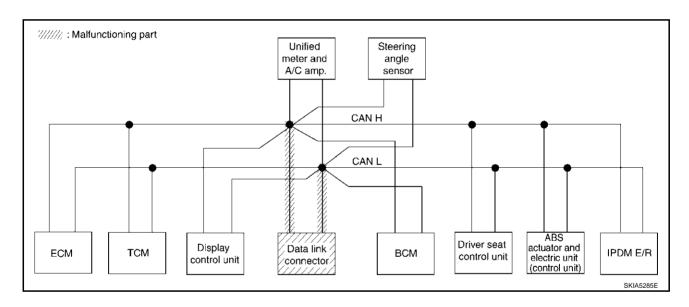
					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222070701	2111 3013311	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CAC 1	CAN CAC 3	_	-	CAN CAC 2	CAN CAC 5	_	_	CAN CAC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UN K WN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	-	_
ABŞ	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



Case 7

Check data link connector circuit. Refer to LAN-518, "Data Link Connector Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222010101	2111 0010011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



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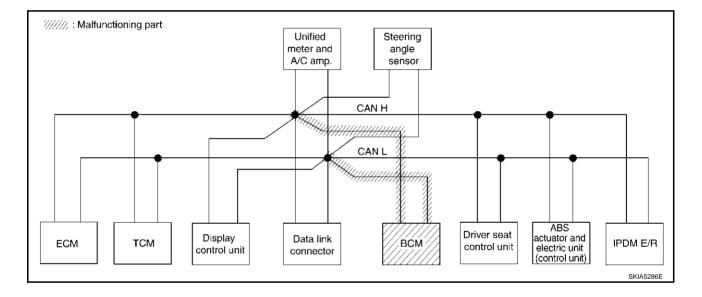
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Case 8
Check BCM circuit. Refer to <u>LAN-519</u>, "BCM Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222010101	LINI SOICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	_	UN A WN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UN K ₩N	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	Π ΝΚ ΝΝ	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	NNR WN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



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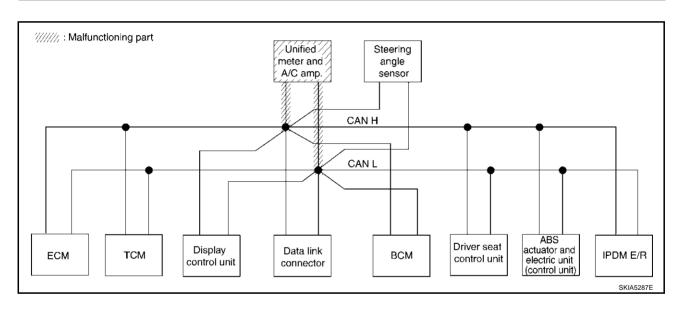
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Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-519, "Unified Meter and A/C Amp. Circuit Check".

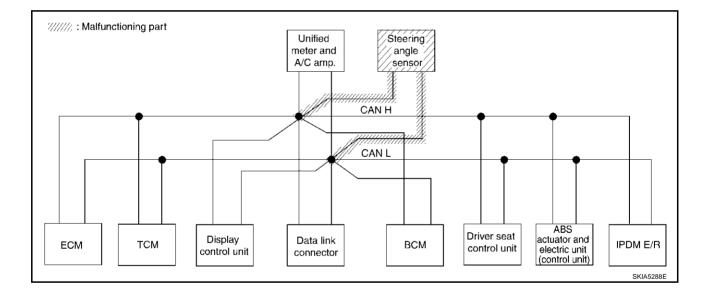
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
0222010101	EN SOICEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	Π ΝΚ ΛΝ	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CANORC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	NNRWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_		_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	-	_



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Case 10
Check steering angle sensor circuit. Refer to LAN-520, "Steering Angle Sensor Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
0222010101	EN SOICEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNK WN	_	_



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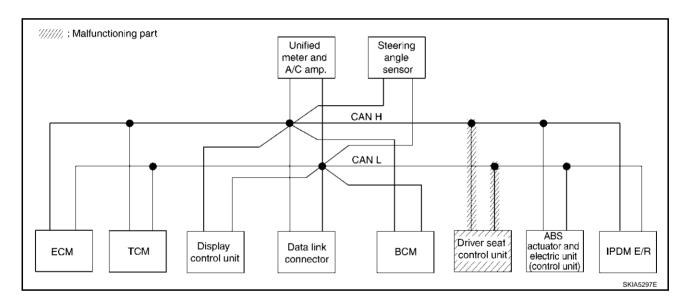
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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-520</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222070701	2111 00/00/1	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_



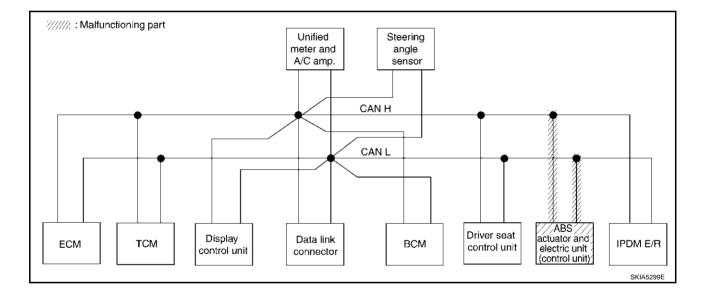
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Case 12

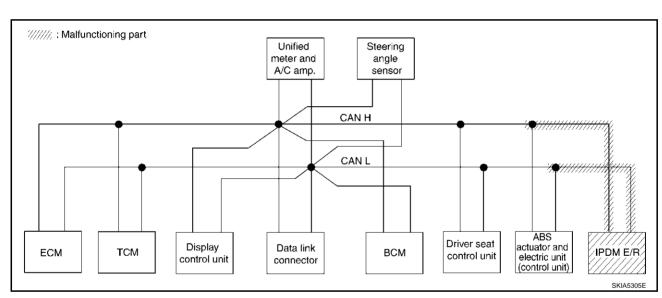
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-521</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
022207 0701	2111 30/30/11	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	∩ иК (МИ	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	Π ΝΚ ΛΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNR WN	UNKWN	UNKWN	-	_	_	UNK WN	_	_



Case 13
Check IPDM E/R circuit. Refer to LAN-521, "IPDM E/R Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
0222010101	LIVI SUICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	1	CANOTEC 7
всм	_	NG	UNKWN	UNKWN	-	_	ı	UNKWN	ı	I	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	_	UNKWN	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	1	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_		_	UNKWN	-	_



Case 14
Check CAN communication circuit. Refer to <u>LAN-522</u>, "CAN Communication Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222010101	LIN 30/30/1	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNK WN	_	UNK WN	_	η νκ (ΛΝ	UNK WN	_	UN K ₩N	n nk {\v}ν
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CANC/RC1	CAN CARC 3	_	_	CANCARC 2	CANCAC 5	_	-	CAN CAC 7
всм	_	NG	UNK WN	UNKWN	_	_	_	UNKWN	_	_	UNK WN
METER A/C AMP	No incication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNKWN	_	_

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Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-526, "IPDM E/R Ignition Relay Circuit Check"</u> .

					CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
322237 3701	EIN GOIGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Π ΝΚ ΑΝ	_	UNKWN	UNKWN	_	UNK WN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNI W N	UNKWN	UNKWN	_	_	пикули	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	_

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-526, "IPDM E/R Ignition Relay Circuit Check".

				,	CAI	N DIAG SUI	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222070701	2111 3070011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKAN	_	_	_	Π ΝΚ ΑΝ	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNK/WN	UNKWN	_	_	_	UNK WN	_	_

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

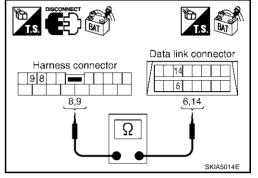
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-497, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- 2. Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

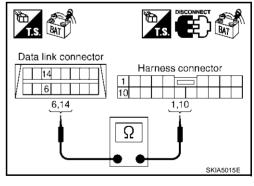
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

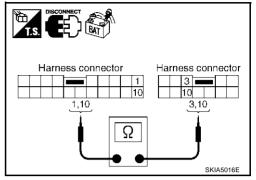
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-497, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

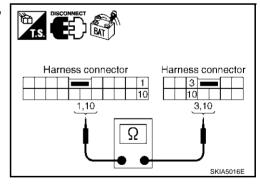
- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

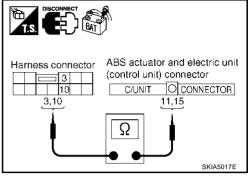
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-497, "Work Flow".

NG >> Repair harness.



AKS006WP

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

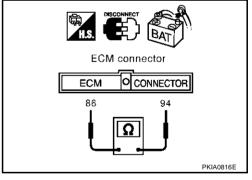
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006WQ

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

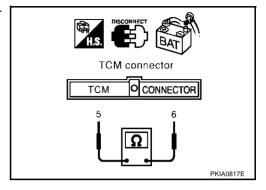
- Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. **54 - 66** Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



AKS006WR

Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

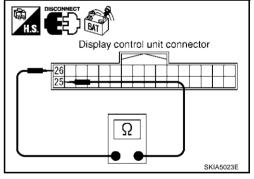
- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

25 (L) - 26 (Y) : Approx. **54 - 66** Ω

OK or NG

OK >> Replace display control unit.

NG >> Repair harness between display control unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS006WS

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

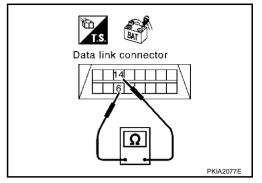
: Approx. 54 - 66 Ω

OK or NG

OK >

>> Diagnose again. Refer to LAN-497, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect the negative battery terminal.

3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector.

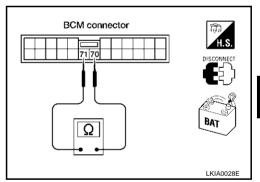
2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

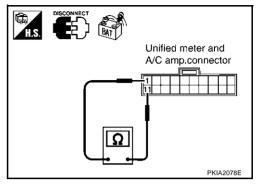
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS006WV

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

: Approx. 54 - 66 Ω

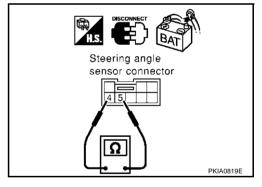
OK or NG

OK

>> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



AKS006WW

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

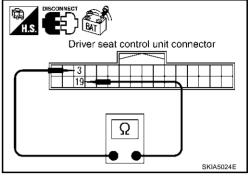
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS006WX

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

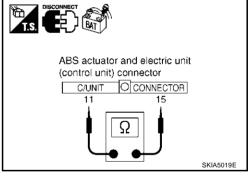
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS006WY

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. Check harness for open circuit

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

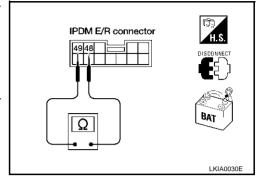
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side, and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

$oldsymbol{3}_{ ext{-}}$ check harness for short circuit

Check continuity between data link connector M24 terminals 6 (L). 14 (Y) and ground.

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

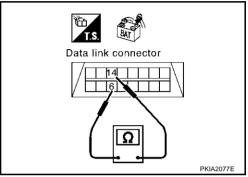
: Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

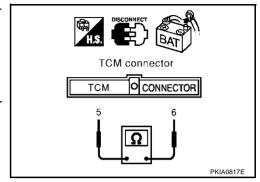
- Disconnect TCM connector. 1.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

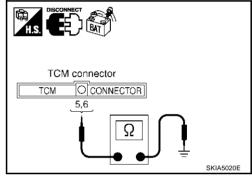
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

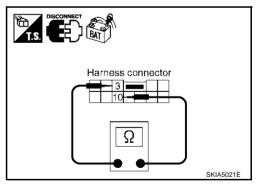
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



SKIA5022E

7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

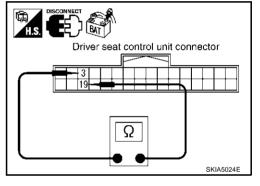
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

10 3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

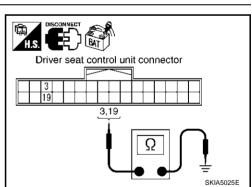
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

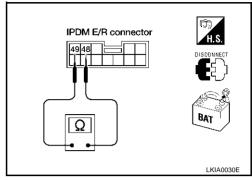
: Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

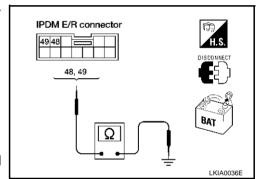
> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK

>> GO TO 12. NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-526, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-497, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS006X0

Check the following. If no malfunction is found, replace the IPDM E/R.

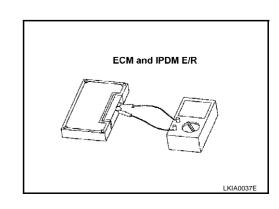
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006X1

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)			
ECM	94 - 86	108 - 132			
IPDM E/R	48 - 49				



[CAN]

CAN SYSTEM (TYPE 16)

PFP:23710

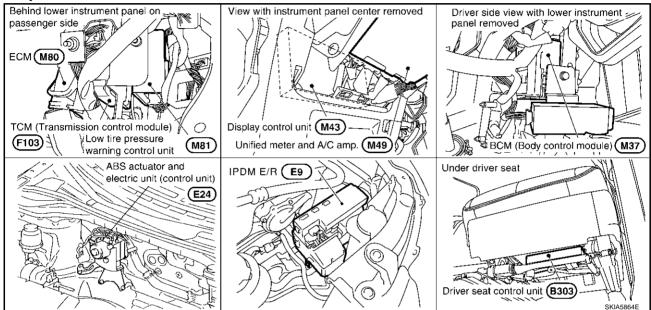
System Description

AKS006X2

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.

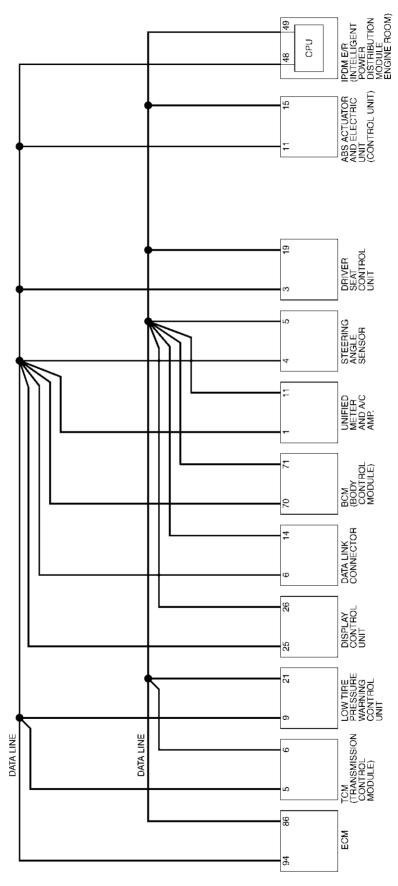
Component Parts and Harness Connector Location

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Schematic AKS006X4



AKS006X5

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LAN-CAN-46

: DATA LINE

12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

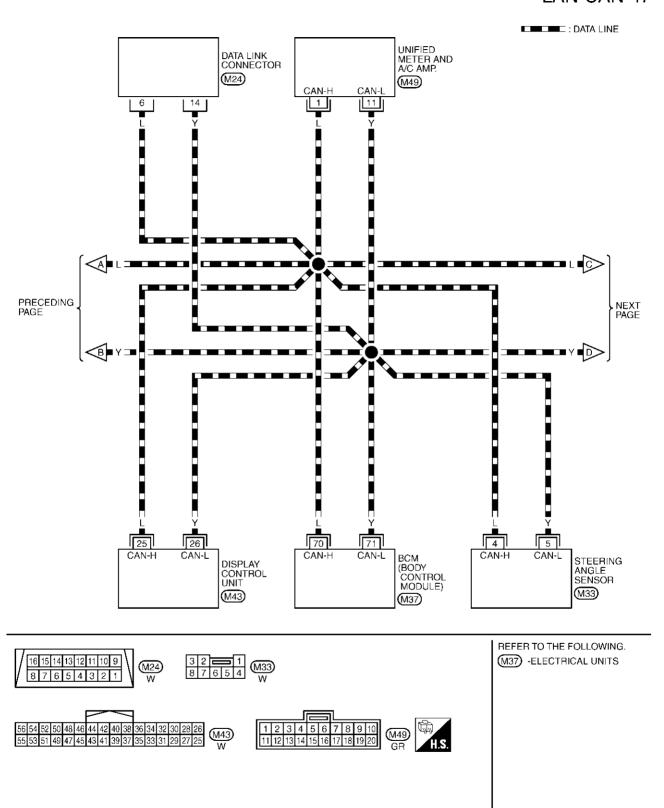
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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LAN-CAN-47



TKWA0985E

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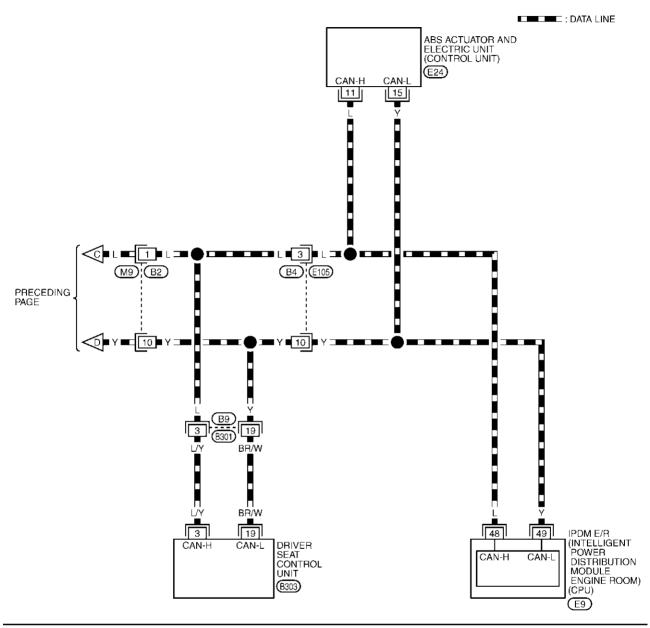
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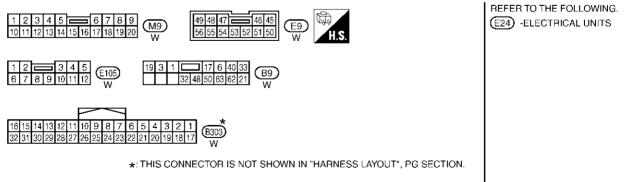
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LAN-CAN-48

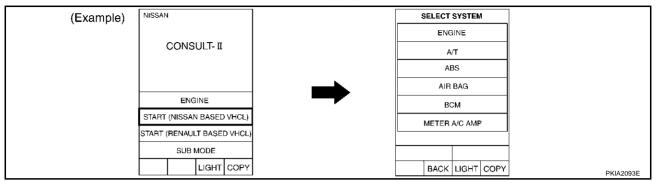




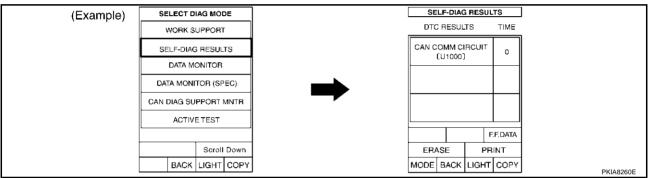
TKWA0986E

Work Flow

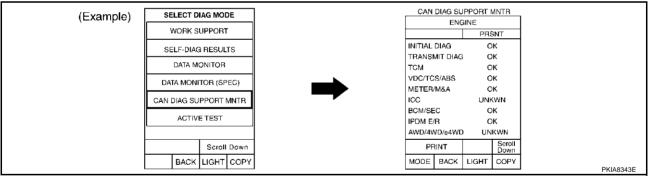
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" displayed on CONSULT-II.



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS." and "ABS" 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-534, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-534, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to AV-203, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-534</u>, "CHECK SHEET".

CAN SYSTEM (TYPE 16)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to LAN-534, "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-203, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-536, "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.

						CAN DIAG	3 SUPPOR	RT MNTR				
SELECT SYST	EM coroon							eive diagn	osis			
3ELECT 3131	EIN SCIEETI	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
RANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	UNKWN	_
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	ı	_	_	ı	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	ı
NUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_	1	UNKWN	UNKWN	_	_	Ι
ABS	=	NG	UNKWN	UNKWN	UNKWN	-	_	-	_	UNKWN	_	_
		SE	Attach cop	y of STEM			Attacr SELECT	copy of SYSTEM	ı			
			CAN	N DIAG SU	Attach c display col PPORT M	ntrol unit	check she	et				

Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of TRANSMISSION SELF-DIAG RESULTS Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS

Attach copy of BCM SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR Attach copy of BCM CAN DIAG SUPPORT MNTR

Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

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CHECK SHEET RESULTS (EXAMPLE)

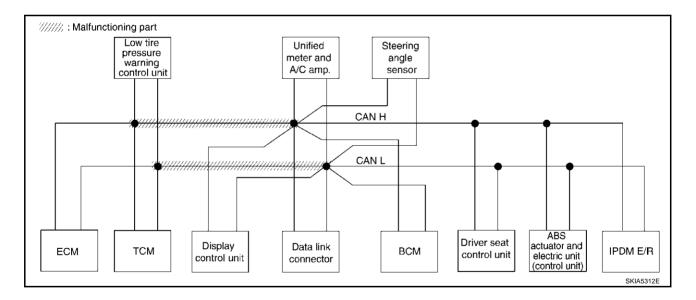
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-551</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

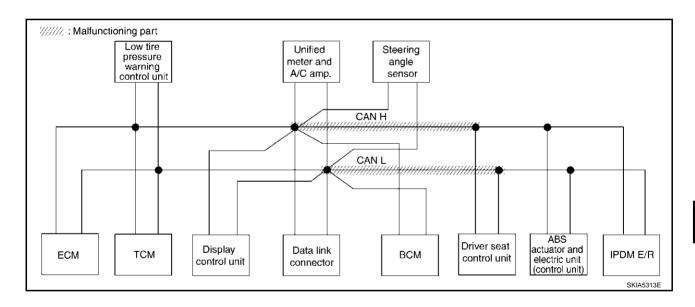
						CAN DIA	G SUPPOR	RT MNTR						
SELECT SYST	EM screen	Initial	nitial Transmit		Receive diagnosis									
022201 0101			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNK WN	Π ΝΚ ΛΝ	_	Π Μ Κ W N	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	1	UNKWN	_	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	-	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CANOTEC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC		
всм	_	NG	UNKWN	UNK WN	_	_	_	-	UNKWN	_	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNK WN	υν κ /νν	UNKWN	UNKWN	_	_	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK W N	_	_	UNKWN	UNKWN	_	1	_		
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	_	UNKWN	_	_		



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-551</u>, "Circuit Check Between Data Link Connector and Driver Seat Control Unit".

			CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial diagnosis	Transmit - diagnosis	Receive diagnosis										
				ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R		
ENGINE		NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	Ω ΝΚ ⁄γΝ	UNK WI		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	η νκ ⁄νν	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	-	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	CANCAC		
всм	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	-	NNKWI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UN K ₩N	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	-	_		
ABS	_	NG	UNKWN	UNK/WN	UNKWN	_	_	_	_	UNKAVN	_	_		



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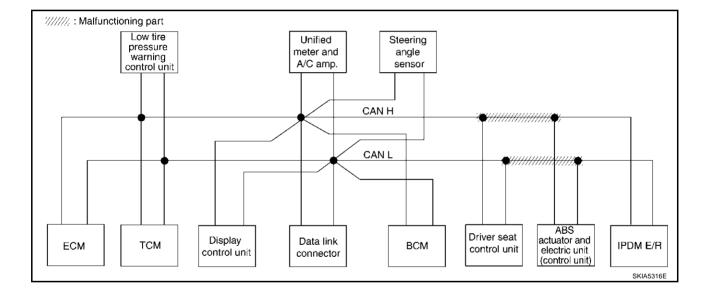
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Case 3

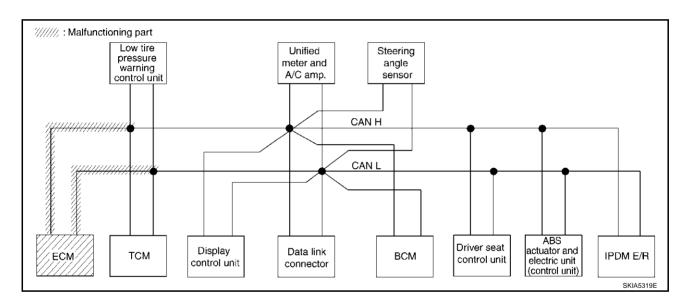
Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-552</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	Ω ΝΚW N	UNKWI		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	1	UNKWN	_	UNK WN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CANCAC		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNK WI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNK WN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	-		
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	_	UNKAVN	_	_		



Case 4
Check ECM circuit. Refer to LAN-553, "ECM Circuit Check".

				CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
022201 0101	2111 00/00/	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I		
ENGINE	_	NG	UNKWN	_	UNKWN	_	ı	UNKWN	UNK WN	_	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UM WN	_	_	_	1	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	1	UNKWN	_	-	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CANOTEC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC		
всм	_	NG	UNKWN	UN W WN	_	_	_	-	UNKWN	_	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UN K ₩N	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	-	_		
ABS	_	NG	UNKWN	UNK/WN	UNKWN	_	_	_		UNKWN	_	_		



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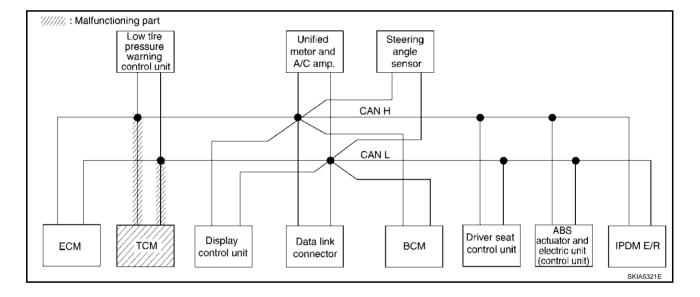
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Case 5
Check TCM circuit. Refer to <u>LAN-553</u>, "TCM Circuit Check".

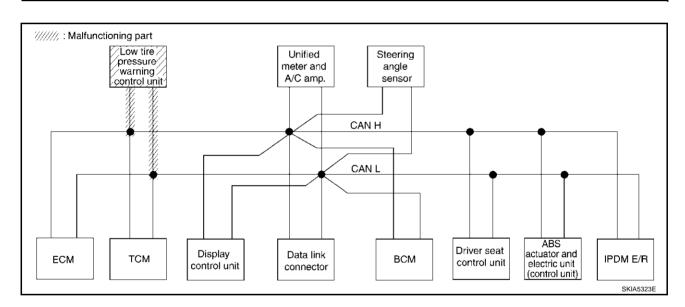
				CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis										
022201 0101			sis diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	-	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	-	UNKWN	ı	-	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	ı	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNR WN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	∩MAN	_	-	UNKWN	UNKWN	1	-	_		
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	-	_	_	UNKWN	_	_		



Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-554</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check</u>".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 00/00/1	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	_	UNKWN	_	I	UNKWN	UNKWN	-	UNKWN	UNKW
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3		CANORC 6	1	CAN CIRC 2	CAN CIRC 5		1	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	_	_	ı	_	UNKWN	_	-	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	nw k ∕ww	UNKWN	UNKWN	ı	-	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	ı	ı	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	1	_	_	UNKWN	_	_



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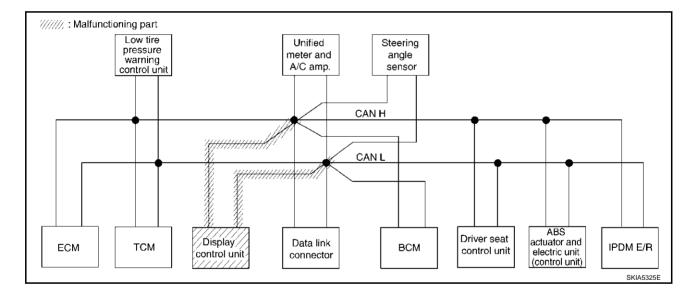
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Case 7
Check display control unit circuit. Refer to <u>LAN-554</u>, "<u>Display Control Unit Circuit Check</u>".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 00/00/1	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	1	_
Display control unit	_	CAN COMM	CANCIRC 1	CAN CAC 3	_	CANOIRC 6	1	CANCAC 2	CAN C/RC 5	_	1	CANCIRC
всм	_	NG	UNKWN	UNKWN	_	_		-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK A VN	UNKWN	1	ı	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	-	1	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_



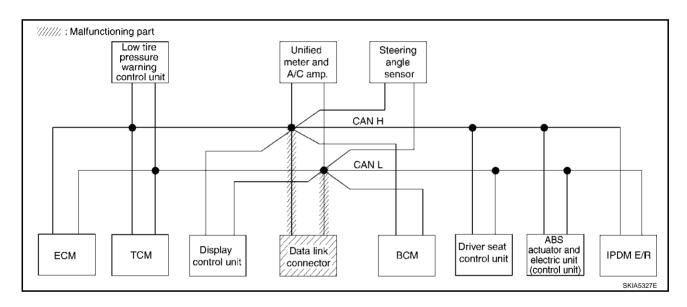
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Case 8
Check data link connector circuit. Refer to <u>LAN-555</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	2111 00/00/	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	1	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	1	1	_	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	ı	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 1
всм	_	NG	UNKWN	UNKWN		-	1	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		ı	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	ı	1	UNKWN	UNKWN	-	ı	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	1	1	_	-	UNKWN	-	_

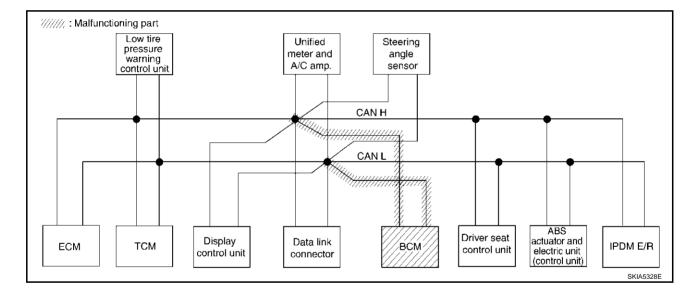


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Case 9
Check BCM circuit. Refer to <u>LAN-555</u>, "BCM Circuit Check" .

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 00/00/1	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	ı	1	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	1	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	1	-	-	UNKWN	_	1	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CANOTEC 2	CAN CIRC 5	_	-	CAN CIRC 7
всм	_	NG	UNK WN	UN K ₩N	_	-		-	UNK NN	_	_	η νκ ⁄ων
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	1	ı	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	1	1	UNK WN	UNKWN	-	1	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	1	1	1	_	UNKWN	_	_



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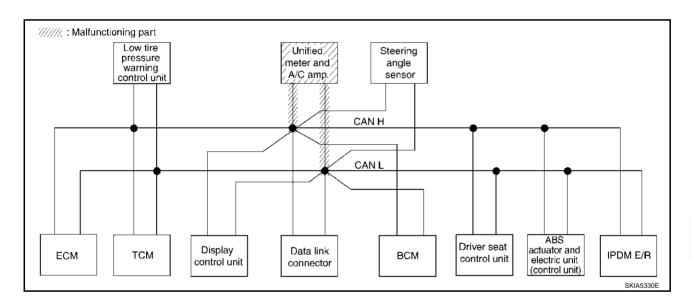
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Case 10

Check unified meter and A/C amp. circuit. Refer to LAN-556, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOFOCIT	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	NNR WN	_	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	ΠΝ Κ ΛΝ	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNK WN	-	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CANCIRC 5	_	-	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNK W N	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNK WN	_	-	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_

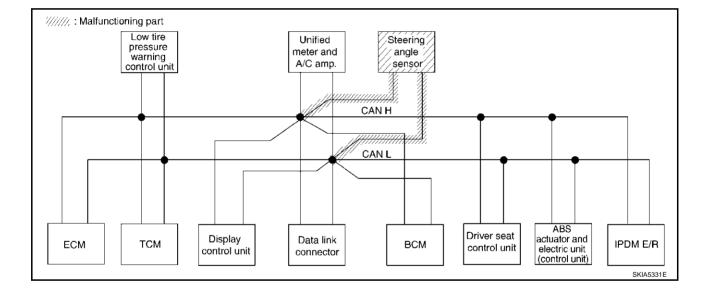


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Case 11
Check steering angle sensor circuit. Refer to <u>LAN-556</u>, "Steering Angle Sensor Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
322201 3101	LIW SCIECT	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	ı	1	UNKWN	UNKWN	-	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	1	-	UNKWN	-	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	1	-	-	UNKWN	ı	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNK WN	_	l –



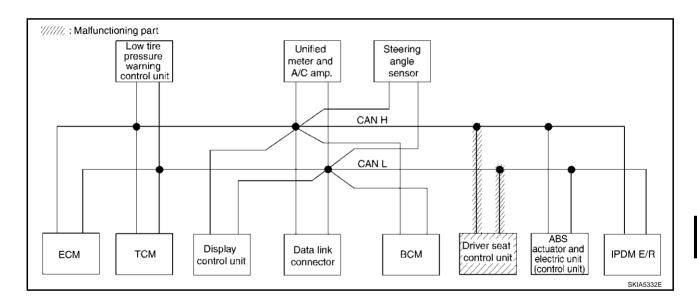
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Case 12
Check driver seat control unit circuit. Refer to <u>LAN-557</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

						CAN DIAG	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 00/00/	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN		_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	-	-	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	-	-

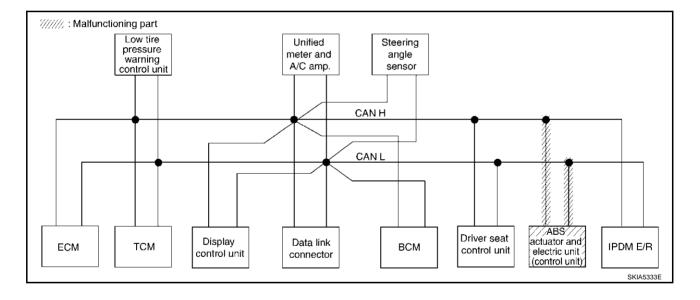


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Case 13
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-557</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SCICCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	_	Ω ΝΚW M	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	1	1	UNKWN		Ω ΝΚ ⁄ΜΝ	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	-	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5		ı	CAN CIRC 7
BCM	_	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UN K ₩N	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	1	ı	_
ABS	_	NG	UNKWN	UNI S WN	UNK WN	_	_	_	_	UN K ₩N	-	_



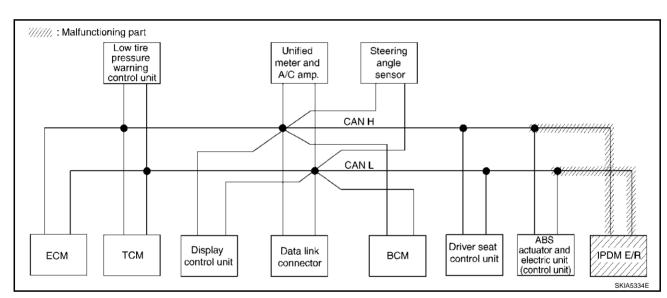
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Case 14
Check IPDM E/R circuit. Refer to <u>LAN-558</u>, "IPDM E/R Circuit Check".

						CAN DIAG	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 00/00/	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CANORC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	-	ı	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_ [UNKWN	_	-



Case 15
Check CAN communication circuit. Refer to <u>LAN-559</u>, "CAN Communication Circuit Check".

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	ΩΝ Κ ΑΝ	_	UNK WN	_	_	∩ M MN	Π νΚ ,ΜΝ	_	η νΚ ΑΝ	η νκ γνν
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_
Display control unit	_	CAN COMM	CANCERC 1	CANORC 3	=	CANOTEC 6	_	CANOTEC 2	CANORC 5	_	_	CANOTEC 7
всм	_	NG	UNKWN	UNK WN	_	_	_	_	UNK WN	_	_	NNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNK W N	UN K WN	UNK VN	_	_	_	_	UNKWN	_	_
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Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-563</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN DIAC	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	Zivi Sereeri	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	∩ NR WN	_	_	UNKWN	UNKWN	_	Ω ΝΚ(ΛΝ	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_		_	_	_	UNKWN	_		_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 1
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	ONR WN	UNKWN	UNKWN	UNKWN	_	_	UN K ₩N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	Ω ΝΚ(ΜΝ	_	_	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-563, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	3 SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagr	osis			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	1	_	UNK WN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	ı	_	ı	1	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CAN CIRC 6	ĺ	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	1	NG	UNKWN	UNKWN	ı	_	ı	ı	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK/VN	UNKWN	=		1	_	UNK/VN	_	_
												PKIB0710E

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

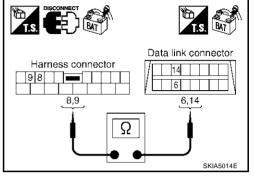
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-532, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

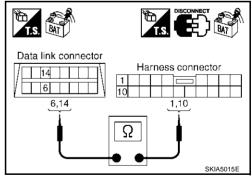
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

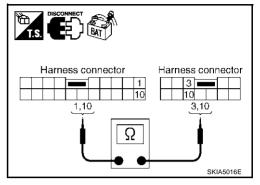
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-532, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

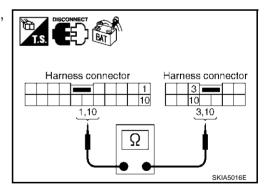
- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

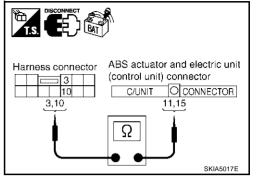
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-532, "Work Flow".

NG >> Repair harness.



AKS006XA

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

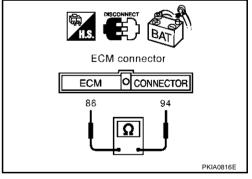
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS006XB

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

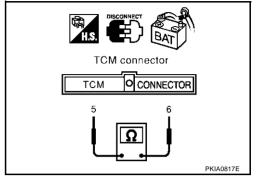
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS006XC

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

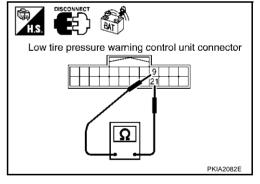
9 (L) - 21 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

NG

OK >> Replace low tire pressure warning control unit.

>> Repair harness between low tire pressure warning control unit and TCM.



AKS006XD

Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

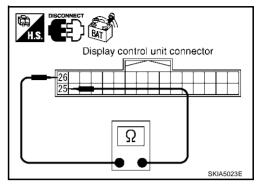
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



AKS006XF

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

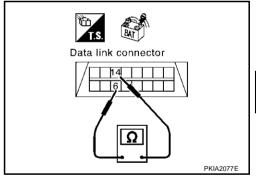
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-532, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

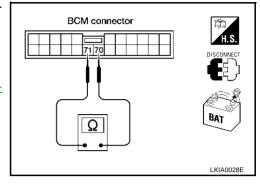
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS006XG

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

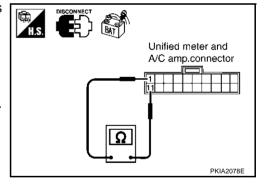
- Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace unified meter and A/C amp.

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS006XH

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

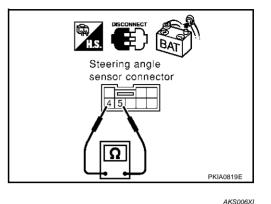
4 (L) - 5 (Y) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

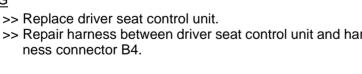
- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

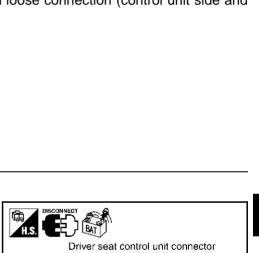
3 (L/Y) - 19 (BR/W) : Approx. 54 -
$$66\Omega$$

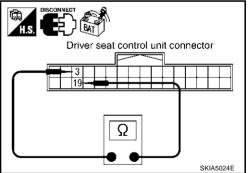
OK or NG

OK

NG >> Repair harness between driver seat control unit and har-







ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS006XJ

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

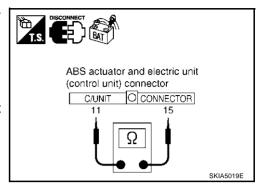
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS006XK

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

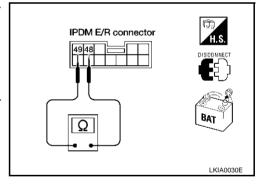
OK or NG

NG

OK >>

>> Replace IPDM E/R.

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN SYSTEM (TYPE 16)

[CAN]

CAN Communication Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

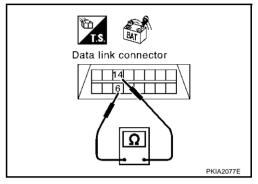
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

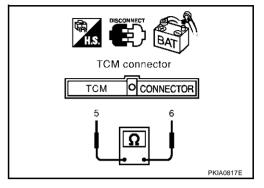
- Disconnect TCM connector. 1.
- Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

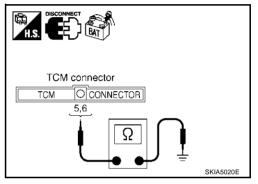
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

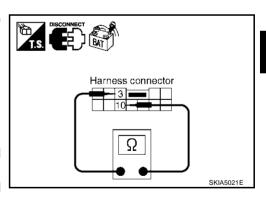
- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

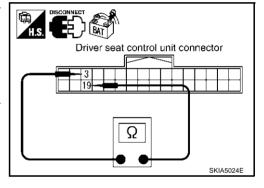
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

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3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

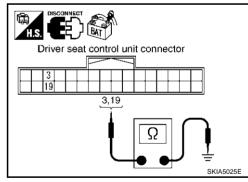
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair har

>> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

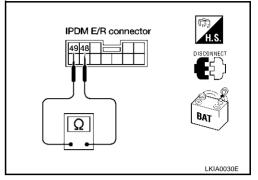
: Continuity should not exist.

OK or NG

OK >> GO TO 11.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

> 48 (L) - Ground : Continuity should not exist.

> 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 12.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 48, 49 BAT LKIA0036F

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-563, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-532, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

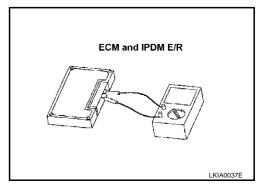
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 17)

PFP:23710

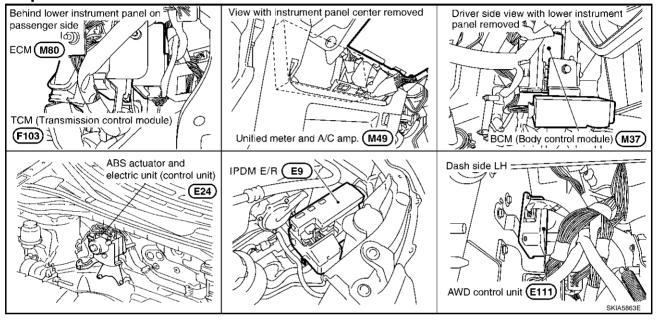
System Description

AKS006X0

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

AKS006XP



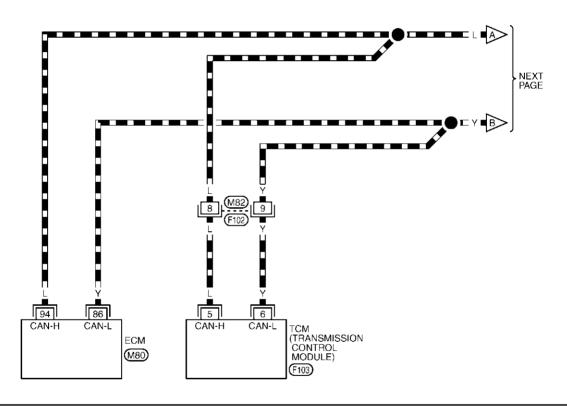
Schematic AKS006XQ Α IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM) 49 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 5 С D 16 AWD CONTROL UNIT α Е F G Н J 2 4 LAN Ø စ္ DISPLAY UNIT M 4 TCM (TRANSMISSION CONTROL MODULE) DATA LINE S 86 ECM 94 TKWA0987E

Wiring Diagram - CAN -

AKS006XR

LAN-CAN-49

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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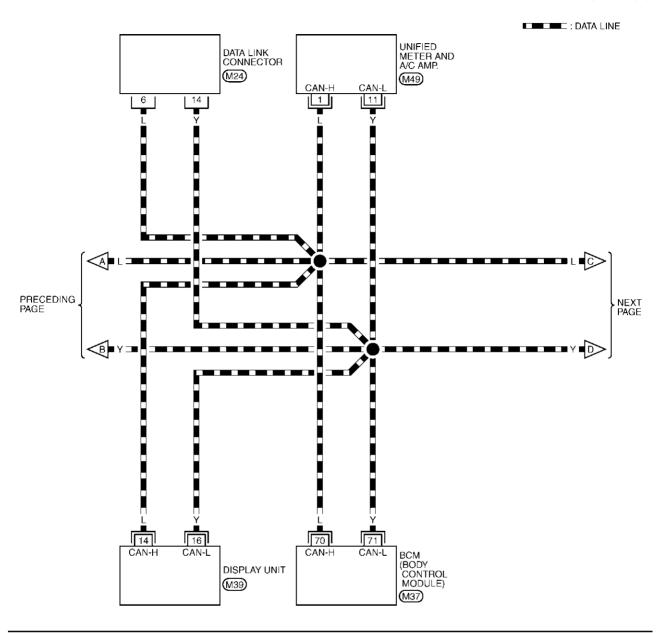
G

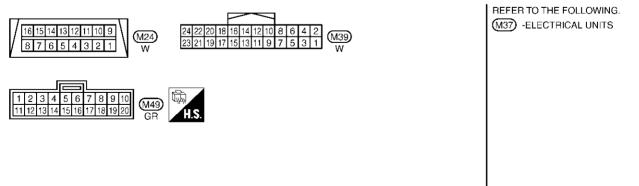
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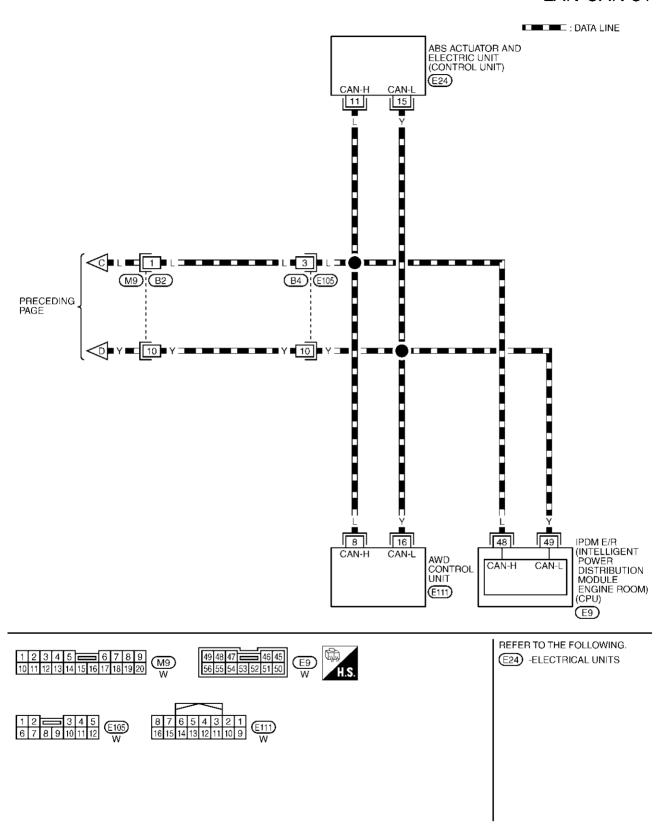
LAN-CAN-50





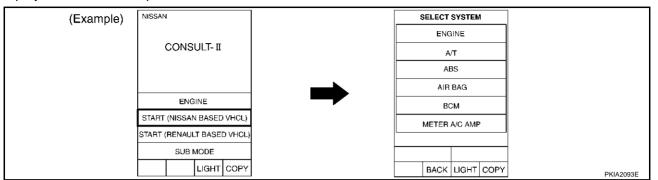
TKWA0989E

LAN-CAN-51

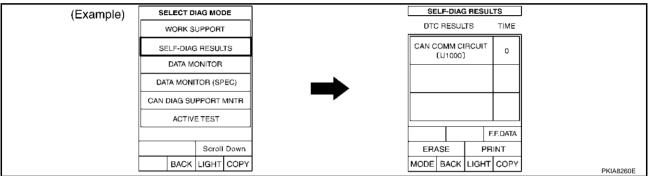


Work Flow

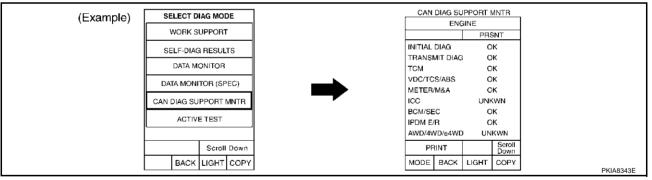
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "ALL MODE AWD/4WD" and "ABS" 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-571, "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-571, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to AV-110, "CAN Communication Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-571, "CHECK SHEET"

LAN-569 Revision; 2004 April 2003 Murano

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CAN SYSTEM (TYPE 17)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-569</u>, "Work Flow".

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-573, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Check sheet table	е											
SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR									
		Initial	Transmit		Receive diagnosis							
		diagnosis	l I	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	١	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	_	UNKWN		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	_	_	
ABS	_	NG	UNKWN	UNKWN	_	_	1	_	_	_	_	
Symptoms :												

Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

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Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR Attach copy of Attach copy of ALL MODE AWD/AWD SELF-DIAG RESULTS Attach copy of ALL MODE AWD/AWD SELF-DIAG RESULTS Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/AWD SELF-DIAG RESULTS Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/AWD SELF-DIAG RESULTS Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/AWD SELF-DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/AWD CAN DIAG SUPPORT MNTR			
Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	ENGINE	TRANSMISSION	ВСМ
Attach copy of METER A/C AMP CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT CAN DIAG SUPPORT Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT CAN DIAG SUPPORT Attach copy of ABS CAN DIAG SUPPORT	METER A/C AMP	ALL MODE AWD/4WD	ABS
METER A/C AMP ALL MODE AWD/4WD ABS CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT	ENGINE CAN DIAG SUPPORT	TRANSMISSION CAN DIAG SUPPORT	BCM CAN DIAG SUPPORT
	METER A/C AMP CAN DIAG SUPPORT	ALL MODE AWD/4WD CAN DIAG SUPPORT	ABS CAN DIAG SUPPORT

CHECK SHEET RESULTS (EXAMPLE)

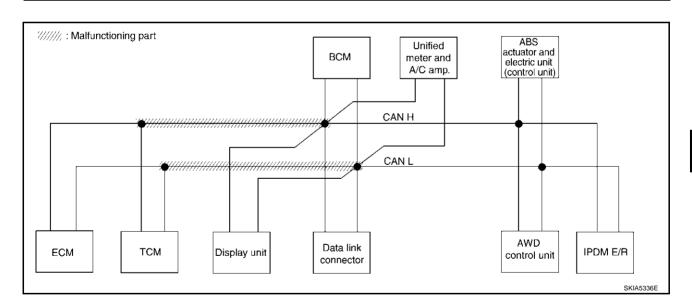
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-585</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial diagnosis	Transmit - diagnosis		Receive diagnosis								
				ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK WN	Ω ΝΚ ⁄ΛΝ	UNK WN	_	η νκ ⁄νν		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	-	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNK WN	Ω ΝΚ ΜΝ	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNK W N	_	_	_	UNKWN	-	_	_		
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_		



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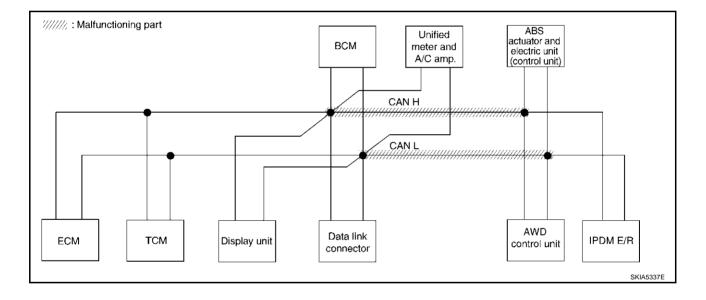
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Case 2

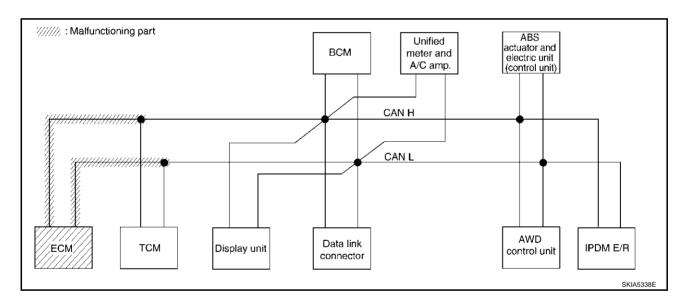
Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-585</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis									
		Initial diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	Π ΝΚ ΑΝ	_	Π ИΚ ΜИ		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNK WN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ω ΝΚ (ΛΝ	UNK WN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNK V N	-	_	_	UNK WN	-	_	-		
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_		



Case 3
Check ECM circuit. Refer to LAN-586, "ECM Circuit Check".

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit - diagnosis		Receive diagnosis								
				ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	Ω ΝΚ(ΛΝ	_	NNKWN	_	UNK WN	UNKWN	UNKWN	_	NNKWN		
TRANSMISSION	No indication	NG	UNKWN	∩ UK WN	_	_	_	UNKWN	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	_		
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_		



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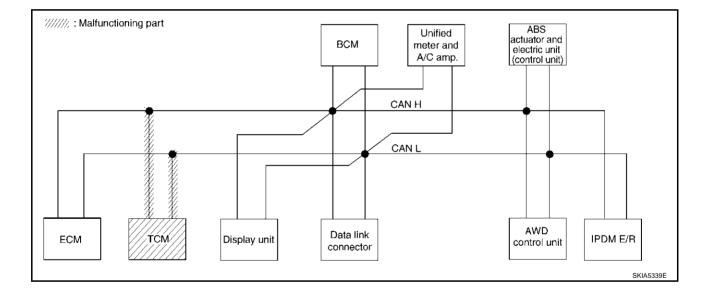
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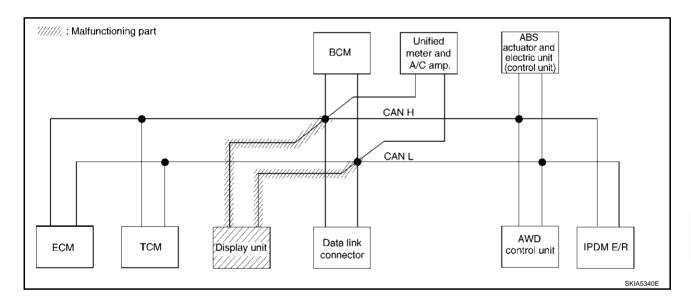
Case 4
Check TCM circuit. Refer to <u>LAN-587</u>, "TCM Circuit Check".

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis								
		Initial diagnosis	I I	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	NNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	=	UNKWN	UNKWN	UN K ∕VN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_		
ABŞ	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_		



Case 5
Check display unit circuit. Refer to <u>LAN-587</u>, "Display Unit Circuit Check".

					CA	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	C Ą√ 11	CAN 3	_	_	C 4/ 12	CAN 5	_	_	CM 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Ω ΝΚ ⁄⁄ΩΝ	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	-	_	_	_		_	_



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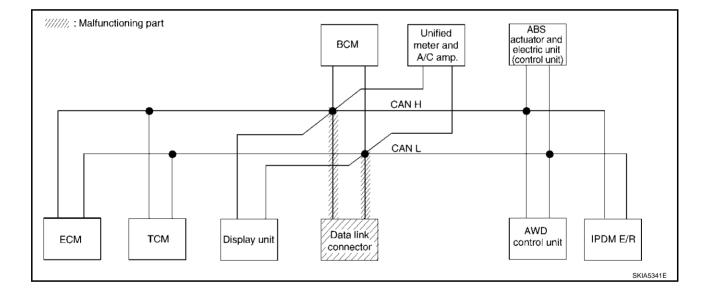
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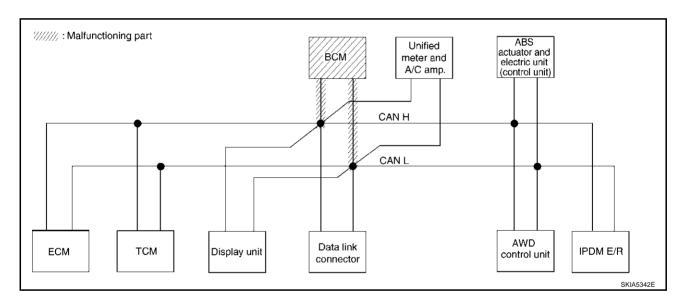
Case 6
Check data link connector circuit. Refer to <u>LAN-588</u>, "<u>Data Link Connector Circuit Check</u>" .

					CA	N DIAG SU	PPORT MN	JTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	EIVI SCICCII	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 7
Check BCM circuit. Refer to <u>LAN-588</u>, "BCM Circuit Check".

					CA	N DIAG SU	PPORT MN	JTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SOLOGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	∩N K WN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_		UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	Ω ΝΚ∕ ΛΝ	UNK WN	_	_	_	UNK WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	∩ иК {Λν	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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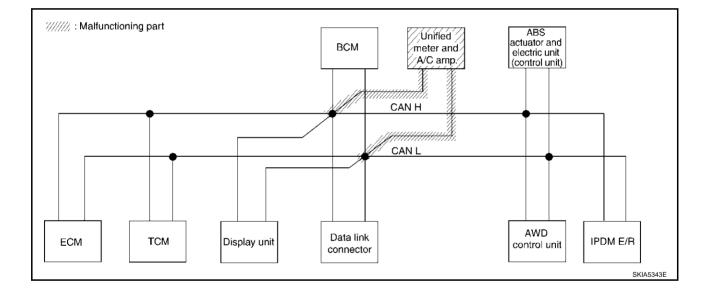
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Case 8
Check unified meter and A/C amp. circuit. Refer to LAN-589, "Unified Meter and A/C Amp. Circuit Check".

					CA	N DIAG SU	PPORT MN	JTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	2107 5510511	diagnosis		ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	∩ NK WN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	NNR MN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	UNK WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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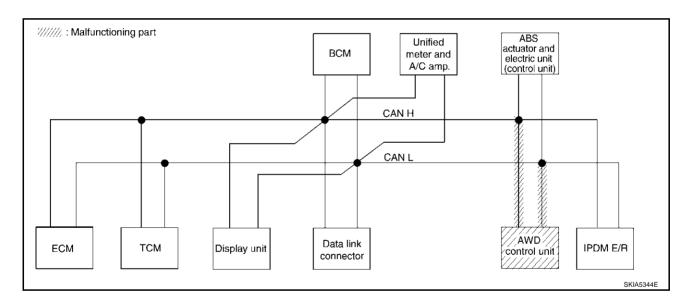
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Case 9
Check AWD control unit circuit. Refer to <u>LAN-589</u>, "AWD Control Unit Circuit Check".

					CA	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	2117 3010311	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_		UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	=	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ΝΚ ΑΝ	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNK WN	UNK WN	_	_	_	UNKWN	_	_	_
ABŞ	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

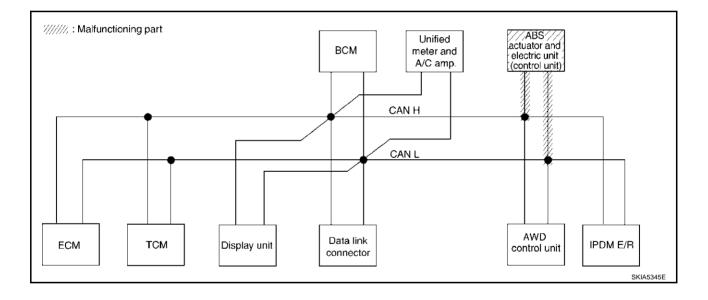


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Case 10

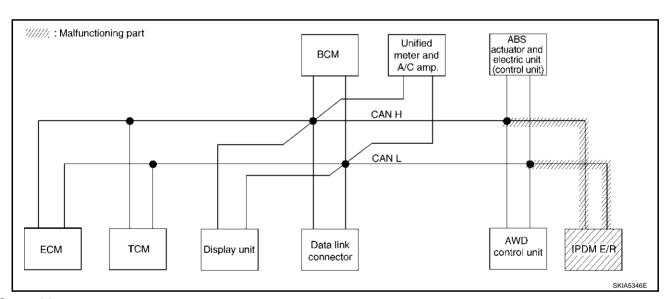
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-590</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CA	N DIAG SU					
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	2117 0010011	diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNK WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNK WN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_
ABS	_	NG	UN K ₩N	UNK/WN	_	_	_	_	_	_	_



Case 11
Check IPDM E/R circuit. Refer to LAN-590, "IPDM E/R Circuit Check".

					CA	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
52223 (5 (5)	2117 001 0011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	NNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	_	1	1	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 12
Check CAN communication circuit. Refer to <u>LAN-591</u>, "CAN Communication Circuit Check".

					CA	N DIAG SU					
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
522231 5151	2117 001 0011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	Ω ΝΚ (ΛΝ	_	Ω ΝΚ ⁄ΛΝ	_	η νκ ⁄νν	∩ иК {Λν	Π ΝΚ(ΛΝ	_	UN K ₩N
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	C AV 11	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	∩ NR WN	UNKWN	_	_	_	NNR WN	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	∩ NK WN	UNIX WN	_	_	_	UNK WN	_	_	_
ABS	_	NG	UNK ∕ WN	UNKWN	_	_	_	_	_	_	_

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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-594, "IPDM E/R Ignition Relay Circuit Check"</u> .

					CA	N DIAG SU					
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive of BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UN K ₩N	_	UNKWN	UNKWN	UNKWN	=	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	CAN 7
всм	-	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	Ω ΝΚ ⁄ΛΝ	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-594, "IPDM E/R Ignition Relay Circuit Check".

		<u> </u>			CA	N DIAG SU		ITD			
SELECT SYST	EM coroon				CA	N DIAG 50	Receive of				
SELECT SYSTI	EIVI SCreen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIXWN	-	_	_	UNK#VN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_
ABS	-	NG	UNKWN	UNK WN	_	_	_	_	_	_	_

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

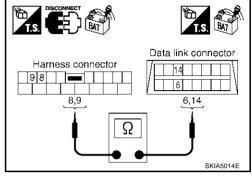
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-569, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

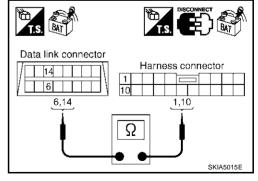
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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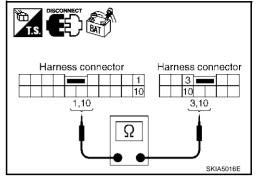
3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

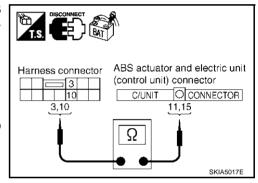
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-569, "Work Flow".

NG >> Repair harness.



AKS006XV

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

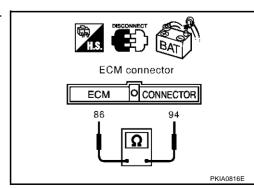
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

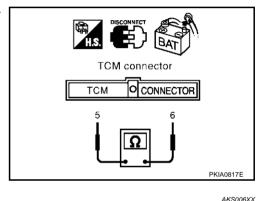
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

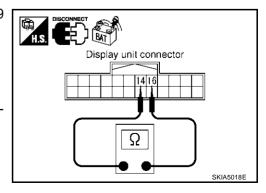
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

AKS006XY

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

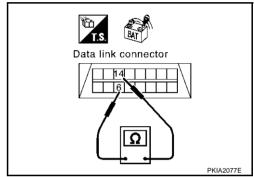
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to <u>LAN-569</u>, "Work Flow".

NG >> Repair harness between data link connector and BCM.



AKS006XZ

BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

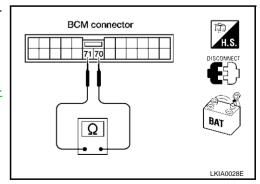
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36</u>, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect unified meter and A/C amp, connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

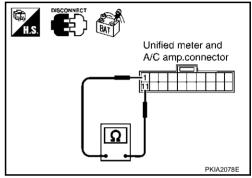
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

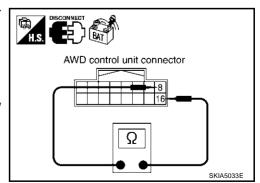
- Disconnect AWD control unit connector. 1.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/ R.



AKS006Y1

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LAN-589 Revision; 2004 April 2003 Murano

ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

AKS006Y2

- 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.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

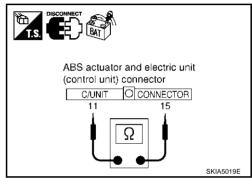
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS006Y3

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector. 1.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

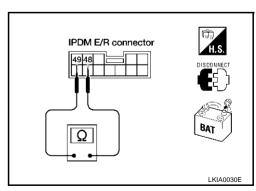
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN SYSTEM (TYPE 17)

[CAN]

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CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, unit side, meter side, control unit side and harness side).
- ECM
- TCM
- Display unit
- BCM
- Unified meter and A/C amp.
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

: Continuity should not exist.

OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

Data link connector

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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

4. CHECK HARNESS FOR SHORT CIRCUIT

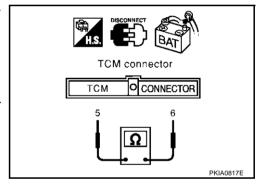
- 1. Disconnect TCM connector.
- Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



Data link connector

6

6, 14,

5. CHECK HARNESS FOR SHORT CIRCUIT

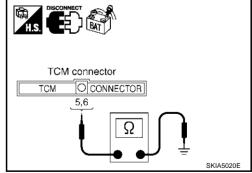
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

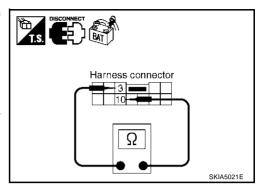
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

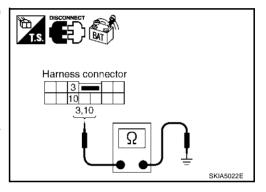
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

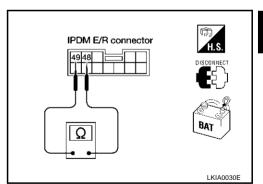
OK or NG

NG

OK >> GO TO 9.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.



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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



Check components inspection. Refer to $\underline{\mathsf{LAN-594}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-569, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS006Y5

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Check the following. If no malfunction is found, replace the IPDM E/R.

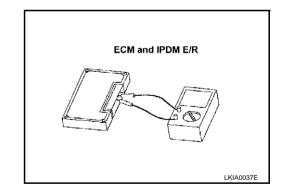
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS006Y6

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



IPDM E/R connector

48, 49

Ω

CAN SYSTEM (TYPE 18)

PFP:23710

System Description

AKS0070B

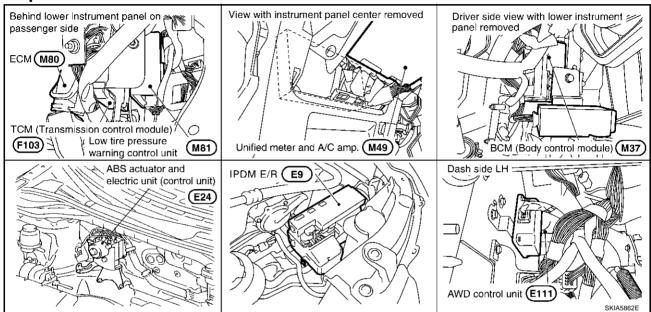
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information 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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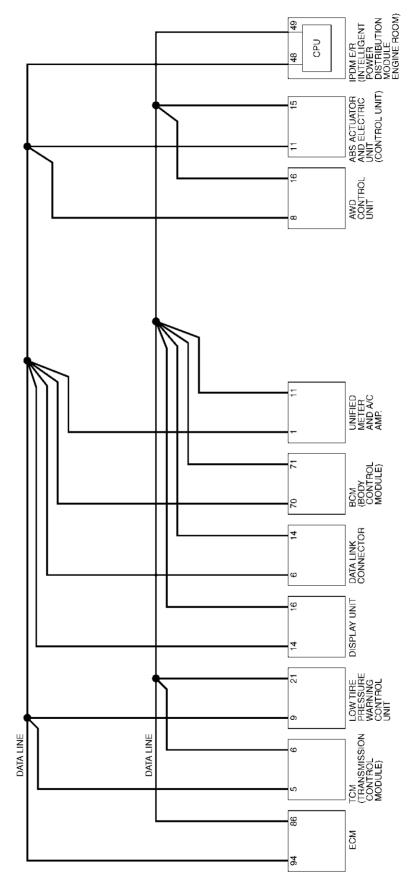
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Schematic AKS0070D



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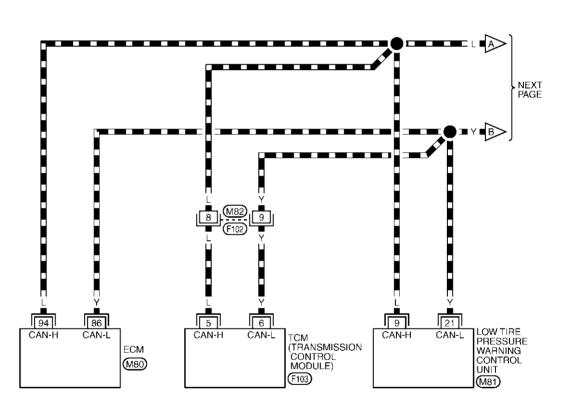
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LAN-CAN-52

: DATA LINE



12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

TKWA0992E

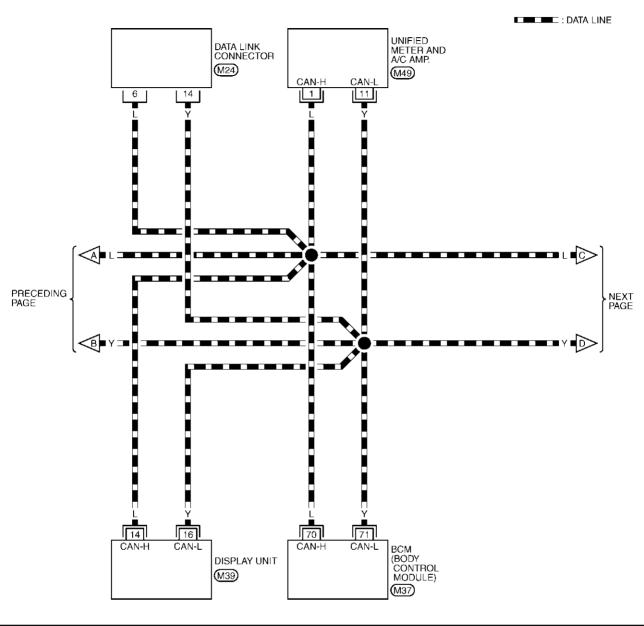
Е

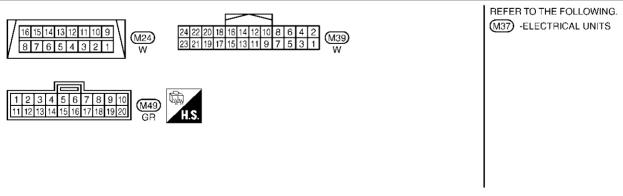
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LAN-CAN-53





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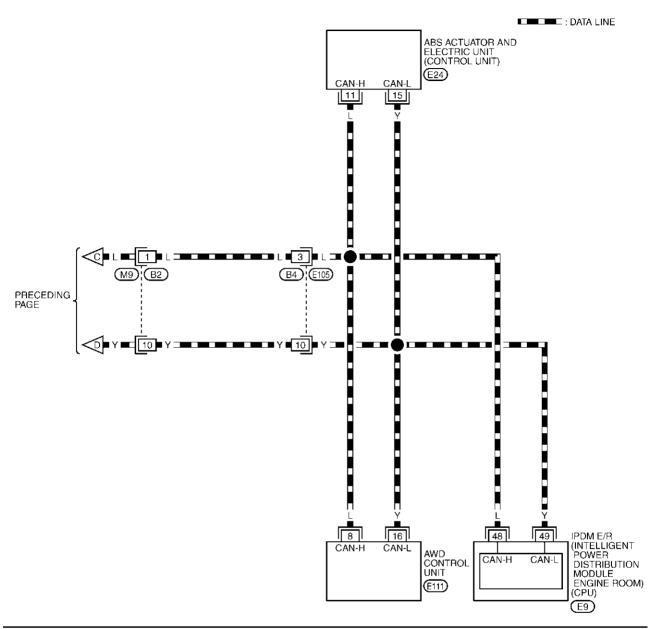
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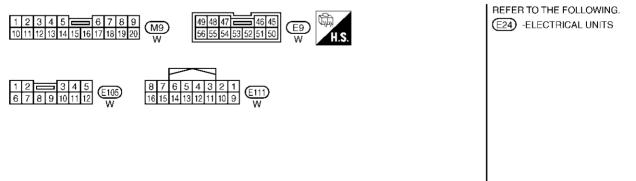
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LAN-CAN-54

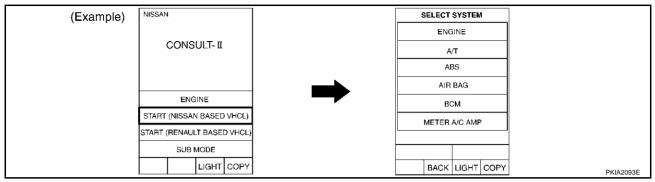




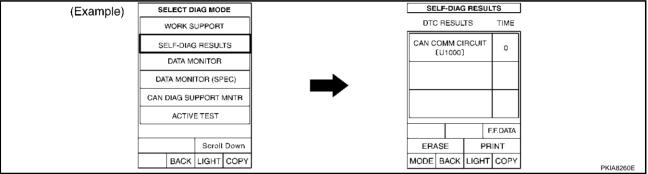
TKWA0994E

Work Flow

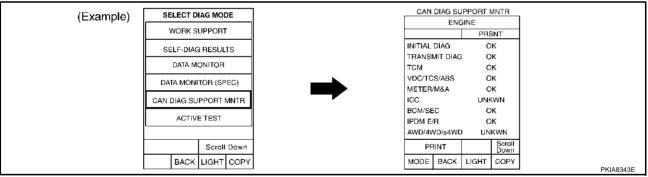
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-602</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-602</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication</u> Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-602</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 18)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-602</u>, "CHECK SHEET".

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-604, "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.

Check sheet table	e											
						CAN DIA	G SUPPO					
SELECT SYST	EM screen	Initial	Transmit		I		Red	eive diagn	nosis METER	AWD	VDC/TCS	IPDM
	r	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	/SEC	/M&A	/4WD	/ABS	E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_	_	-
Symptoms :												
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		SI	Attach co ELECT SY	py of			Attaci	n copy of T SYSTEM	4			
				- 1 - 111								
					Attach o	copy of						
				CAN DI	displa <u>y</u> AG MONI	/ unit FOR checl	sheet					
												PKIB0730E

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	
MNTR	MNTR	MNTR	

Revision; 2004 April LAN-603 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

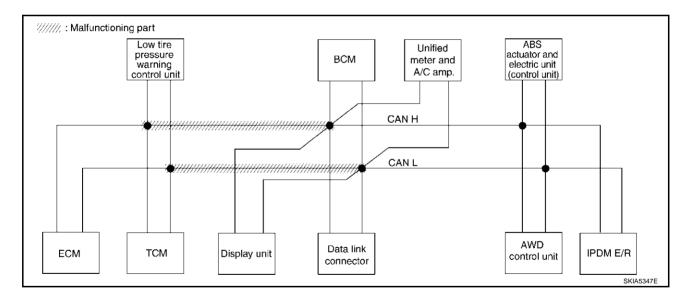
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-617</u>, "Circuit Check Between TCM and Data Link Connector" .

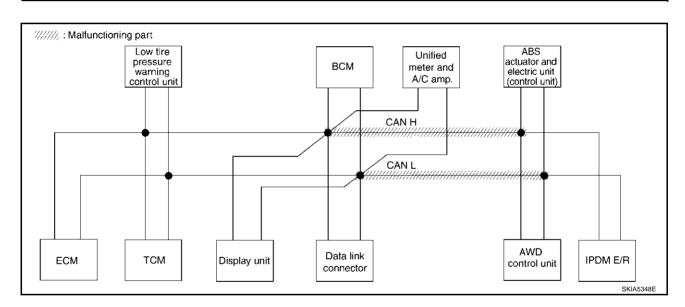
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EIV SOICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	UN K ₩N	UNK WN	η νικ ⁄νν	_	UNK W
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	1	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	C 4 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	NNR MN	_	-	_	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	Ω ΝΚ ⁄ΜΝ	UNK A N	UN K ∕VN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_	_



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-617</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOLCOIT	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	DNR NN	-	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNK ∕ AN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	-	-	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	UNK WN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	-	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_	_



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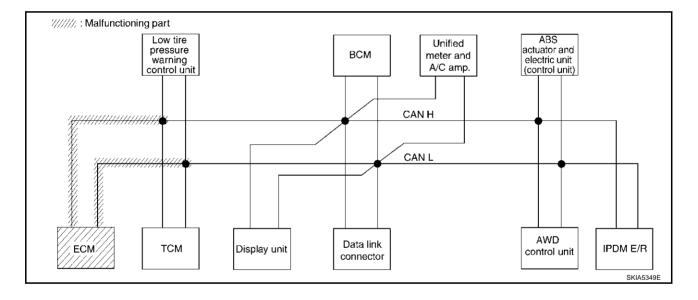
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Case 3
Check ECM circuit. Refer to <u>LAN-618</u>, "ECM Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLGGII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UN K ₩N	ı	_	UNKWN	UNKWN	NNR WN	1	UNKW N
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	1	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	1	_	-	UNKWN	_	-	_
Display unit	-	CAN COMM	CAN 1	C ∜ √3	_	CAN 6	_	CAN 2	CAN 5	_	1	CAN 7
всм	_	NG	UNKWN	UNIKWN	_		_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	_
ALL MODE AWD/4WD	1	NG	UNKWN	UNKWN	_	ı	-	ı	UNKWN	1	ı	_
ABS	_	NG	UNKWN	UNK W N	_	_	_	_	_	_	_	<u> </u>



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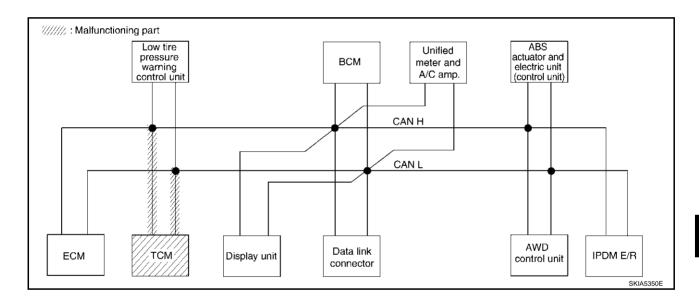
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Case 4
Check TCM circuit. Refer to <u>LAN-619</u>, "TCM Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLGGII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	-
ABS	=	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_

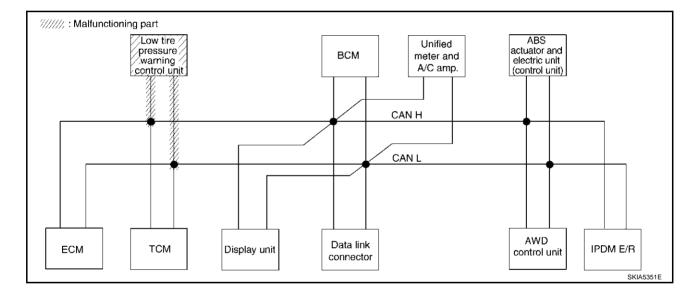


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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-619</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

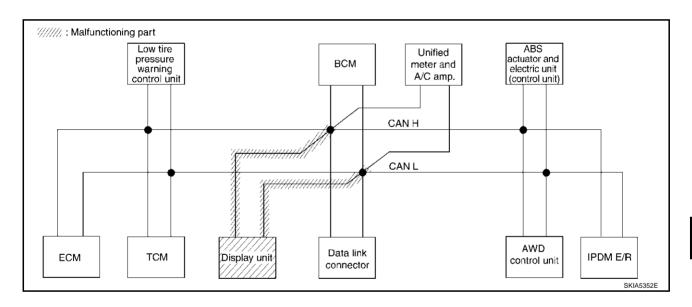
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	1	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Π ИΚ ⁄ΛИ	UNKWN	UNKWN	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_			_	_	_



Case 6

Check display unit circuit. Refer to LAN-620, "Display Unit Circuit Check" .

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EIV GOICGII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CM/3	_	CAN 6	-	CAN 2	CAN 5	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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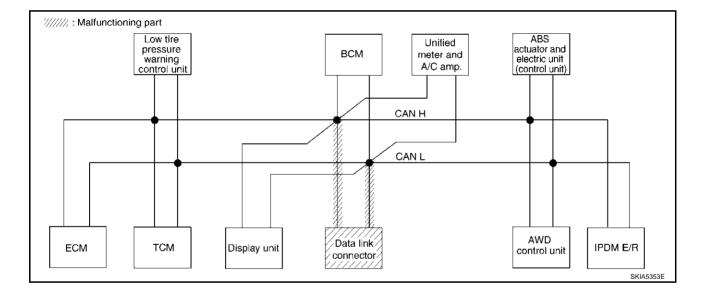
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Case 7
Check data link connector circuit. Refer to <u>LAN-620</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	Ziii Gorgon	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	-	_	-	-	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	=	NG	UNKWN	UNKWN	_	_		_	_	_	_	_



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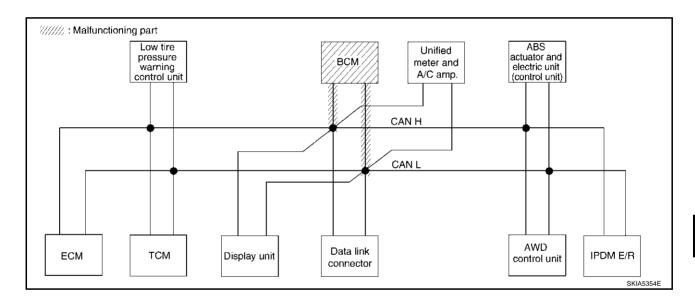
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Case 8
Check BCM circuit. Refer to LAN-621, "BCM Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EIV GOICGII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	UNKWN	1	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	1	UNKWN	1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	∩ ИК ∕∕МИ	Π ИΚ (ΜИ	-	-	_	_	UNK WN	_	_	UNK W N
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_		_	-	_	_



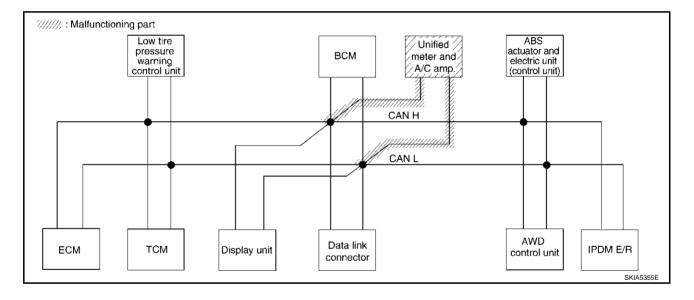
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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-621, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	2117 0010011		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	NNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNI WN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	1	_	_	UNK WN	-	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	ı	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	Π ИΚ (ΛИ	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	ı	_		UNK WN	1	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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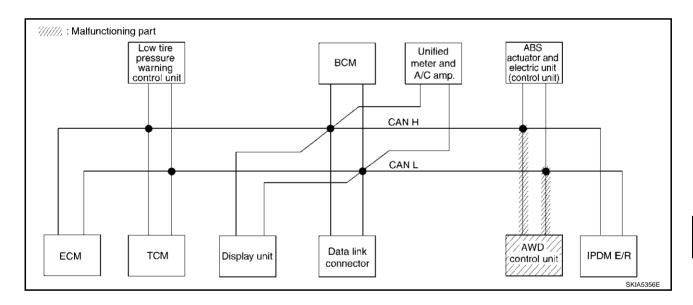
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Case 10
Check AWD control unit circuit. Refer to <u>LAN-622</u>, "AWD Control Unit Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLGGII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	NNR WN	1	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	_	1	UNKWN	_	1	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	1	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNK/WN	UNK WN	_	_	_	-	ONK WN	_	_	_
ABS	=	NG	UNKWN	UNKWN	_	_	_		_	_	_	-

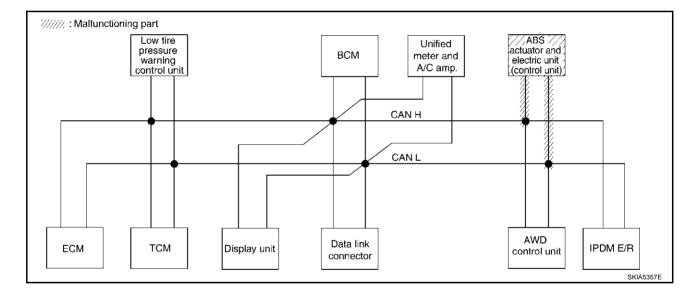


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Case 11

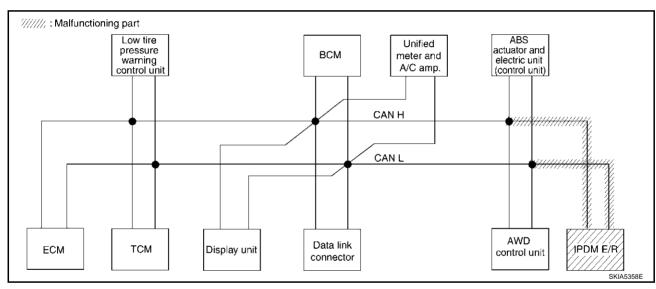
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-622</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	Zivi dordori	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	UNK WN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	Ī	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UN K ₩N	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNK WN	UN K ₩N	_	_	_		_	_	_	_



Case 12
Check IPDM E/R circuit. Refer to LAN-623, "IPDM E/R Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131	Ziii Gologii		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	ı	UNKWN	UNKWN	UNKWN	ı	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	1	1	UNKWN	_	1	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	ı	CAN 2	CAN 5	-	ı	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	-	1		UNKWN	-		-
ABS	ı	NG	UNKWN	UNKWN	_	_		_	_	_	-	_



Case 13
Check CAN communication circuit. Refer to <u>LAN-623</u>, "CAN Communication Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOLCOIT	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UN K ₩N	_	Ω ΝΚ ⁄ΜΝ	_	_	UNKWN	Π ΝΚ ΛΝ	υ νβ ⁄νν	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	-	CAN COMM	O Q √\ 1	C 4/ 13	-	C 4√ 16	-	C W 12	C4/15	-	1	CAN 7
ВСМ	_	NG	UNKWN	∩ NK WN	-	_	_	_	UNKWN	-	-	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	NNR MN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKAN	UNK W N	_	_	_	_	_	_	_	

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-626, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	Zivi ooroon	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Π ΛΚW M	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K ∕VN	UNKWN	UNKWN	UNKWN	_	UNKWN	UN K ₩N	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-626, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UN K ₩N	_	-	_	_	Π ΝΚ ΜΝ	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	ı	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	ΩNK \ NN	_	_	_	_	_	_	_	_
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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

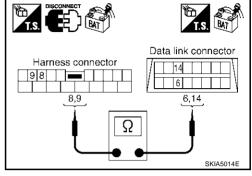
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-600, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

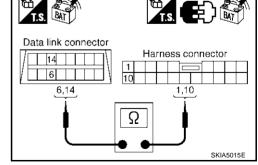
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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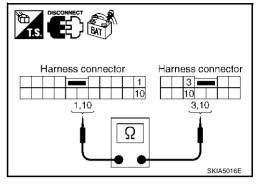
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

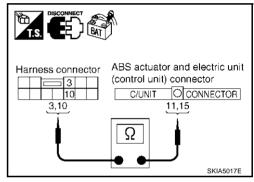
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-600, "Work Flow".

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

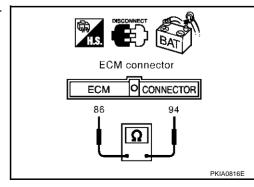
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

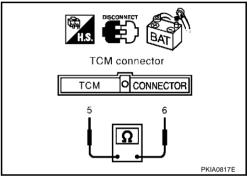
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Replace TCW

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

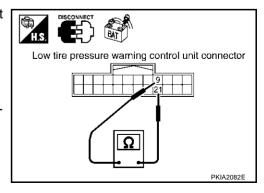
- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure warning control unit and TCM.



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Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

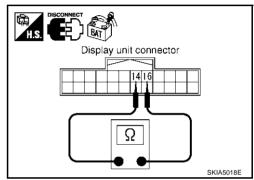
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



AKS0070M

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

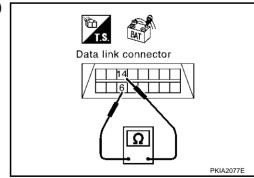
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-600</u>, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

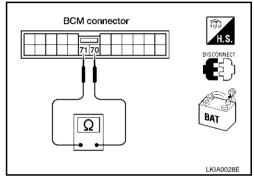
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS00700

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

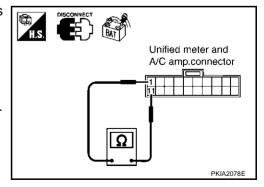
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. and data link connector.



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Revision; 2004 April

AWD 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 AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

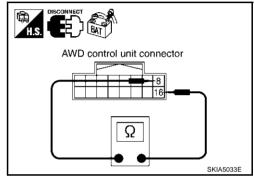
OK or NG

OK

>> Replace AWD control unit.

NG

>> Repair harness between AWD control unit and IPDM E/



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS0070Q

1. CHECK CONNECTOR

- 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.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

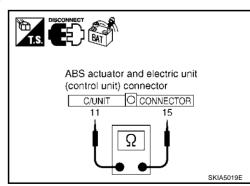
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



CAN SYSTEM (TYPE 18)

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

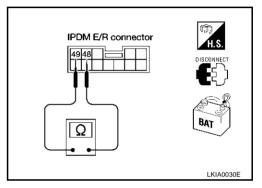
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, unit side, meter side and harness side).
- **ECM**
- **TCM**
- Low tire pressure warning control unit
- Display unit
- **BCM**
- Unified meter and A/C amp.
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

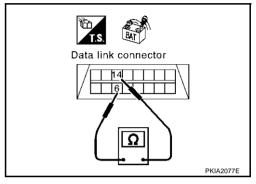
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

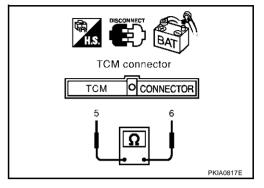
- Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

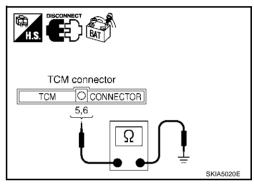
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

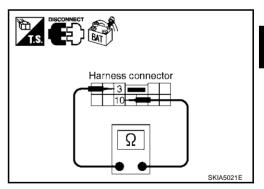
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

>> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

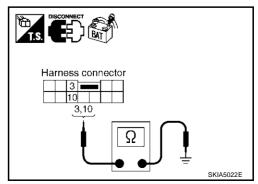
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



Revision; 2004 April LAN-625 2003 Murano

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8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

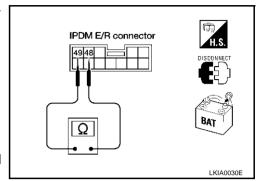
: Continuity should not exist.

OK or NG

OK

>> GO TO 9.

- NG >> C
 - >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 49/48 48, 49 ELKIA0036E

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-627}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ $\underline{\mathsf{INTERNAL}}$ $\underline{\mathsf{CIRCUIT}}$ $\underline{\mathsf{INSPECTION}}$ ". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-600, "Work Flow"</u>.

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS0070T

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

CAN SYSTEM (TYPE 18)

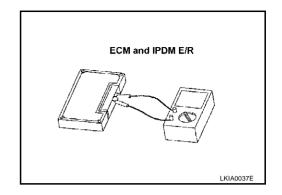
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Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 19)

PFP:23710

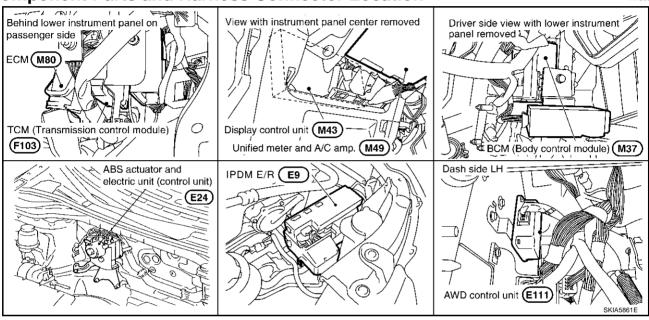
System Description

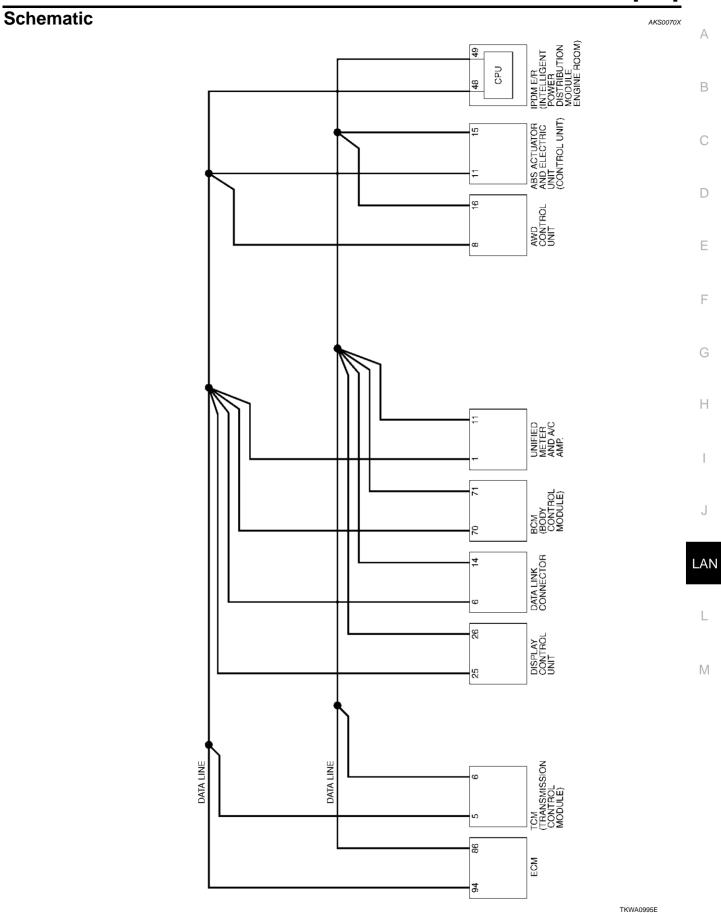
AKS0070V

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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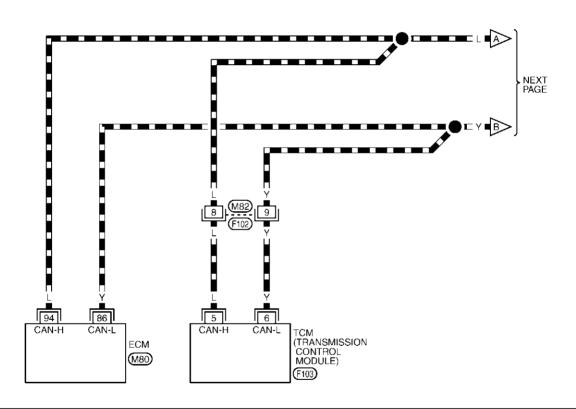


Wiring Diagram - CAN -

AKS0070Y

LAN-CAN-55

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.
(M80), (F103) -ELECTRICAL
UNITS

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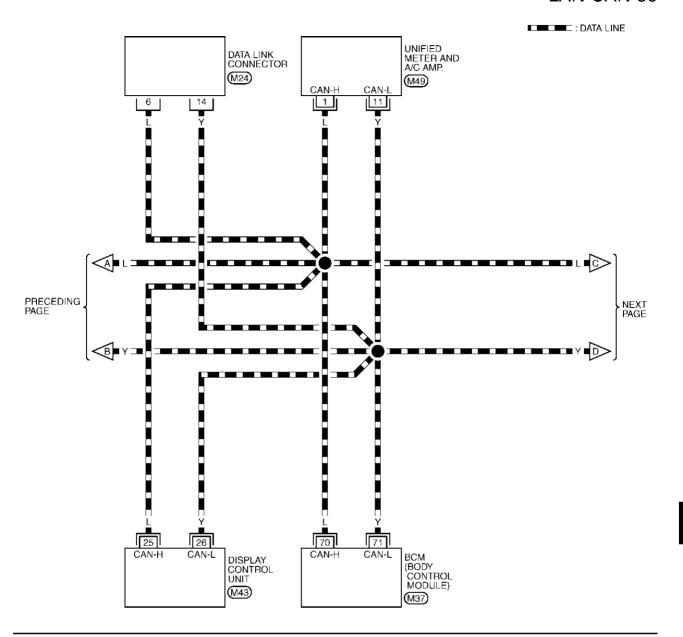
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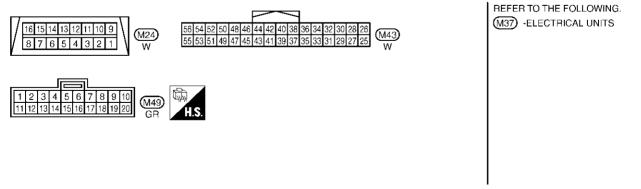
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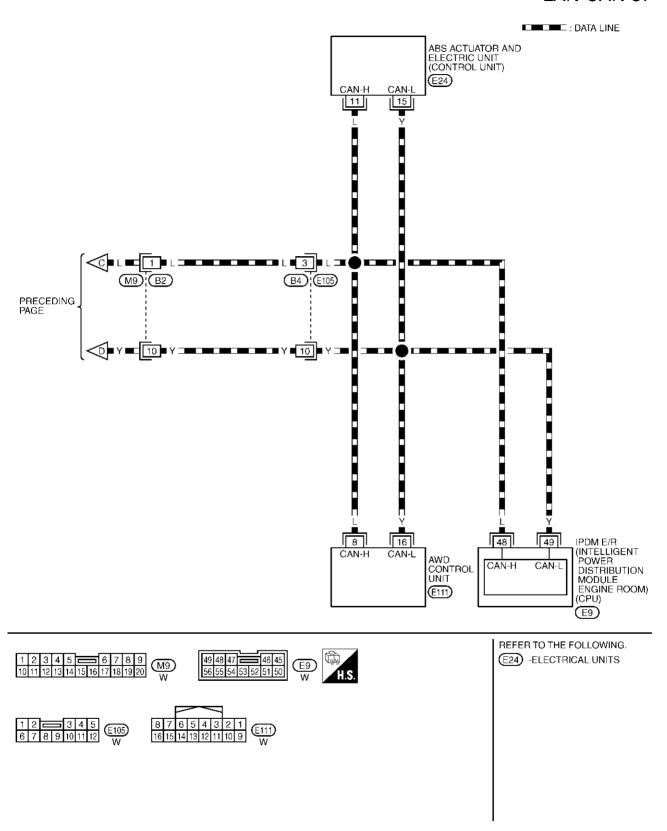
LAN-CAN-56





TKWA0997E

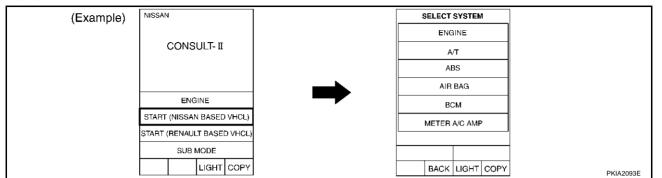
LAN-CAN-57



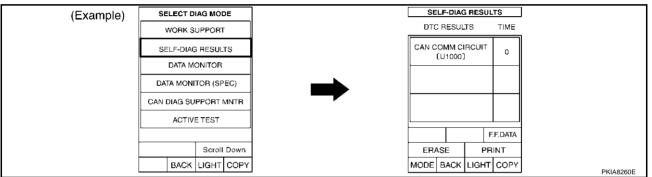
TKWA0998E

Work Flow

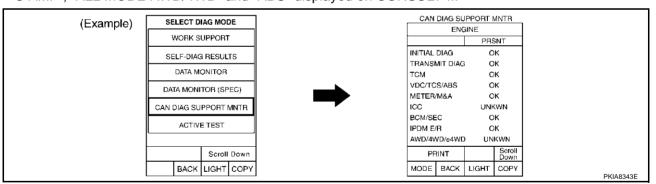
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-635</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-635</u>, "CHECK SHEET".

NOTE:

cated in check sheet table.

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indi-
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-635</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 19)

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8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-635, "CHECK SHEET"</u>.

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MONITOR" for the diagnosed control unit, replace the control unit. Refer to AV-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-637, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM ecroon	Latitia I	T				Receive of	diagnosis			
3222013131	LIW Screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
			1								
Symptoms :											

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

Attach copy of display control unit CAN DIAG SUPPORT MONITOR check sheet

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Attach copy of	Attach copy of	Attach copy of
ENGINE	TRANSMISSION	BCM
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	ALL MODE AWD/4WD	ABS
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	ALL MODE AWD/4WD	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR
		PKI

CHECK SHEET RESULTS (EXAMPLE)

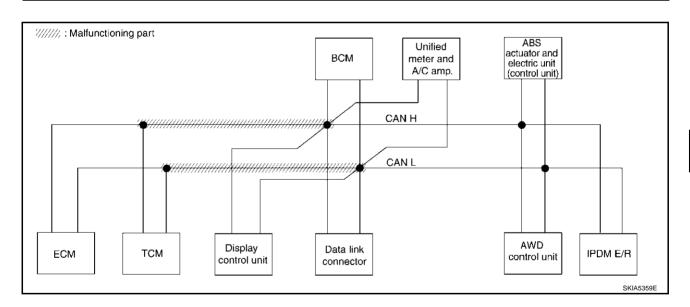
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-649</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
322231 3101	LIN GOIGGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNK VN	UNK WN	UNK VN	_	υν κ ⁄νν
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANOTEC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	-	_	_	_



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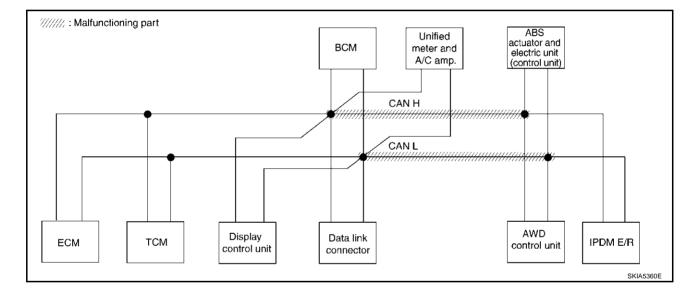
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Case 2

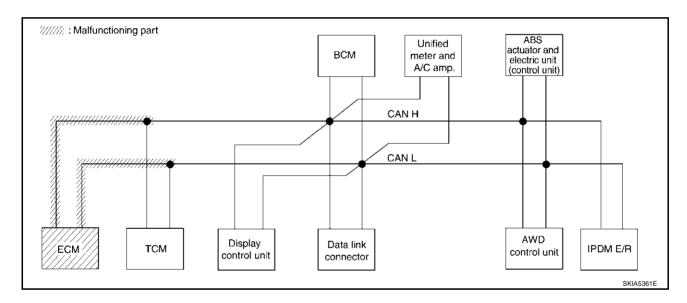
Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-649</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
0222010101	LIN GOICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNK VN	_	nν κ ⁄νν
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNK WN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ΝΚ ΛΝ	UNK WN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNK/WN	_	_	_
ABS	_	NG	UNKWN	UNK WN		_	_	_	_	_	_



Case 3
Check ECM circuit. Refer to LAN-650, "ECM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	LIVI GOICGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UN K ₩N	_	UNK WN	_	UNKWN	UNK WN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANC/RC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	=	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	=	UNKWN	UNKWN	=
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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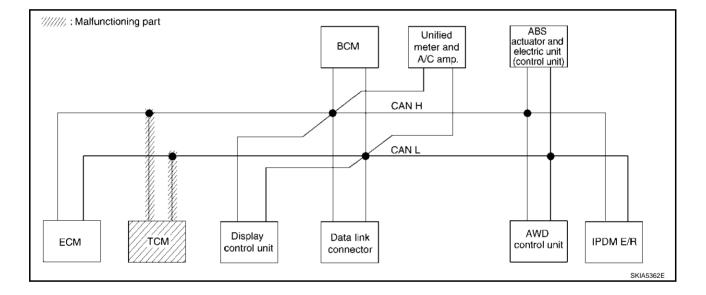
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Case 4
Check TCM circuit. Refer to <u>LAN-651</u>, "TCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SOICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	1	UNK WN	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKAN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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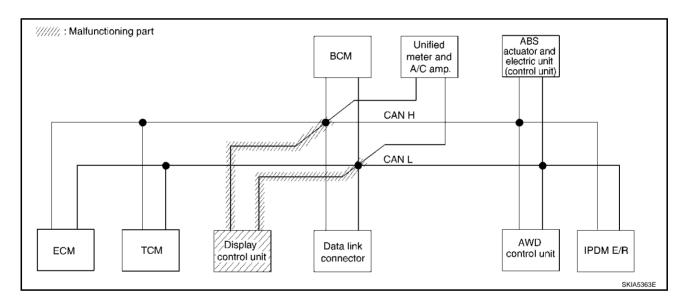
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Case 5
Check display control unit circuit. Refer to <u>LAN-651</u>, "<u>Display Control Unit Circuit Check</u>".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	LIN GOICGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN		UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CANCIRC 1	CAN CIRC 3	_	_	CAN CRC 2	CANC RC 5	_	_	CANC/RC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	1	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

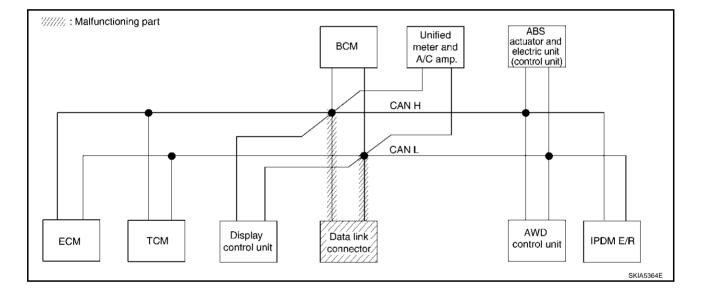


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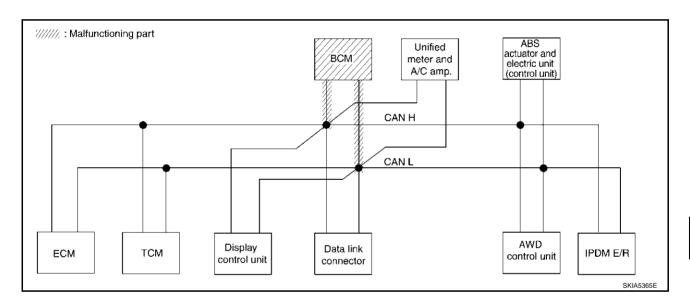
Case 6
Check data link connector circuit. Refer to LAN-652, "Data Link Connector Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
322237 3737	LIN GOICGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 7
Check BCM circuit. Refer to LAN-652, "BCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	LIN BOIGHT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CRC 2	CAN CIRC 5	_	_	CAN CIRC 7
ВСМ	_	NG	UNK WN	UNK WN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	=	UNKWN	UNKWN	UNKWN	UNKWN	UNK/WN	=	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNKWN	_		_	_	_	_	_



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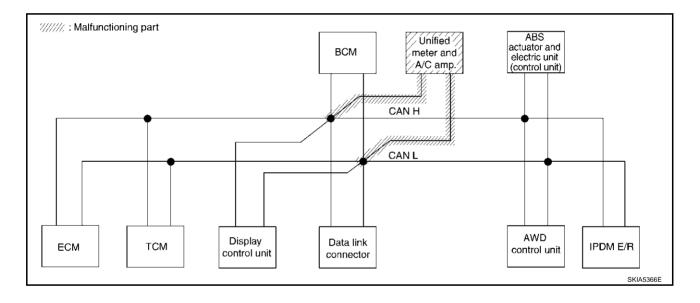
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Case 8
Check unified meter and A/C amp. circuit. Refer to LAN-653, "Unified Meter and A/C Amp. Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SOICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNK WN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNI S WN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CANORC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	Π ИΚ ΜИ	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNKWN	_		_	_	_	_	_



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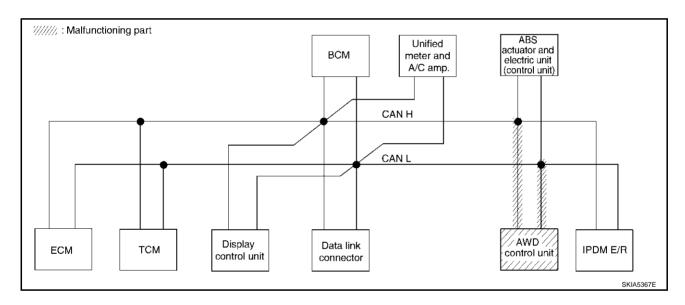
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Case 9
Check AWD control unit circuit. Refer to <u>LAN-653</u>, "AWD Control Unit Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive (diagnosis			
3222313131	LIN GOICGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	UNKWN	UNKWN	UNK WN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ИΚ ΜИ	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	1	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

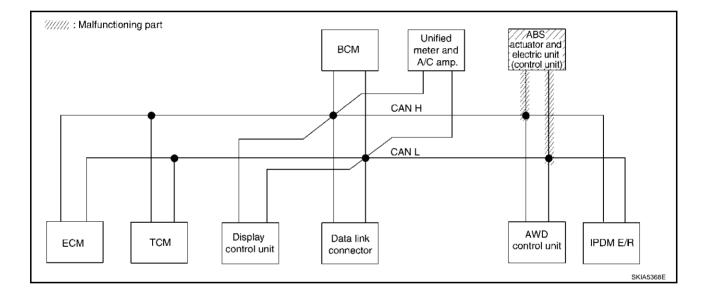


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Case 10

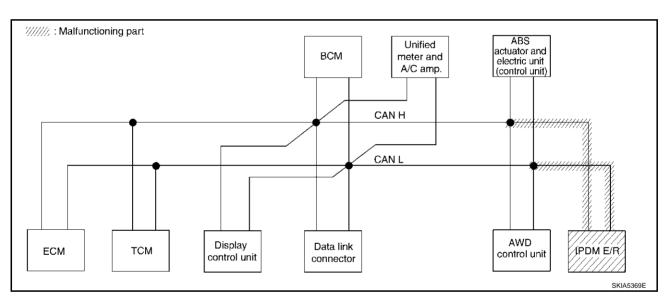
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-654</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	2111 0010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKANN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKANN	UNKWN	_		_	1	_	_	_



Case 11
Check IPDM E/R circuit. Refer to LAN-654, "IPDM E/R Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
3222313131	LIN BOIGHT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	-	CANCIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	NNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	1	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 12
Check CAN communication circuit. Refer to <u>LAN-655</u>, "CAN Communication Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222313131		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UN A WN	_	UNK WN	_	UNK WN	UN K WN	Π ИΝ ΜΝ	_	Π ΛΚ ΛΝ
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CANCERC 1	CANOTEC 3	_	_	CANORC 2	CANORC 5	_	_	CANORC 7
всм	_	NG	∩ NK WN	UNI W WN	_	-	-	UNKWN	_	_	UNRWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNK \ \\	UNR WN	_	_	-	Π ΝΚ (ΜΝ	_	_	_
ABS	_	NG	UNK WN	UNK WN	_	_	_	_	_	_	_

Revision; 2004 April LAN-647 2003 Murano

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Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-658, "IPDM E/R Ignition Relay Circuit Check"</u>.

				Γ	CAI	N DIAG SU					
SELECT SYST	EM screen	Initial	Transmit				Receive of	lagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UN K ₩N	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K ₩N	UNKWN	UNKWN	_	UNKWN	UNK WN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-658, "IPDM E/R Ignition Relay Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
3222373737		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚ ΛΝ	_	_	_	Π ΝΚ (ΛΝ	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	Ω ΝΚ ΑΝ	_	_	_	_	_	_	_
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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

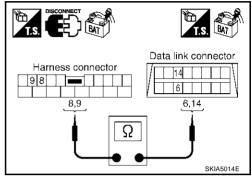
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-633, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

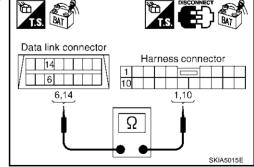
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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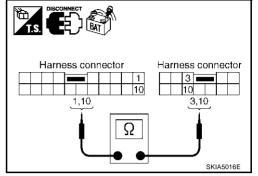
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

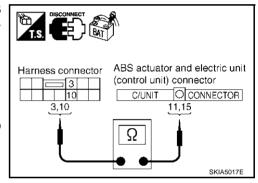
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-633, "Work Flow".

NG >> Repair harness.



AKS00712

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

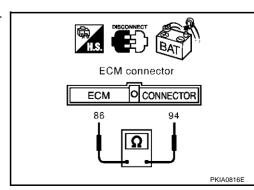
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

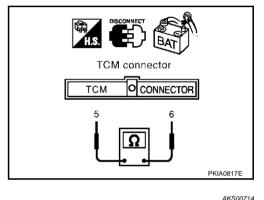
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

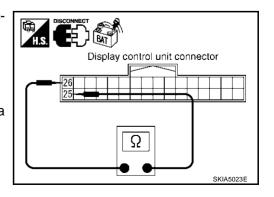
- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

NG >> Repair harness between display control unit and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

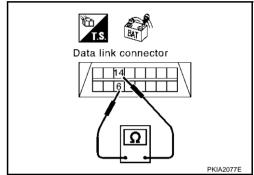
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to <u>LAN-633</u>, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

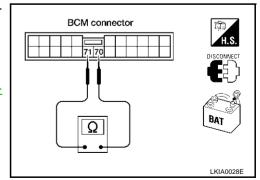
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36</u>, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect unified meter and A/C amp, connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

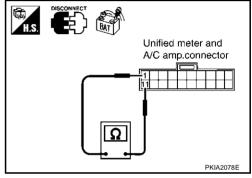
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

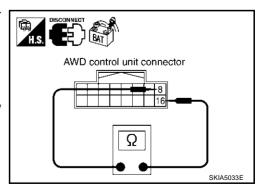
- Disconnect AWD control unit connector. 1.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/ R.



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LAN-653 Revision; 2004 April 2003 Murano

AKS00719

ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

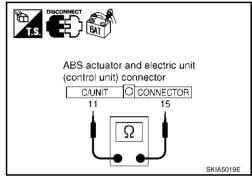
: Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace ABS actuator and electric unit (control unit).

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS0071A

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).

IPDM E/R connector

4948

DISCONNECT

BAT

LKIA0030E

CAN SYSTEM (TYPE 19)

[CAN]

AKS0071B

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CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

: Continuity should not exist.

OK or NG

OK

NG

>> GO TO 3.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

Data link connector

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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

4. CHECK HARNESS FOR SHORT CIRCUIT

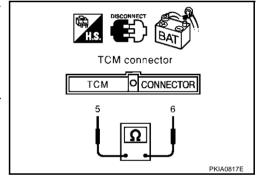
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



Data link connector

6

6, 14,

5. CHECK HARNESS FOR SHORT CIRCUIT

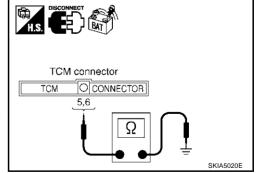
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



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6. CHECK HARNESS FOR SHORT CIRCUIT

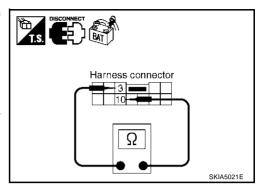
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

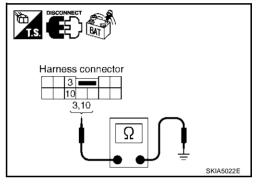
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

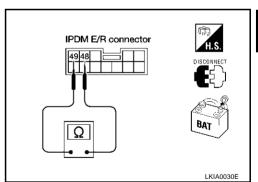
OK or NG

NG

OK >> GO TO 9.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.



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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



Check components inspection. Refer to <u>LAN-658</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . <u>OK or NG</u>

OK >> Connect all the connectors and diagnose again. Refer to LAN-633, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS0071C

LKIA0036E

Check the following. If no malfunction is found, replace the IPDM E/R.

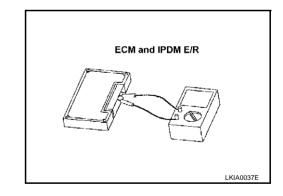
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS0071D

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



IPDM E/R connector

48, 49

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CAN SYSTEM (TYPE 20)

PFP:23710

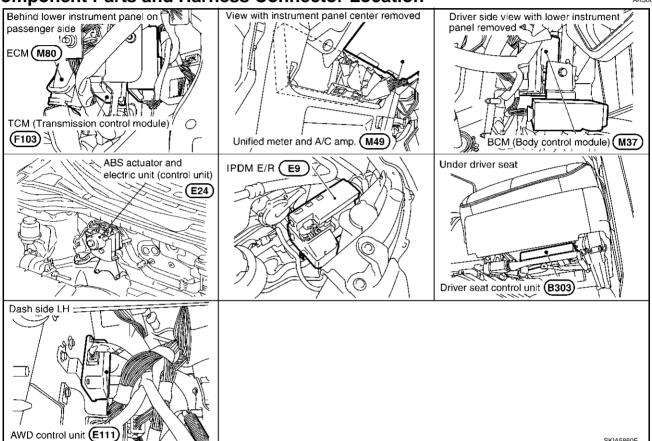
System Description

AKS0071E

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

AKS0071F

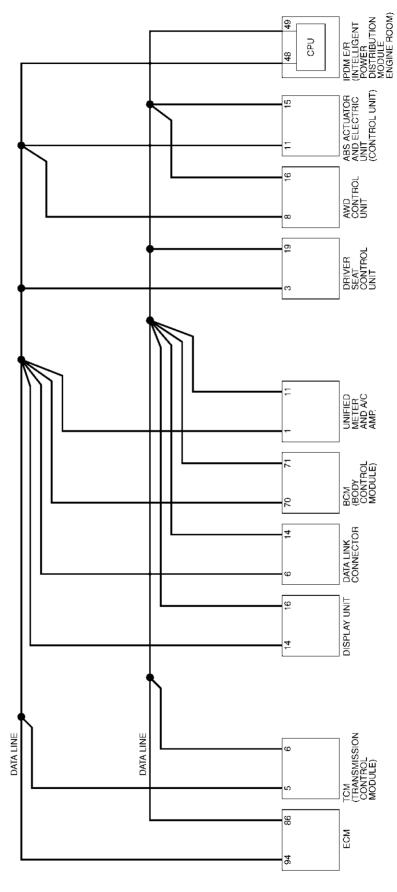


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Schematic AKS0071G



AKS0071H

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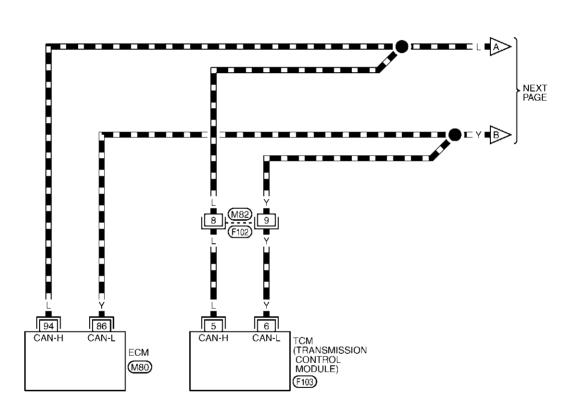
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LAN-CAN-58

: DATA LINE



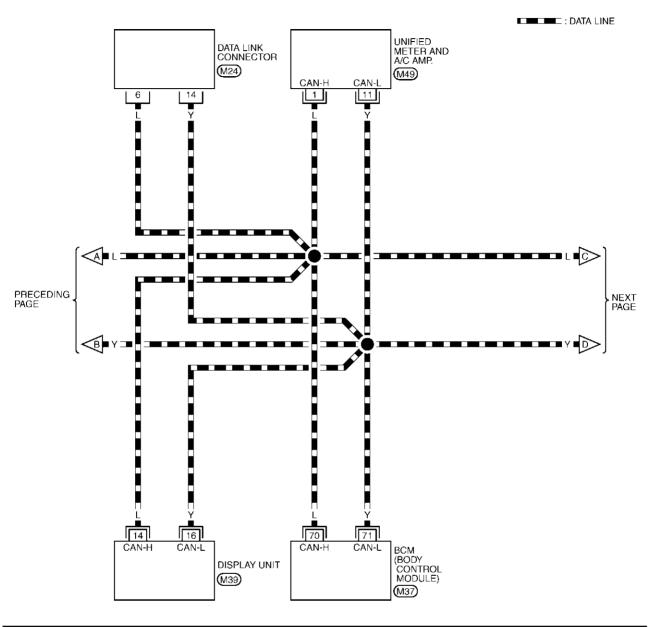
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

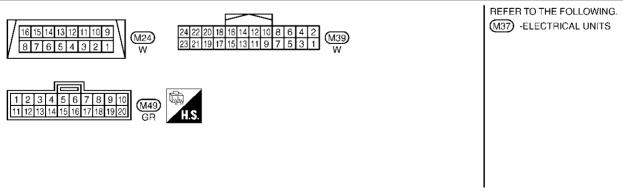
(M80), (F103) -ELECTRICAL

UNITS

TKWA1000E

LAN-CAN-59





TKWA1001E

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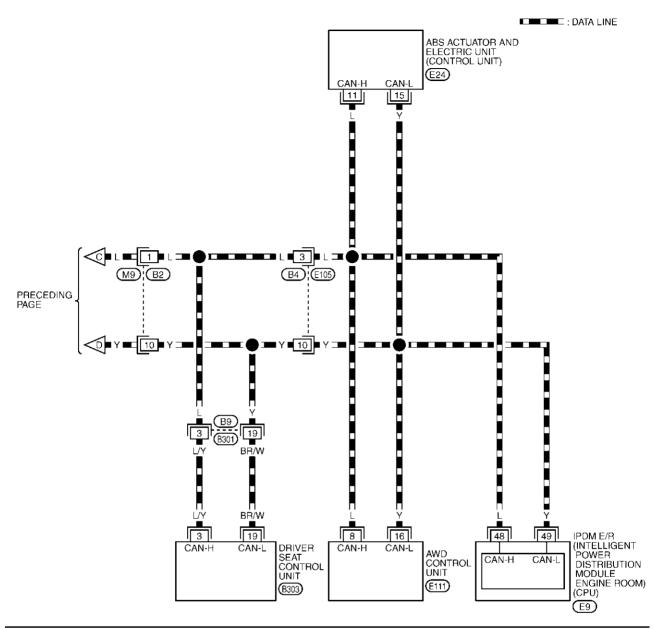
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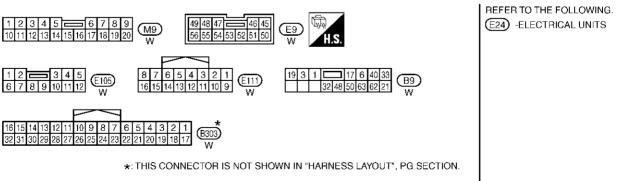
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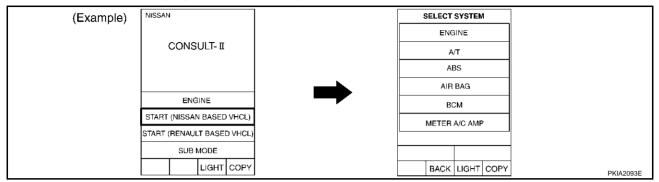




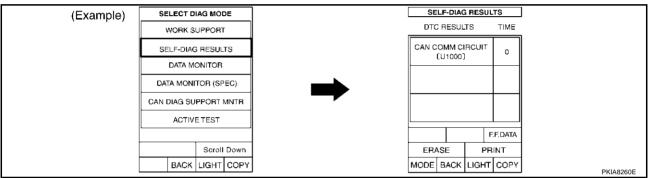
TKWA1002E

Work Flow

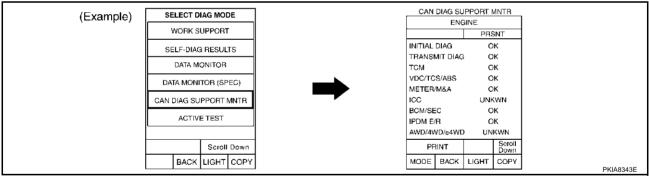
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" 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-666, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-666</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-666</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 20)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-666, "CHECK SHEET"</u>.

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-668</u>, "CHECK SHEET <u>RESULTS (EXAMPLE)"</u>.

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

TRANSMISSION No indication NG UNKWN	DOM METER 1/D	
Attach copy of display unit Attach copy of display attach copy of display attach copy of display attach copy of display at		<u></u>
Attach copy of display unit Atta		IPDM E/
Attach copy of SELECT SYSTEM SATURAGE SATURAGE SELECT SYSTEM Saturage SELECT SYSTEM Saturage Saturage Select System Select System Select System Saturage Select System Sele	UNKWN - UNKWN UNKWN UNKWN	UNKWI
Attach copy of SELECT SYSTEM	N UNKWN - UN	ı –
Attach copy of display unit METER A/C AMP No indication — UNKWN UNKWN UNKWN UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — — UNKWN — — — — — — — — — — — — — — — — — — —	3 — — CAN 2 CAN 5 —	CAN 7
Attach copy of display unit	n UNKWN -	UNKWI
Attach copy of display unit Atta	N UNKWN UNKWN UNKWN — UNKWN UN	ı –
Attach copy of display unit	UNKWN - UNKWN UNKWN -	_
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM	'N UNKWN -	_
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of display unit	N	_
display unit	Attach copy of SELECT SYSTEM	
display unit		
display unit	Attach conv of	
	display unit	

Attach copy of Attach copy of Attach copy of Attach copy of ENGINE TRANSMISSION всм METER A/C AMP SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of AUTO DRIVE POS. ALL MODE AWD/4WD ABS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of Attach copy of ENGINÉ TRANSMISSION всм METER A/C AMP CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT **MNTR MNTR** MNTR **MNTR**

> Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR

Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

PKIB0865E

Revision; 2004 April LAN-667 2003 Murano

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CHECK SHEET RESULTS (EXAMPLE)

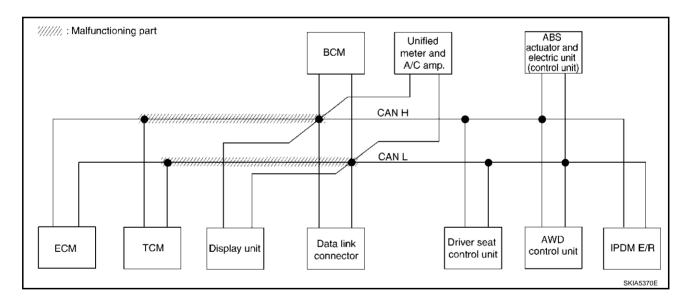
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-682</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

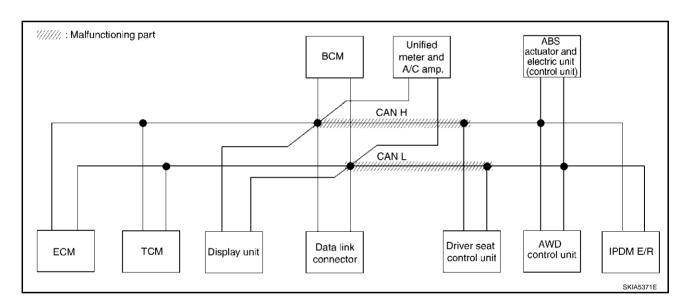
					CA	N DIAG SU	PPORT MI	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	EN SCIECT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	Π ΝΚ ΜΝ	Π ΝΚ ΑΝ	UNKAN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNK/WN	-	_	_	UNKWN	_		UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-682</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	EN SCICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	Π ΝΚ ΜΝ	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNK WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	C 4/1 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNIOWN	-	_	_
ABS	_	NG	UNKWN	UNK WN	_	-	_	_	_	_	_



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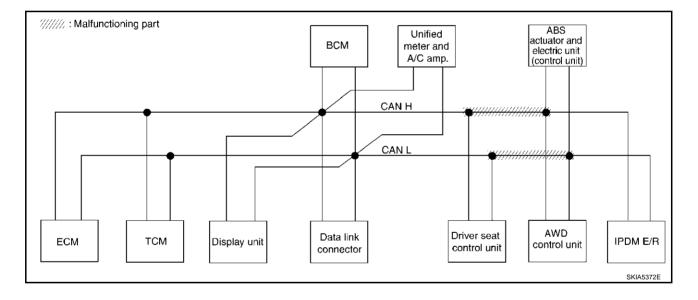
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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-683</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022207 0701	2.01 00/00/7	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	Π ΝΚ ΑΝΙ	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNK WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	C W 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UN K ₩N
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNIOWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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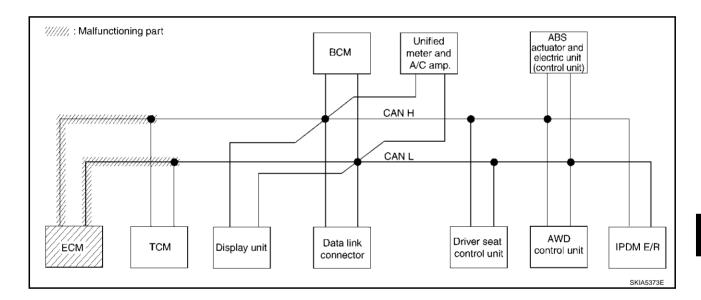
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Case 4
Check ECM circuit. Refer to LAN-684, "ECM Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
322207 3701	2.00	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKIVN	-	UNKWN	_	UNK WN	UNK WN	NNRMN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	C 4/ 13	_	=	CAN 2	CAN 5	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	Π ИΚ (ΜИ	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	-	_	_

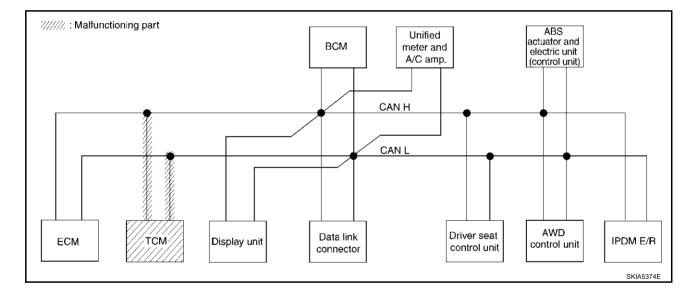


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Case 5
Check TCM circuit. Refer to <u>LAN-684, "TCM Circuit Check"</u>.

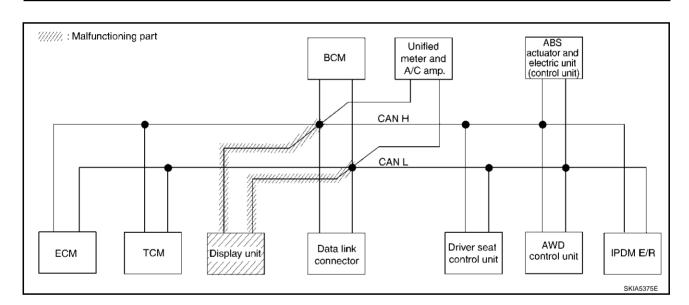
					CAI	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022207 0701	2,4, 33,331,	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNK Y VN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	1
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKAN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNK W N	1	UNKWN	UNKWN	_	1	1
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	1	-	UNKWN	_	1	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 6

Check display unit circuit. Refer to LAN-685, "Display Unit Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	EN SOICEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	-	CAN COMM	C 4/ 11	CAN 3	_	_	C4/12	CAN 5	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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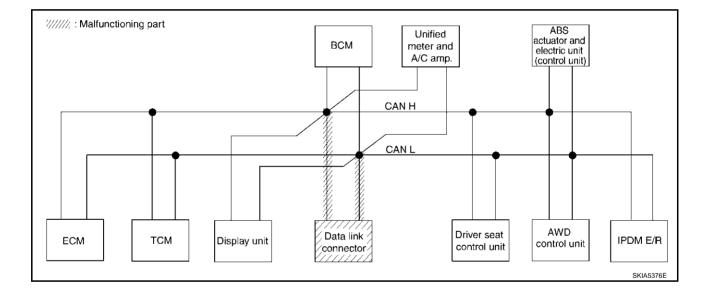
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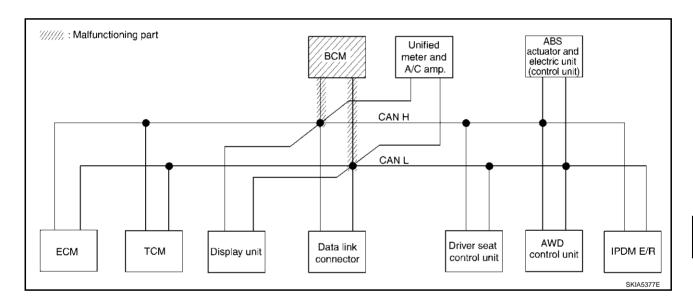
Case 7
Check data link connector circuit. Refer to <u>LAN-685</u>, "<u>Data Link Connector Circuit Check</u>".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022207 0701	EN SOICEN	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 8
Check BCM circuit. Refer to LAN-686, "BCM Circuit Check".

					CA	N DIAG SU	PPORT MN	NTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
322201 3131	LIWI SCIECTI	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	-	NG	UNK WN	UNKWN	_	_	_	UNK WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	Π ΝΚ (ΜΝ	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNK WN	UNKWN	-	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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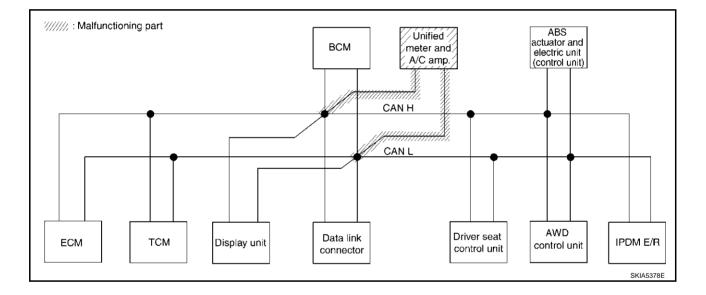
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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-686, "Unified Meter and A/C Amp. Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
0222010101	EN SOICEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNK WN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNK W N	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	1	UNKWN	UNK A NN	_	1	1
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNK WN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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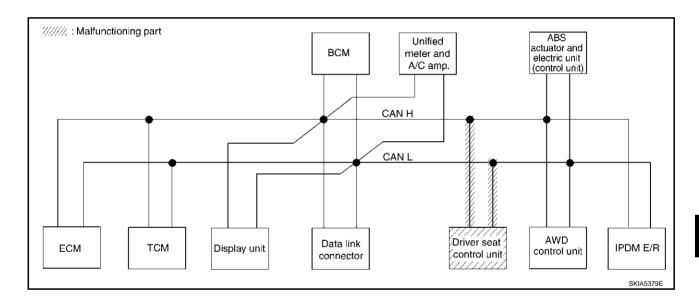
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Case 10
Check driver seat control unit circuit. Refer to <u>LAN-687</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
322207 3731	2141 0010011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN		_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	-	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	_
ABS	_	NG	UNKWN	UNKWN	_	_	_		_	_	_
											PKIB0875E

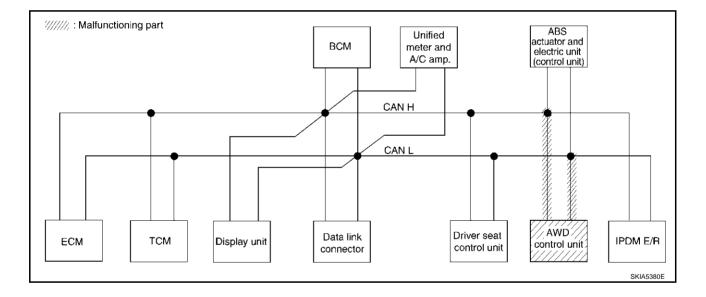


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Case 11
Check AWD control unit circuit. Refer to <u>LAN-687</u>, "AWD Control Unit Circuit Check".

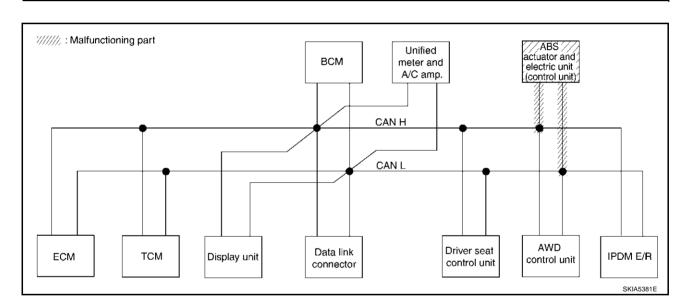
		CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_			
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7			
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ΝΚ (ΛΝ	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_			
ALL MODE AWD/4WD	_	NG	UNK WN	UNKWN	_	_	_	UNK WN	_	_	-			
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_			



Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-688</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

				CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis								
		Initial diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_		
ABS	_	NG	UNK WN	UNK WN	_	_	_	_	_	_	_		



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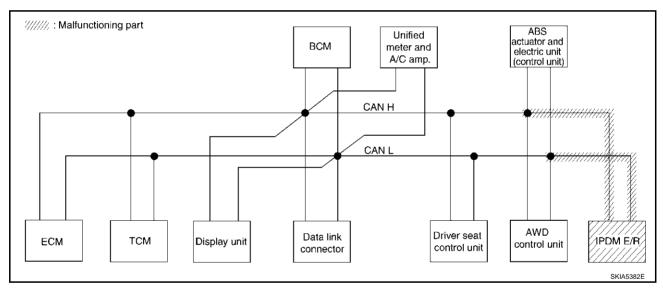
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Case 13
Check IPDM E/R circuit. Refer to <u>LAN-688</u>, "IPDM E/R Circuit Check".

		CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis								
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	UNKWN	
METER A/Ç AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	1	UNKWN	UNKWN	_	-	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	



Case 14
Check CAN communication circuit. Refer to <u>LAN-689</u>, "CAN Communication Circuit Check" .

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis								
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	∩MANN	_	Π ΝΚ ΜΝ	-	Π ΝΚ ΜΝ	UNK WN	UNKANN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	UNKWN	1		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	CAN 7		
всм	-	NG	UN K WN	UNK WN	_	_	_	UN K ∳√N	_	_	UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_		
ABS	_	NG	UNK WN	UNK WN	_	_	_	_	_	_	_		

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-693</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNK WN	-	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_ [UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	CAN 7		
всм	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	-	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	1	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_		

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-693</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

	CAN DIAG SUPPORT MNTR													
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis									
		diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	Π ΝΚ ΜΝ	_	UNKWN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	-	CAN 7			
всм	_	NG	UNKWN	UNKWN	_		_	UNKWN	_	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN		UNKWN	UNKWN	_	1	-			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	_			
ABS	_	NG	UNKWN	UNKWN	=	_	_	_	_	=	=			

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

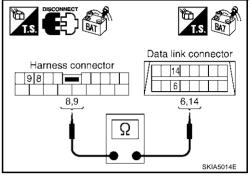
: Continuity should exist.

OK or NG

OK >>

>> Connect all the connectors and diagnose again. Refer to LAN-664, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

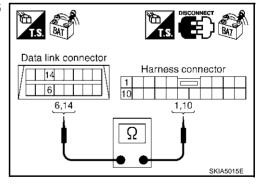
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

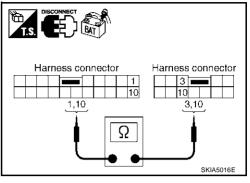
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-664</u>, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L)

: Continuity should exist.

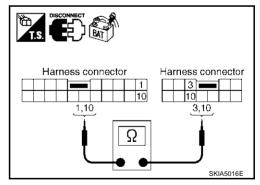
10 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. Check harness for open circuit

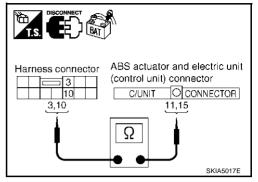
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-664, "Work Flow" .

NG >> Repair harness.



AKS0071M

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

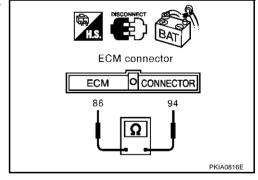
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS0071N

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

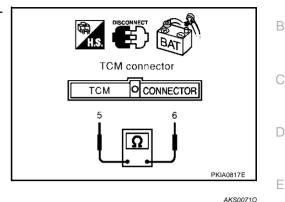
- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display unit connector.
- Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

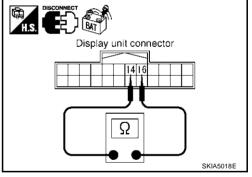
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace display unit.

NG >> Repair harness between display unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. Check harness for open circuit

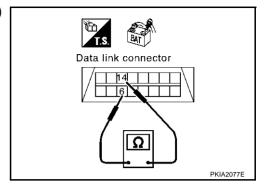
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. 54 - 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-664, "Work Flow".

NG >> Repair harness between data link connector and BCM.



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BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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

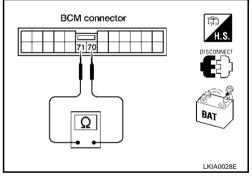
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - **71** (Y) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM"

NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp, for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. AKS0071R

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

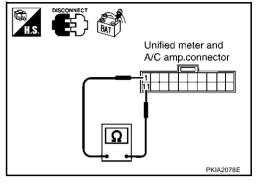
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

: Approx. 54 - 66 Ω

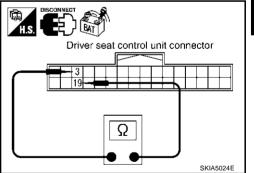
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



AWD Control Unit Circuit Check

CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

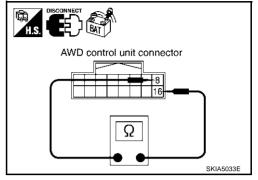
- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS0071U

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

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

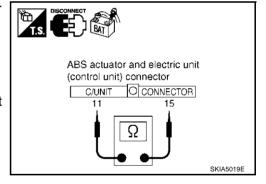
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS0071V

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

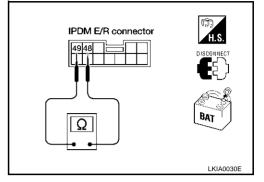
: **Approx. 108 - 132** Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



AKS0071W

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, unit side, meter side, control unit side and harness side).
- ECM
- TCM
- Display unit
- BCM
- Unified meter and A/C amp.
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), $14\ (Y)$ and ground.

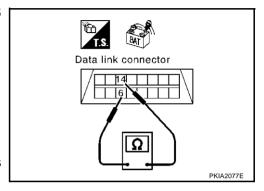
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

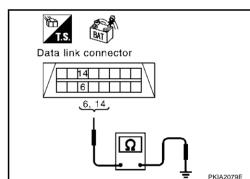
OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.





4. CHECK HARNESS FOR SHORT CIRCUIT

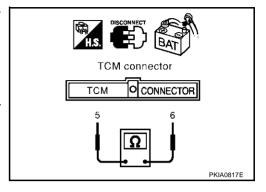
- Disconnect TCM connector. 1.
- Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

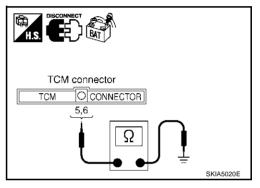
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

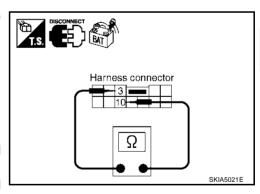
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

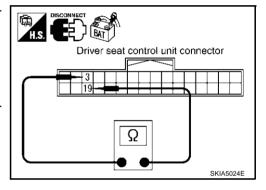
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

10

3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

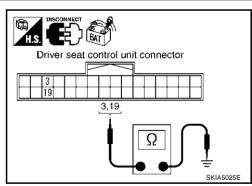
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair har

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

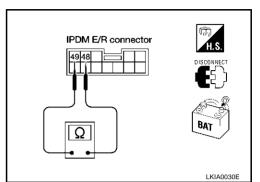
: Continuity should not exist.

OK or NG

OK NG

>> GO TO 11.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 12.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 48. 49 Ω LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-694, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-664, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

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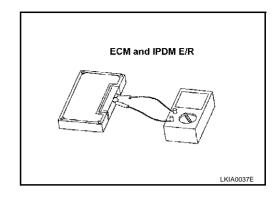
LAN-693 Revision; 2004 April 2003 Murano

AKS0071Y

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

CAN SYSTEM (TYPE 21)

PFP:23710

System Description

AKS0071Z

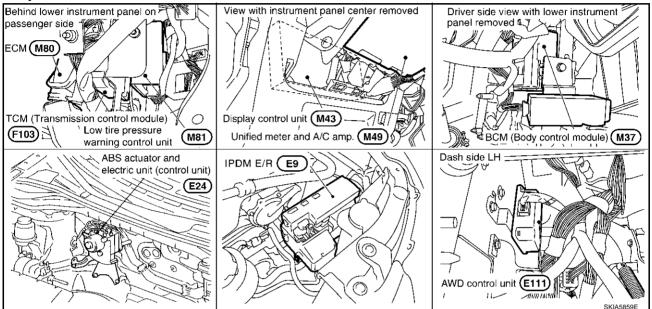
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

Component Parts and Harness Connector Location

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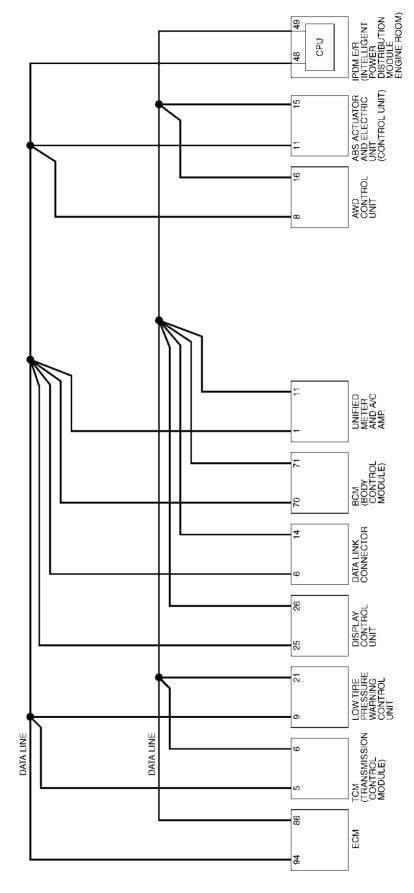
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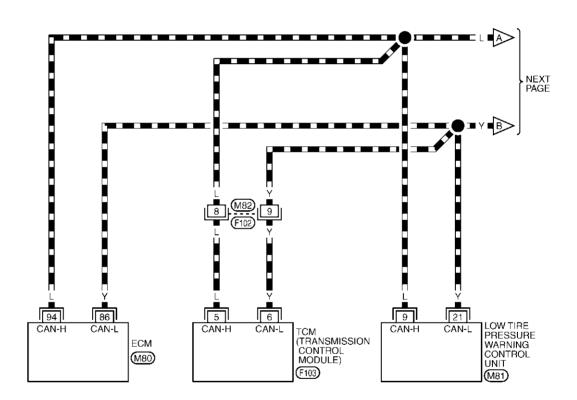
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LAN-CAN-61

: DATA LINE



12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

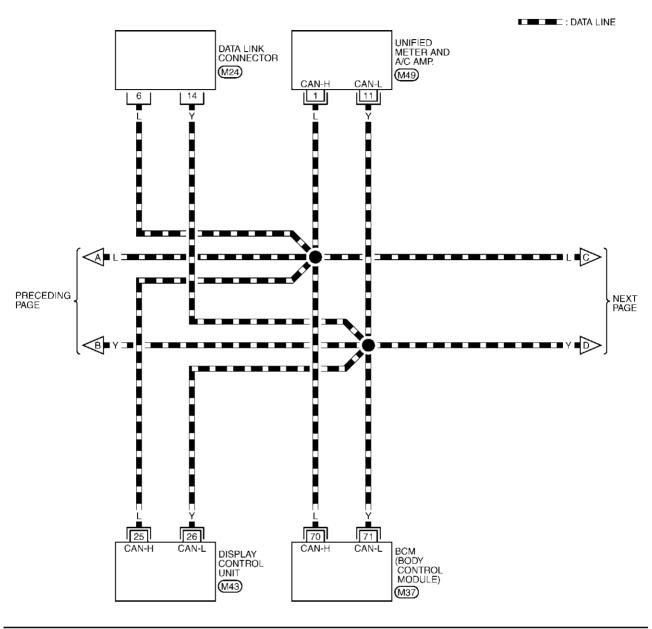
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 REFER TO THE FOLLOWING.

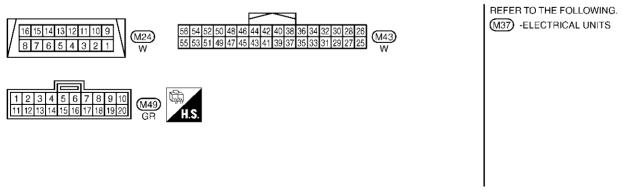
(M80), (F103) -ELECTRICAL

UNITS

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LAN-CAN-62





TKWA1005E

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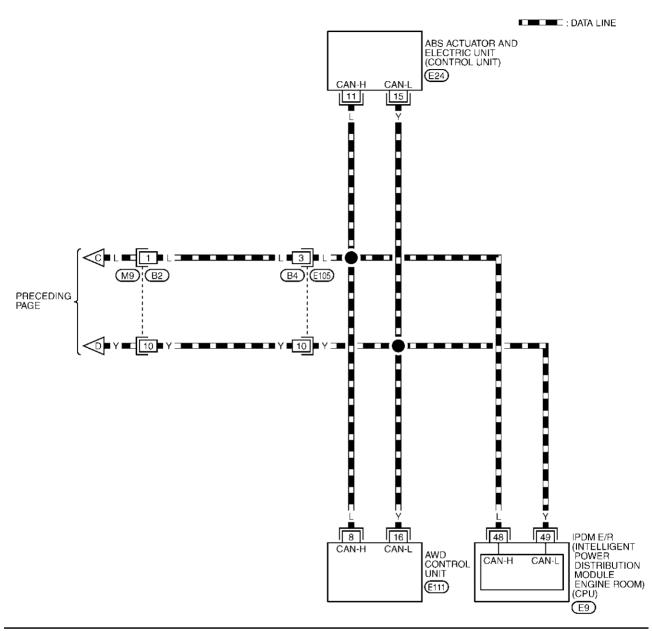
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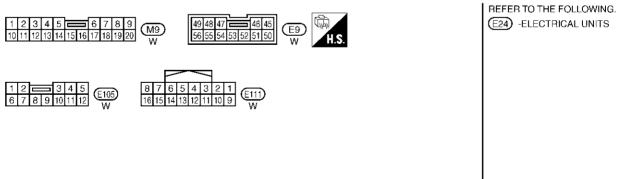
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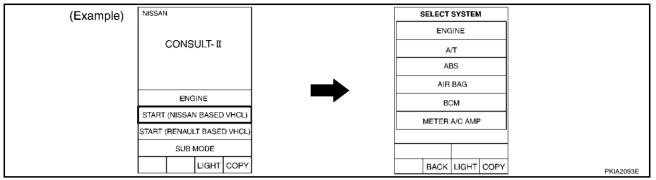




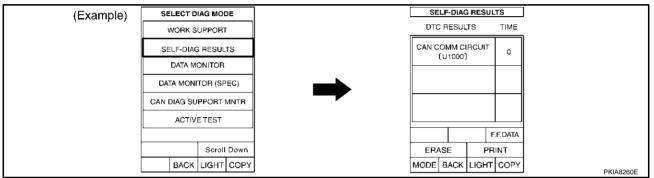
TKWA1006E

Work Flow

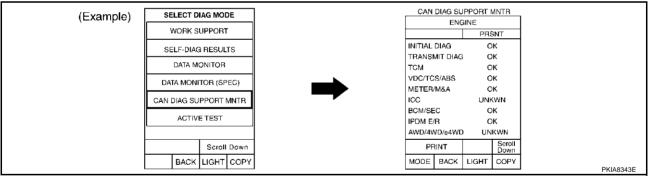
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" 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-702, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-702, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-702</u>, "CHECK SHEET".

CAN SYSTEM (TYPE 21)

[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-702</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-203, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-704, "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.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit					eive diagn				
	LIVI SCIECTI		diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWI
FRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_		UNKWN	_	UNKWN	_
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_		UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	ı
LL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_
			Attach co	oy of			Attach	n copy of				
		SI	ELECT SY	STEM			SELEC	r system	1			
						I			l l			
					Attach o	copy of						
			CA	N DIAG SU	Attach o	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				
			CA	N DIAG SI	display co	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				
			CA	N DIAG SU	display co	ntrol unit	check she	et				

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	
MNTR	MNTR	MNTR	

Revision; 2004 April LAN-703 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

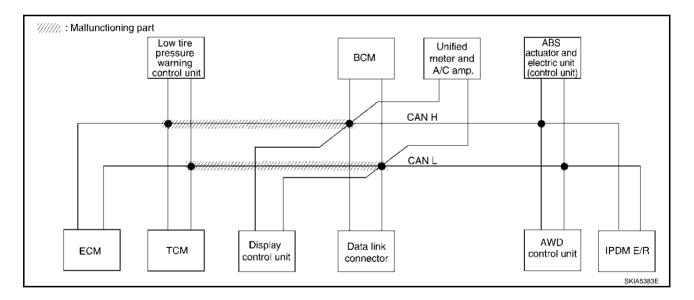
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-717</u>, "Circuit Check Between TCM and Data Link Connector" .

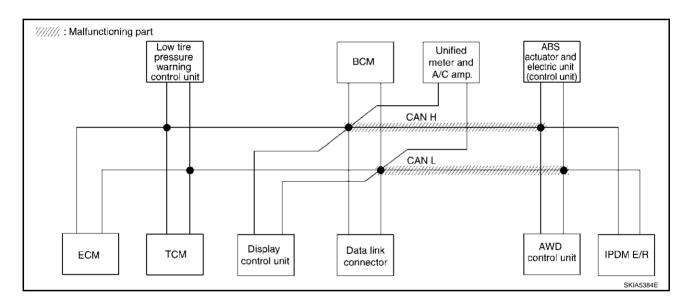
						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322237 3737	LIVI dorecti	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_		Ω ΝΚ ⁄ΝΝ	UNK VN	UNK WN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CANCIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	∩ νκ ⁄γνν	Π ΝΚW M	UN K ₩N	UNKWN	UNKWN	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNK W N	_	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNK	_	_	_	_	_	_	_	



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-717</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3101	LIVI dorecti	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	UNK WN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNK ∕ WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CANCERC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	=	UNK WN	η νικ ⁄ων	_
ALL MODE AWD/4WD	_	NG	UNKWN	Ω ΝΚ ₩Ν	_	_	_	_	UNKWN	_	_	_
ABS	=	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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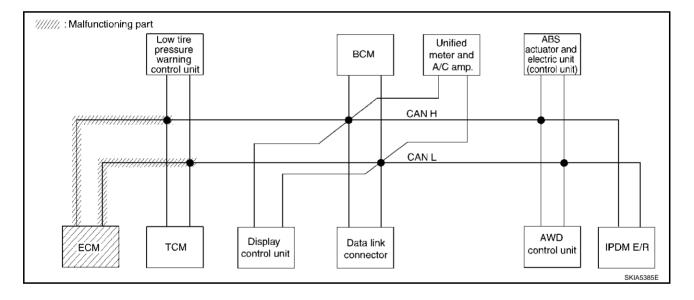
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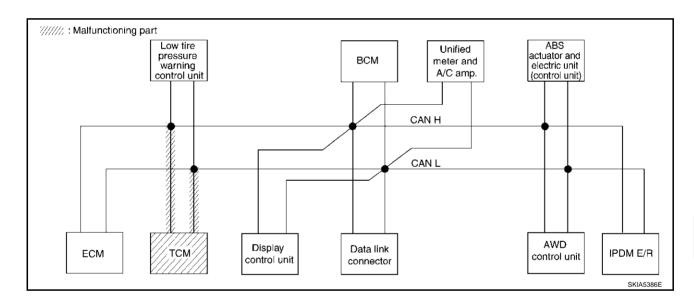
Case 3
Check ECM circuit. Refer to <u>LAN-718</u>, "ECM Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOICCII	diagnosis o	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNRWN	-	_	UNIONN	UNK WN	UNK WN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚγ ΛΝ	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	1	_	ı	UNKWN	_	1	ı
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNION	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNION	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	Π ИΚ ΛΝ	_	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNK VN	_	_	_	_	_	_	_	=



Case 4
Check TCM circuit. Refer to <u>LAN-719</u>, "TCM Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131	LIVI dorecti	diagnosis — NG	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNRWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	-
ABS	-	NG	UNKWN	UNKWN	_	_	J	_	_	_	_	_



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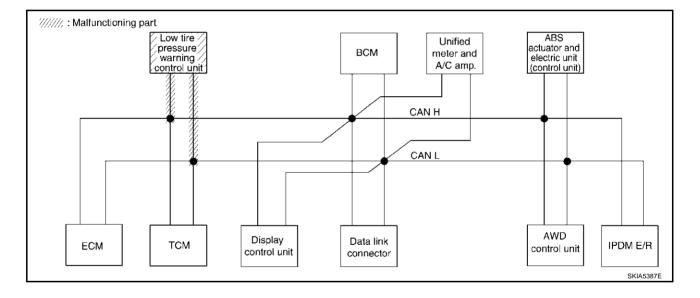
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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-719</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	LIVI dorecti	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CANORC 6	ı	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNI WN	UNKWN	UNKWN	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



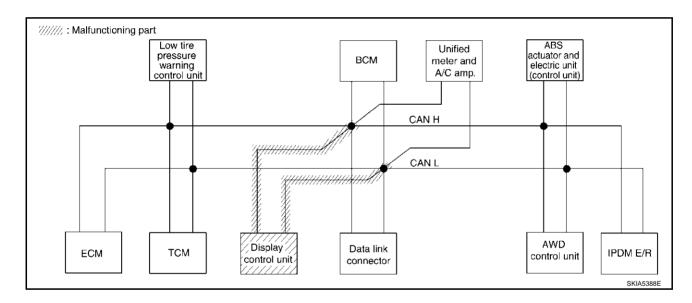
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Case 6
Check display control unit circuit. Refer to LAN-720, "Display Control Unit Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322201 0101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CANORC 1	CAN CIRC 3	_	CANCIRC 6	-	CAN ORC 2	CANCIRC 5	_	_	CANCIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	NMMAN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNKWN	_	_		_	_	_	_	_



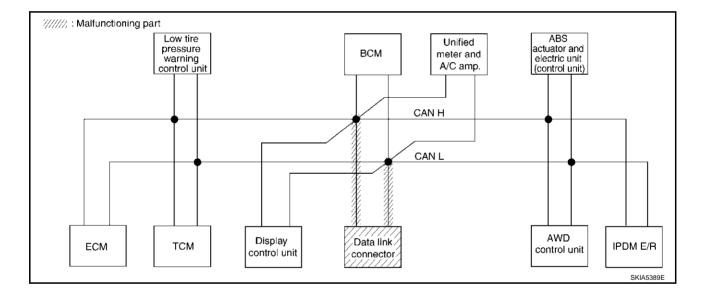
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Case 7
Check data link connector circuit. Refer to <u>LAN-720</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322237 3737	LIVI GOICGII	diagnosis — NG	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	ı	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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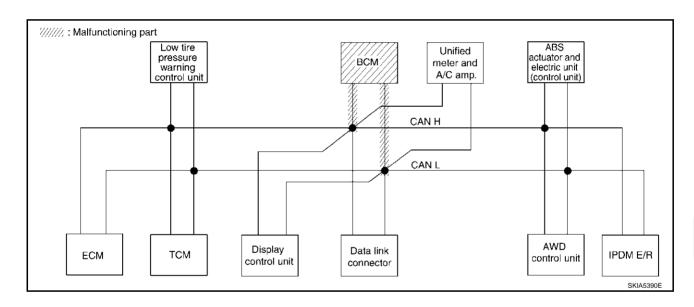
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Case 8
Check BCM circuit. Refer to LAN-721, "BCM Circuit Check".

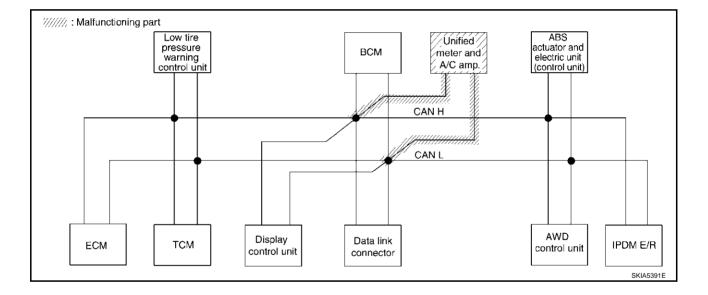
						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3101	LIVI GOICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN ORC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	-	NG	∩ NK WN	UN K ∕WN	_	_	_	_	Π Μ ΑΝΙ	_	_	UN ∳ WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-721, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3223		diagnosis	diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	1	UNKWN	-	_	UNKWN	UNK WN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	ΩΝ Κ ΛΝ	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	Ω ΝΚ ΑΝ	_	_	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	1	CAN CIRC 2	CAN CAC 5	1	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UN K WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNKWN	_	_	-	_	_	_	_	_



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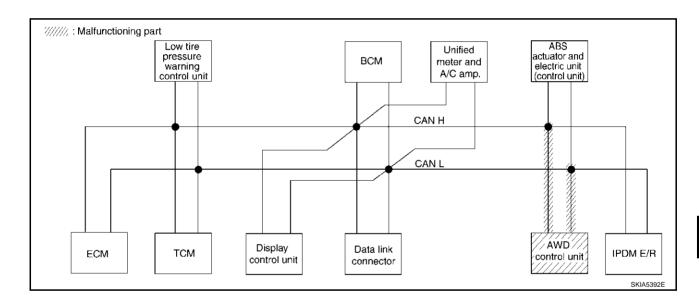
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Case 10
Check AWD control unit circuit. Refer to <u>LAN-722</u>, "AWD Control Unit Circuit Check".

		CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial	Transport	Receive diagnosis									
3222313131	LIVI GOICEIT	diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	1	UNKWN	-	_	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı		ı	_	ı	UNKWN	ı	-	ı	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	CAN CIRC 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ΝΚ ΛΝ	UNKWN	_	
ALL MODE AWD/4WD	_	NG	UNKWN	Ω NK WN	_	_	_	_	UNK WN	_	_	-	
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	_	_	_	



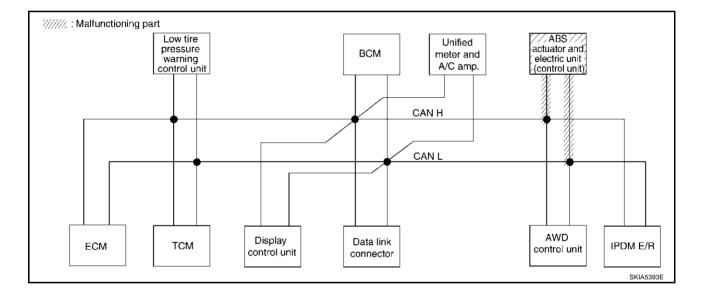
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Case 11

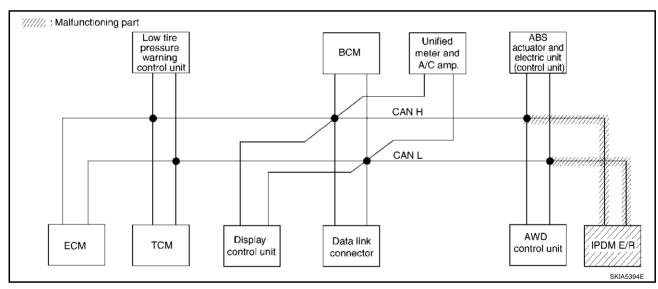
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-722</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

		CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis										
022207 0707	LIVI dorecti		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNK WN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	=	UNKWN	Ω ΝΚ ΑΝ	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-		
ABS	_	NG	UN K ₩N	UN K ∕WN	_	_	_	_	_	_	_	_		



Case 12
Check IPDM E/R circuit. Refer to LAN-723, "IPDM E/R Circuit Check".

			CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial Tra	Transmit	Receive diagnosis										
322237 3737	LIVI dorecti	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_		UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	1	CAN CIRC 2	CAN CIRC 5	-	_	CANCIRC		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UN K ₩N		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		



Case 13
Check CAN communication circuit. Refer to <u>LAN-723</u>, "CAN Communication Circuit Check".

			CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis										
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNA WN	_	∩ ИК МИ	_	_	∩ И Қ∕МИ	η νκ ⁄γν	UN K ₩N	_	UNMWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_		
Display control unit	-	CAN COMM	CANORC 1	CANCIRC 3	_	CANCIRC 6	_	CANORC 2	CANOIRC 5	_	_	CAN ORC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	NMAMN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	NNKWN	Π ΝΚ ΜΝ	_	_	_	_	Π ΝΚ ΜΝ	_	_	-		
ABS	_	NG	UN K WN	UN K WN	_	_	-	_	-	_	_	_		
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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-726, "IPDM E/R Ignition Relay Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
322201 3101		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	∩ и№ МИ	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		-	-	UNKWN	_	UNKWN	ı		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	_	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC		
всм	_	NG	UNKWN	UNKWN	_	-	_		UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	Π Μ ΜΝ	UNKWN	UNKWN	UNKWN	-	UNKWN	Ω ΝΚ ⁄ΜΝ	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	1	_	-	UNKWN	_	_	ı		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-726, "IPDM E/R Ignition Relay Circuit Check".

			CAN DIAG SUPPORT MNTR											
SELECT SYSTEM screen			Transmit	Receive diagnosis										
			1	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚ ΑΝΙ	_	_	_	_	η νκ ⁄ων	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	ı	UNKWN	_	_	_		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм		NG	UNKWN	UNKWN	_	_	_	I	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_		
ABS	_	NG	UNKWN	UNRW M	_	_	_	_	_	_	_	_		
												PKIB0897E		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

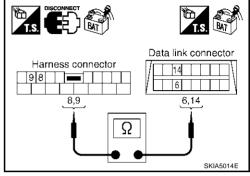
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-700, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

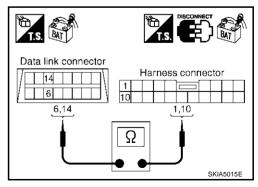
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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LAN-717 Revision; 2004 April 2003 Murano

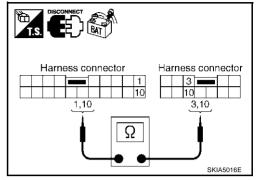
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

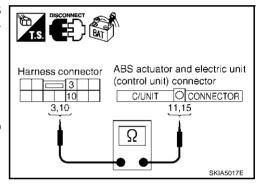
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-700, "Work Flow".

NG >> Repair harness.



AKS00726

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

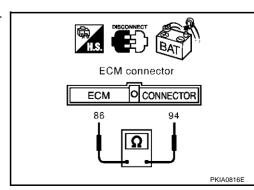
94 (L) - 86 (Y)

: **Approx.** 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

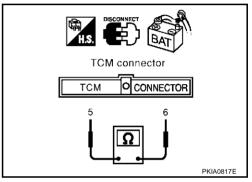
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Replace 1CW

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

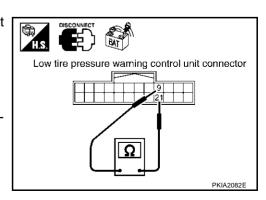
- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure warning control unit and TCM.



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[CAN]

Display 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 display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

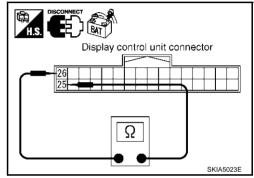
OK or NG

OK

>> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



AKS0072A

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

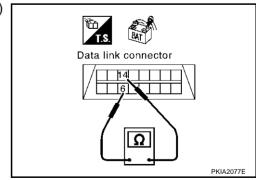
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-700, "Work Flow"</u>.

NG >> Repair harness between data link connector and BCM.



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BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

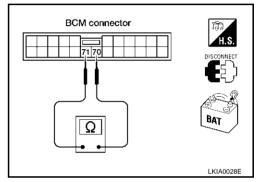
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS0072C

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

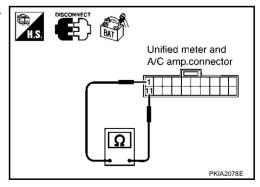
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.
NG >> Repair harness between unified me

>> Repair harness between unified meter and A/C amp. and data link connector.



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AWD Control Unit Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

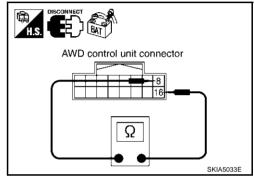
OK or NG

OK

>> Replace AWD control unit.

NG

>> Repair harness between AWD control unit and IPDM E/R



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS0072E

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 E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

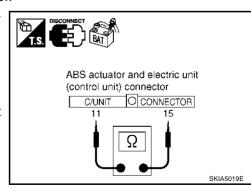
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG >>

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



CAN SYSTEM (TYPE 21)

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

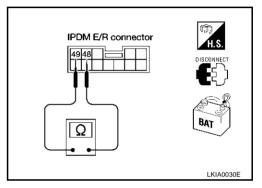
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side and harness side).
- **ECM**
- **TCM**
- Low tire pressure warning control unit
- Display control unit
- **BCM**
- Unified meter and A/C amp.
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK NG >> GO TO 3.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and ECM.
- Harness between data link connector and low tire pressure warning control unit.
- Harness between data link connector and harness connector M82.
- Harness between data link connector and display control unit.
- Harness between data link connector and BCM.
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

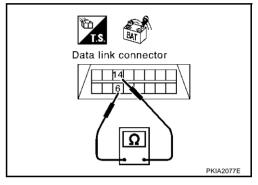
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

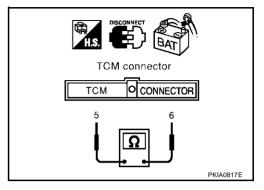
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

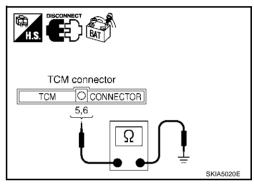
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

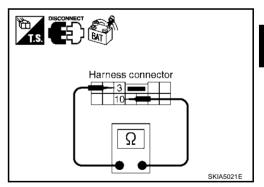
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

>> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

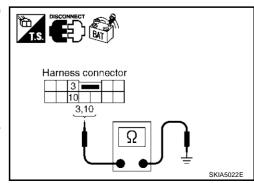
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



Revision; 2004 April LAN-725 2003 Murano

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

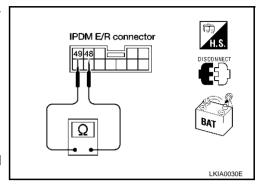
: Continuity should not exist.

OK or NG

OK

>> GO TO 9.

- NG
 - >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

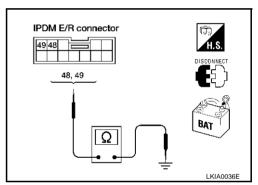
> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-727, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-700, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS0072H

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

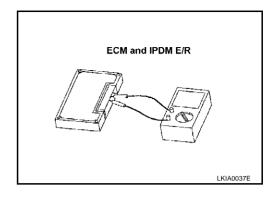
CAN SYSTEM (TYPE 21)

[CAN]

Component Inspection
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 22)

PFP:23710

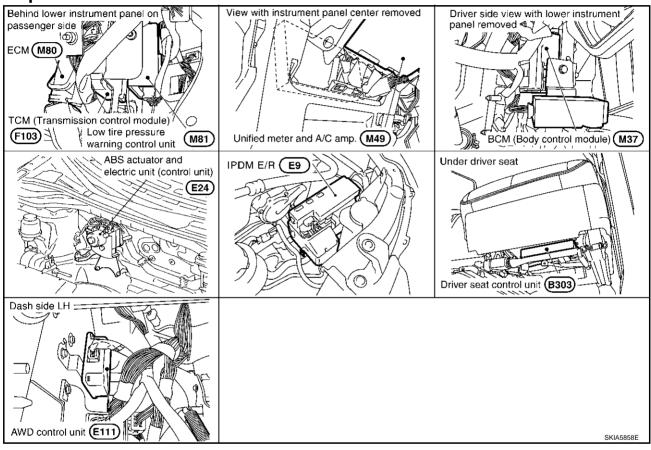
System Description

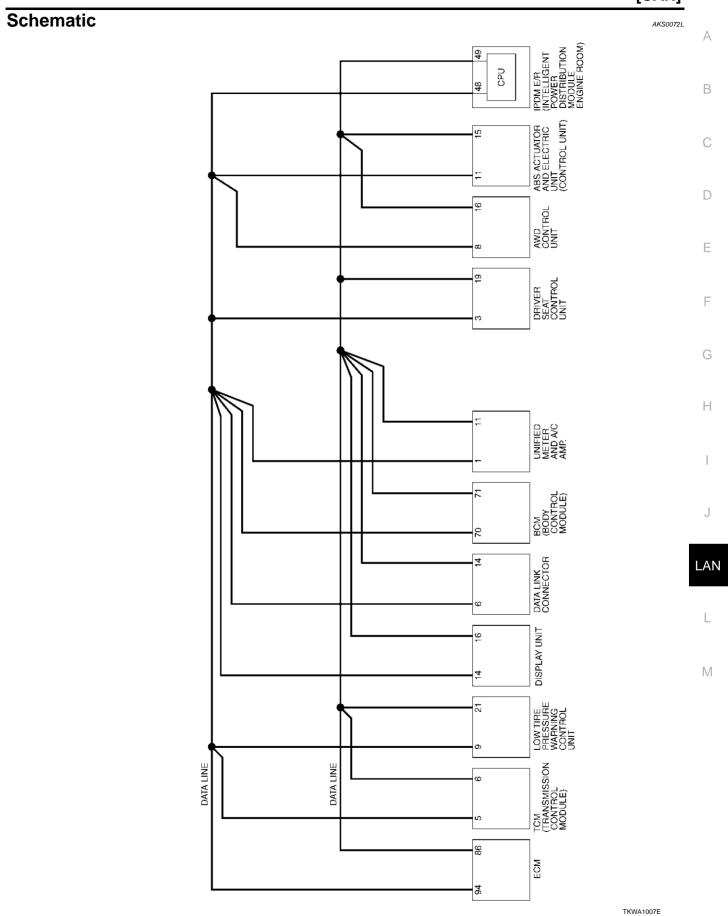
AKS0072.1

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

Component Parts and Harness Connector Location

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LAN-729

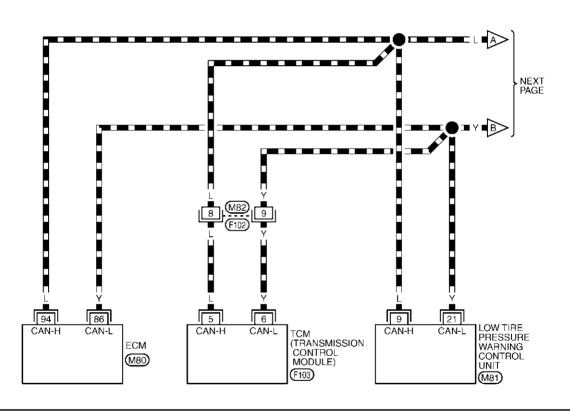
2003 Murano

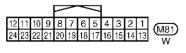
Wiring Diagram - CAN -

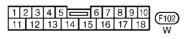
AKS0072M

LAN-CAN-64

: DATA LINE







REFER TO THE FOLLOWING.

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UNITS

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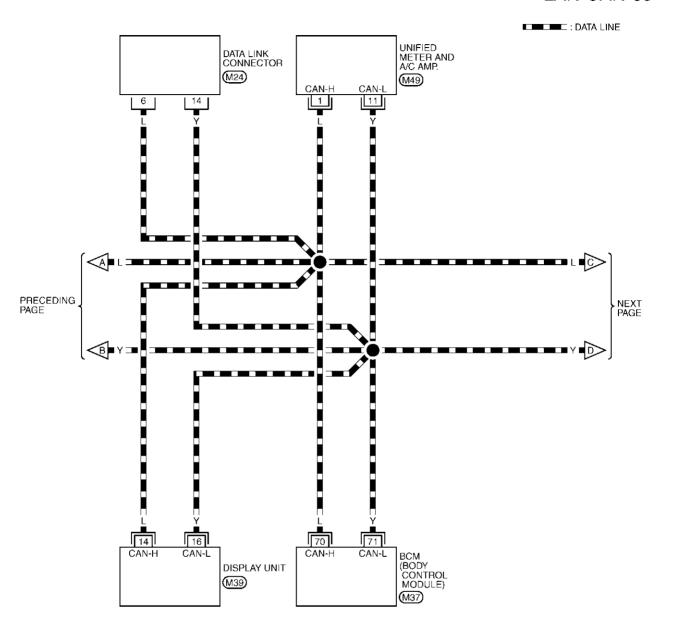
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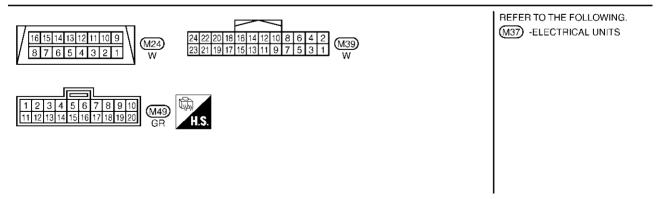
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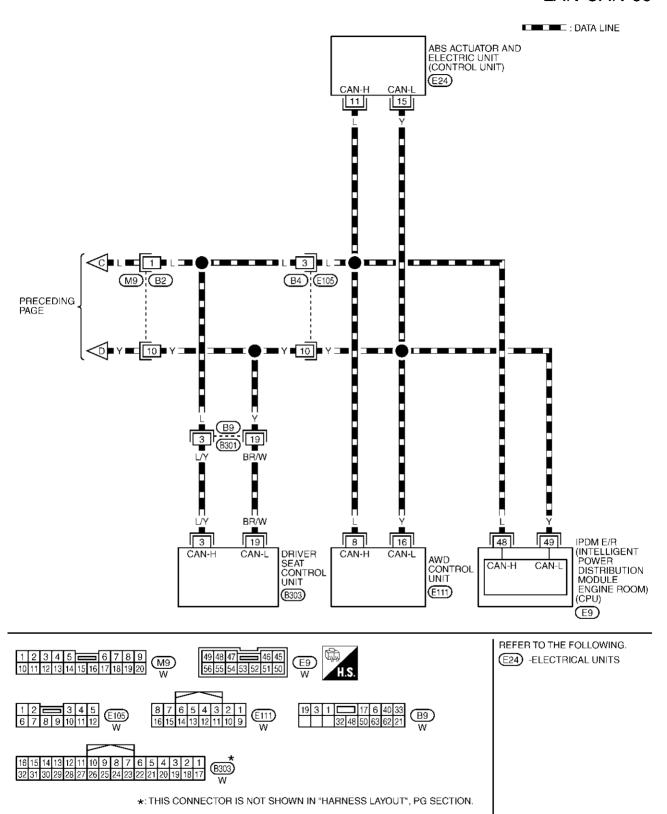
LAN-CAN-65





TKWA1009E

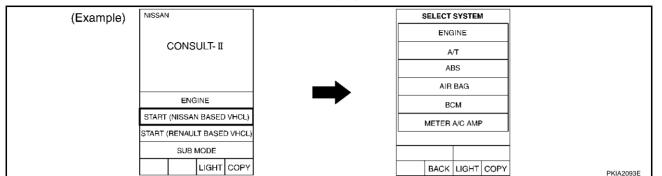
LAN-CAN-66



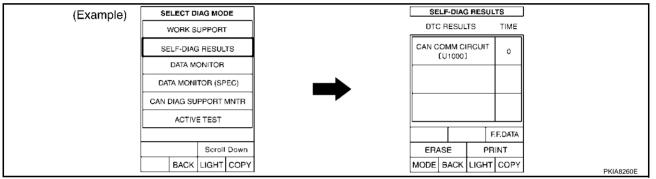
TKWA1010E

Work Flow

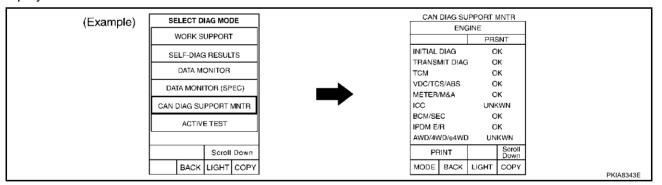
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-735</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-735, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.

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CAN SYSTEM (TYPE 22)

[CAN]

- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-735, "CHECK SHEET"</u>
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-735</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-737, "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.

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SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	eive diagr BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
NGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
LL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_
		S	Attach co ELECT SY	py of /STEM			Attacl	n copy of T SYSTEM	1			
				CAN DI	Attach display AG MONIT	y unit	ς sheet					

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR

CHECK SHEET RESULTS (EXAMPLE)

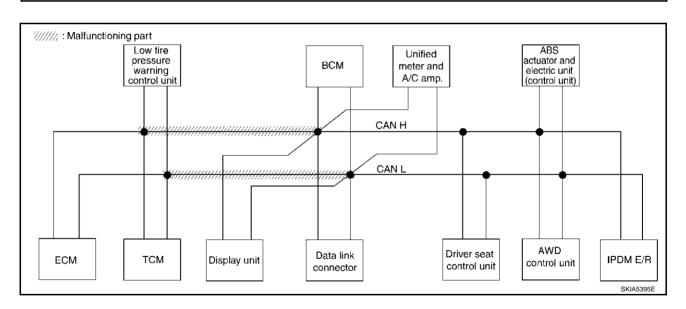
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-752</u>, "Circuit Check Between TCM and Data Link Connector" .

SELECT SYSTE ENGINE TRANSMISSION MIR PRESSURE MONITOR	– No indication	Initial diagnosis NG NG	Transmit diagnosis UNKWN UNKWN	ECM - UNKWN	TCM UNKWN	TIRE-P	Rec DISPLAY	eive diagn BCM /SEC UNIVWN	METER /M&A UNKWN	AWD /4WD UNKWN	VDC/TCS /ABS	IPDM E/R UNKWN
ENGINE TRANSMISSION	– No indication	diagnosis NG NG	diagnosis UNKWN UNKWN	_				/SEC	/M&A UNKWN	/4WD	/ABS	E/R
TRANSMISSION N	.	NG	UNKWN		UNKWN	_	_	•		UNKWN	_	UNKWN
	.			UNKWN	_	_						
AIR PRESSURE MONITOR	No indication	NG						_	UNKWN	_	UNKWN	-
	▼	ING	UNKWN	_	_	_	_	_	UNKWN	_	_	-
Display unit	_	CAN COMM	CAN 1	С₩13	_	C ₩ 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNK WN	_	_	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	Ω ΝΚ (WN	ONR WN	UN W WN	UNKWN	UNKWN	_	UNKWN	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	_	ONK WN	_	_	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	η νκ γνν	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_	_



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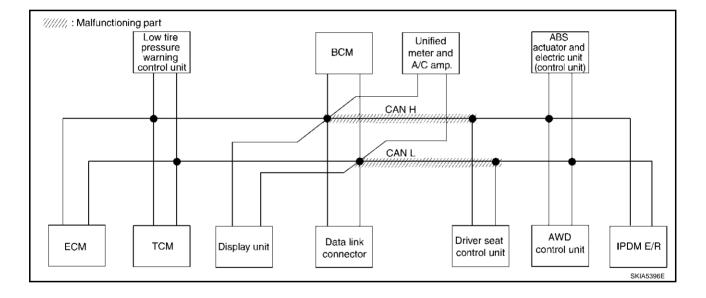
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Case 2
Check harness between data link connector and driver seat control unit. Refer to LAN-752, "Circuit Check Between Data Link Connector and Driver Seat Control Unit".

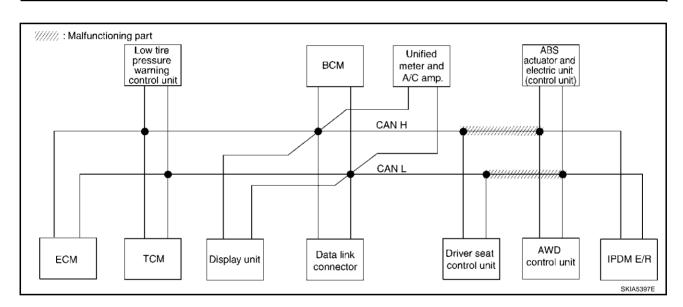
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	ziii corcon	diagnosis	diagnosis	ЕСМ	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNK WN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	Ω ΝΚ ⁄ΜΝ	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Ω ΝΚ ⁄⁄ΛΝ	UN K ∕VN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKAN	_	_	_	_	NNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_	_



Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-753</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 0010011	diagnosis	diagnosis	ЕСМ	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNK WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	-	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	Π ΝΚ ⁄ΜΝ	Ω ΝΚ ΑΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	Ω ΝΚ ΑΝ	_	_	_	_	NNK WN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_	_



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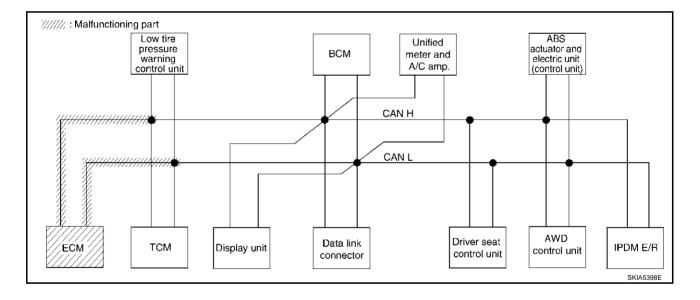
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Case 4
Check ECM circuit. Refer to <u>LAN-754</u>, "ECM Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
02220101011	2111 3313311	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	_	∩ NK (NN	UNKWN	UNK WN	_	NNRWN
TRANSMISSION	No indication	NG	UNKWN	∩ ик •wи	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	ı	-	ı	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	САЙЗ	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNI W WN	_	_	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	ı	UNKWN	n uk ∖wu	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	η νκ γνν	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



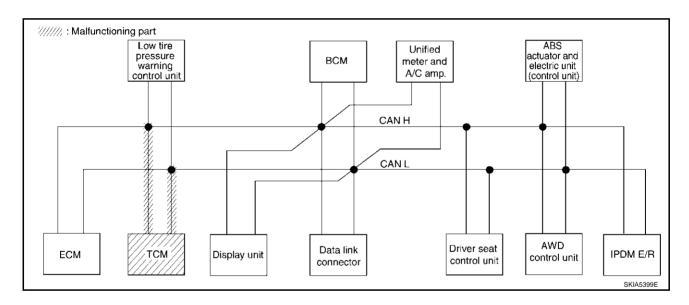
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Case 5
Check TCM circuit. Refer to <u>LAN-754, "TCM Circuit Check"</u>.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	2111 0010011	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	-	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	ı	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	ı	-	UNKWN	ı	1	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	1	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKVN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	-	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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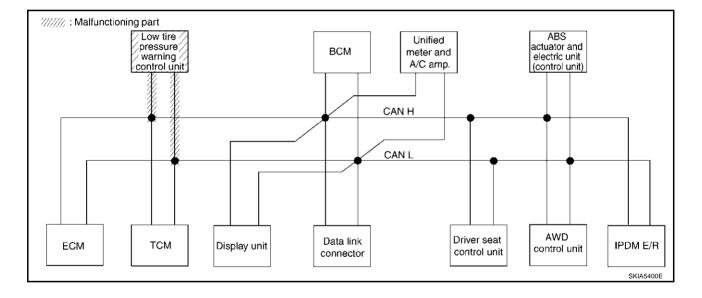
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Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-755</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIW GOICGII	diagnosis	diagnosis	ЕСМ	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	-	_	1	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	NNK WN	UNKWN	UNKWN	ı	UNKWN	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	UNKWN	UNKWN	_	_	-
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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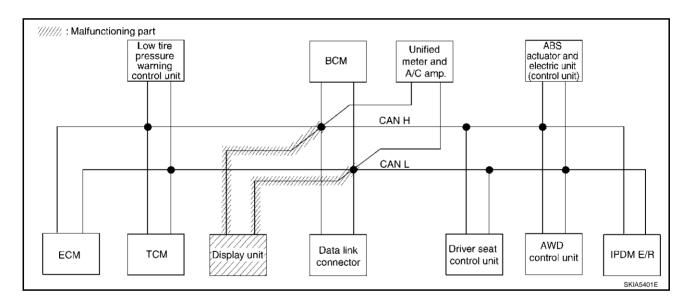
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Case 7
Check display unit circuit. Refer to <u>LAN-755</u>, "Display Unit Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	List coroon	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	ı	NG	UNKWN	-	UNKWN	1	-	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	1	CAN 6	ı	CAN 2	CAN 5	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	-	-	UNKWN	UNKWN	_	1	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	_	-	_
ABS	_	NG	UNKWN	UNKWN	_		_	_	_	_	_	_

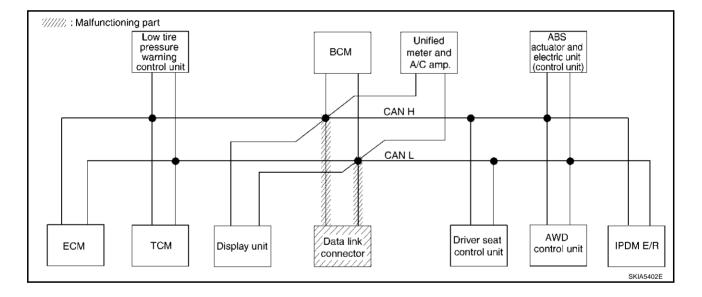


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Case 8
Check data link connector circuit. Refer to <u>LAN-756</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 3010011	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	_	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	1	CAN 6	-	CAN 2	CAN 5	_	-	CAN 7
BCM	_	NG	UNKWN	UNKWN		_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No ind/cation	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	1	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	_
ABS	_	NG	UNKWN	UNKWN	_		_	_	_	_	_	_



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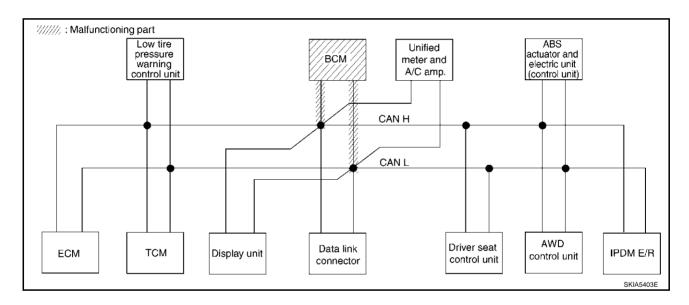
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Case 9
Check BCM circuit. Refer to <u>LAN-756, "BCM Circuit Check"</u>.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EW GOLGGII	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNK WN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	I	ı	ı	UNKWN	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	-	CAN 7
BCM	_	NG	UNK WN	UNK WN	_	ı	ı	ı	UNK WN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	∩W K WN	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	-	-	UNKVN	UNKWN	_	1	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	. 1	-	-	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_

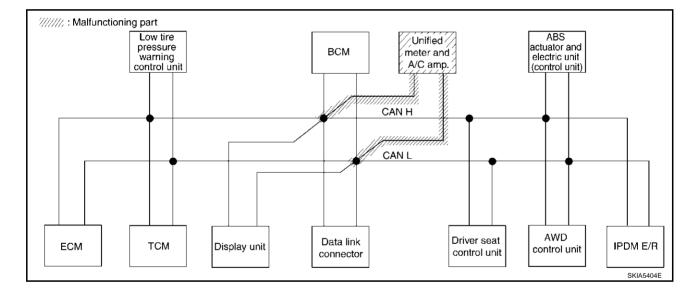


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Case 10
Check unified meter and A/C amp. circuit. Refer to LAN-757, "Unified Meter and A/C Amp. Circuit Check".

			CAN DIAG SUPPORT MNTR											
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
02220101011	LIM GOLGGII	diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	1	-	UNKWN	UNK WN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	_	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN		_	-	_	-	η νκ γνν	_	_	I		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	_	_	UNKWN		
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	NNKWN	_	_	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNK/WN	_	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		



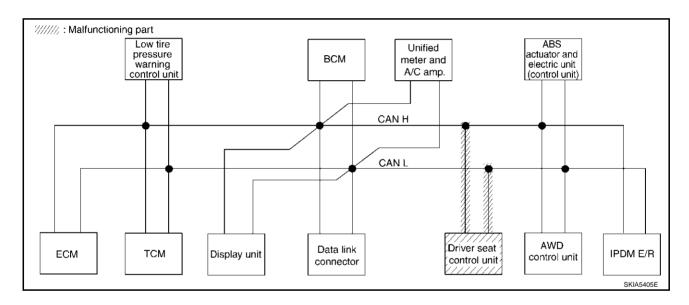
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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-757</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	ZIN COICON	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	-
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	I	-	_	UNKWN	_	_	I
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	-	_	UNKWN	UNKWN	_	_	ı
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	-



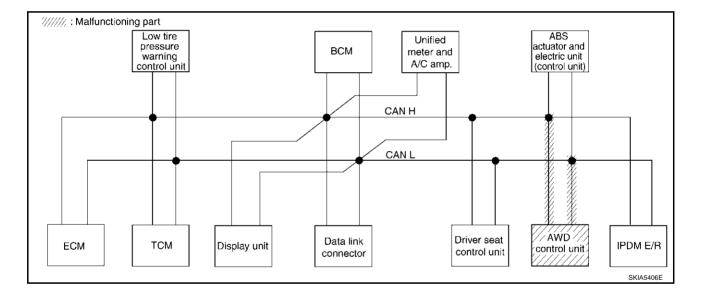
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Case 12
Check AWD control unit circuit. Refer to <u>LAN-758</u>, "AWD Control Unit Circuit Check".

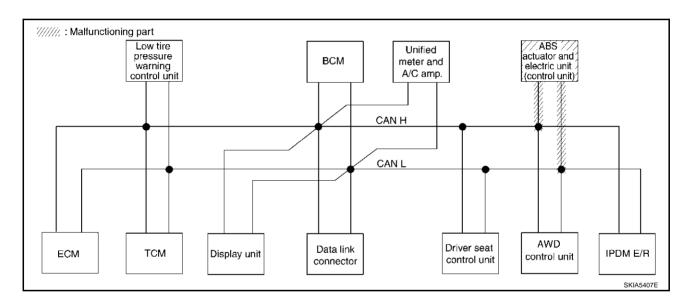
			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101	LIVI SCIEGII	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNR WN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	-		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKVN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UN K WN	n nk\ ∧N	_	-	-	_	NNR WN	_	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		



Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-758</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101	LIW GOICCII	diagnosis	diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	Π Μ ΑΝΝ	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	η νίξ γνη	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_		
ABS	_	NG	NAM WN	UNK WN	_	_	_	_	_	_	_	_		



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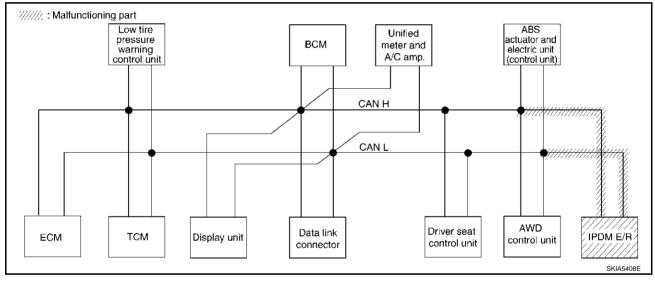
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Case 14
Check IPDM E/R circuit. Refer to <u>LAN-759</u>, "IPDM E/R Circuit Check".

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
		diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	UNKWN	_	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_		UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_		
Display unit	1	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7		
всм	ı	NG	UNKWN	UNKWN	_	-	_	1	UNKWN	_		UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	ı	UNKWN	_	_	_		
ABS		NG	UNKWN	UNKWN	_		_	_	_			_		
												PKIB0913E		



Case 15
Check CAN communication circuit. Refer to <u>LAN-760</u>, "CAN Communication Circuit Check" .

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101	LIVI SCIEGII	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNK WN	_	_	UNIWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No incleation	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	-		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	_	_	-		
Display unit	_	CAN COMM	CAN 1	C A1 3	_	C W 16	_	C4/12	CAN 5	_	=	CAN 7		
BCM	_	NG	UNKWN	UNK WN	_	_	_	_	NNAMN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNK WN	η νικ ⁄ων	_	_	_	_	n nk wn	_	_	_		
ABS	_	NG	UNK WN	UNIXWN	_	_	_	_	_	_	_	_		

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Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-764, "IPDM E/R Ignition Relay Circuit Check"</u> .

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101	LIVI GOICGII	diagnosis	diagnosis	ЕСМ	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	NMANN	_	-	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No incleation	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	UNKWN	1		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	-	ı	-	UNKWN	_	_	-		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7		
всм	-	NG	UNKWN	UNKWN	-	-	ı	1	UNKWN	_	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	∩ NR WN	UNKWN	UNKWN	UNKWN	_	UNKWN	Ω ΝΑ ΜΝ	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-764, "IPDM E/R Ignition Relay Circuit Check" .

						CAN DIA	G SUPPOI	DT MNITD						
SELECT SYST	EM coroon			Receive diagnosis										
322201 3131	LIVI SCIEEII	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_		UNK WN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	=	NG	UNKWN	n νκ ⁄ων	=	_	-	=	UNKWN	=	-	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

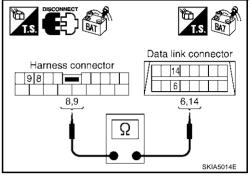
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-733, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

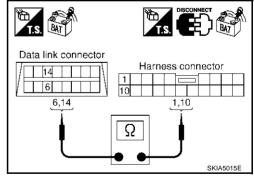
6 (L) - 1 (L)

: Continuity should exist.

14 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

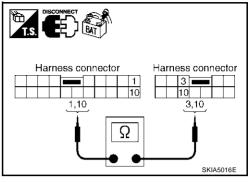
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-733, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L)

: Continuity should exist.

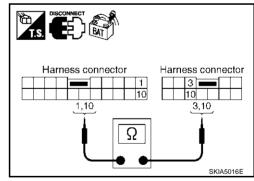
10 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

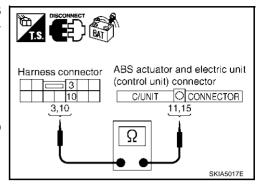
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-733, "Work Flow".

NG >> Repair harness.



AKS0072R

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

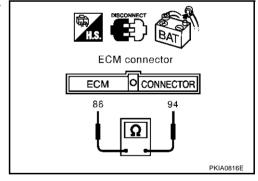
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS0072S

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2 Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

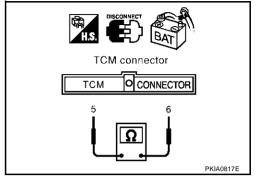
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS00721

CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

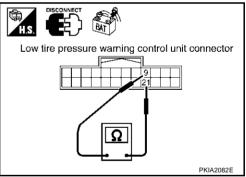
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure warning control unit and TCM.



Display Unit Circuit Check

AKS0072U

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

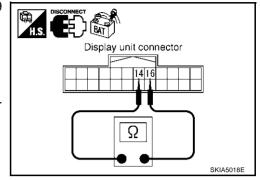
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

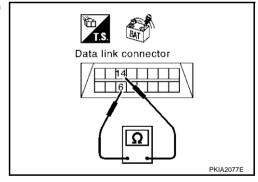
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

OK or NG

NG

OK >> Diagnose again. Refer to LAN-733, "Work Flow".

>> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

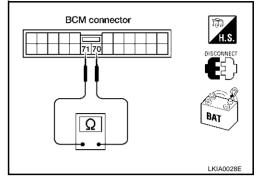
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS0072X

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

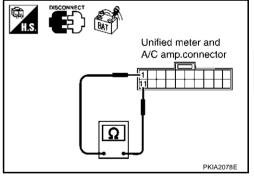
- 1. Disconnect unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace unified meter and A/C amp.

>> Repair harness between unified meter and A/C amp. and data link connector.



Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. AKS0072 Y

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

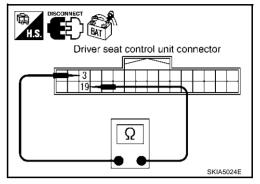
- 1. Disconnect driver seat control unit connector.
- 2. Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

OK >> Replace driver seat control unit.

NG >> Repair harness between driver seat control unit and harness connector B4.



AKS0072Z

AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

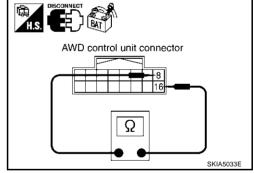
8 (L) - 16 (Y) : Approx. 54 - 66Ω

OK or NG

NG

OK >> Replace AWD control unit.

>> Repair harness between AWD control unit and IPDM E/R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS00730

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.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

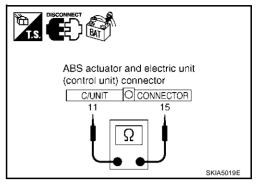
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS00731

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

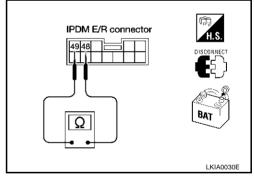
OK or NG

NG

OK >>

>> Replace IPDM E/R.

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN Communication Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, unit side, meter side and harness side).
- **ECM**
- **TCM**
- Low tire pressure warning control unit
- Display unit
- **BCM**
- Unified meter and A/C amp.
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

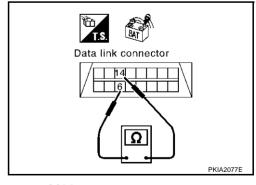
OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.



$\overline{3}$. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

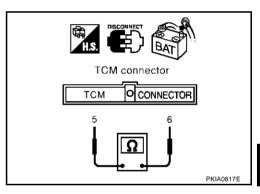
5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair ha

>> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

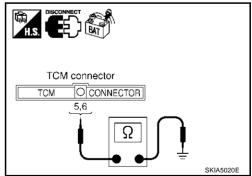
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



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6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

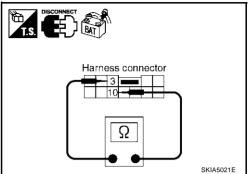
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

> 3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

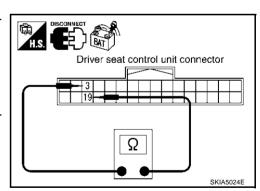
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301



Harness connector 3

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9. CHECK HARNESS FOR SHORT CIRCUIT

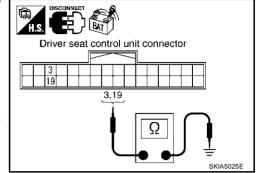
Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

> : Continuity should not exist. 3 (L/Y) - Ground 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 11.

> >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.

IPDM E/R connector BAT Ω LKIA0030E

IPDM E/R connector

48, 49

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11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 12.

> >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-764, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-733, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

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IPDM E/R Ignition Relay Circuit Check

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AKS00734

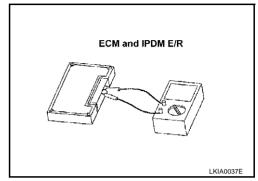
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- DM EX INTERNAL CIRCUIT INSPECTION
- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

CAN SYSTEM (TYPE 23)

PFP:23710

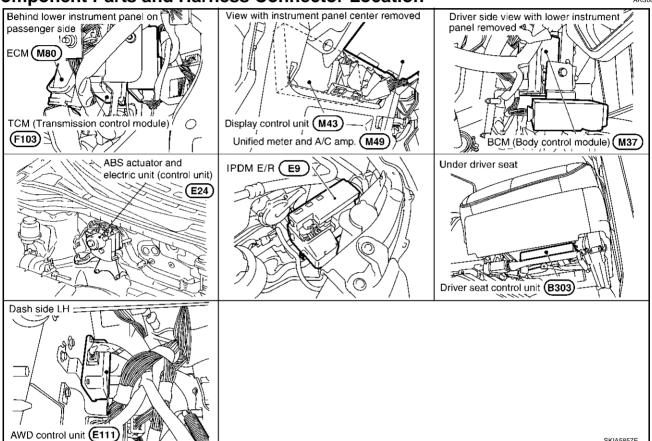
System Description

AKS00735

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

AKS00736

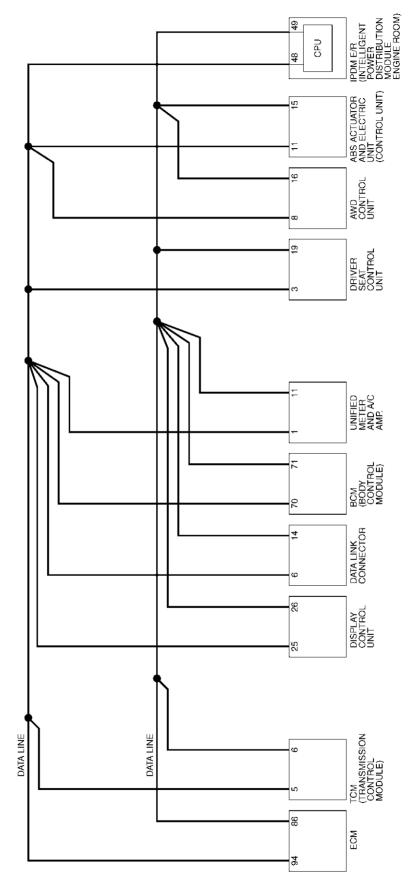


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Schematic AKS00737



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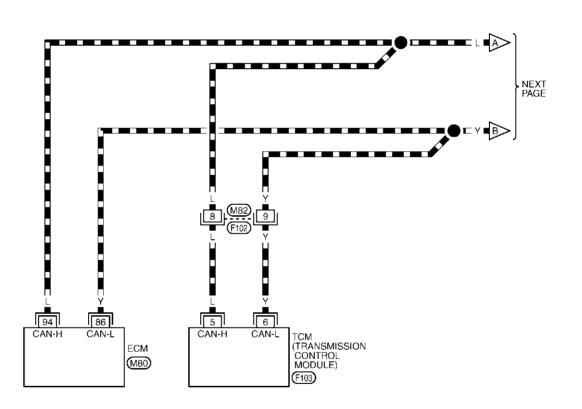
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LAN-CAN-67

: DATA LINE



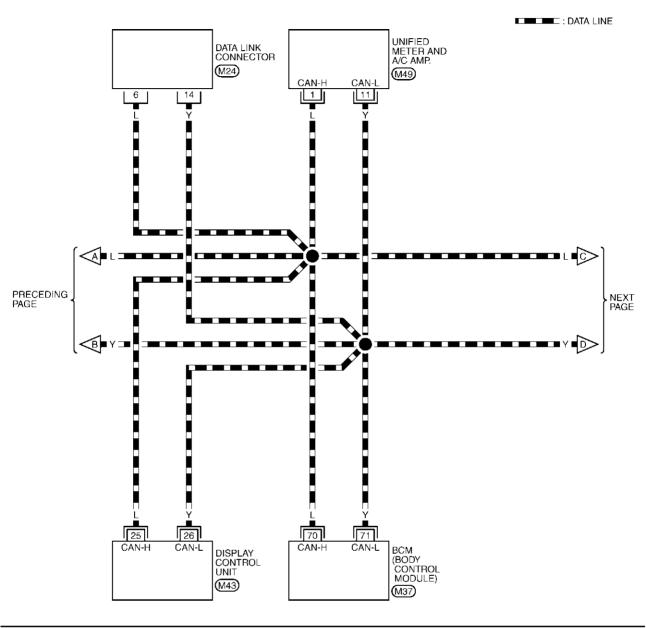
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

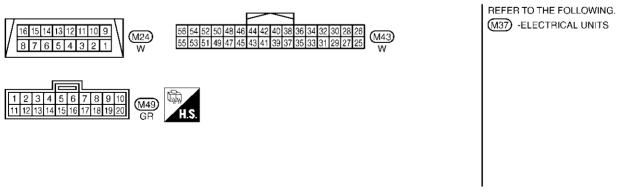
(M80), (F103) -ELECTRICAL

UNITS

TKWA1012E

LAN-CAN-68





TKWA1013E

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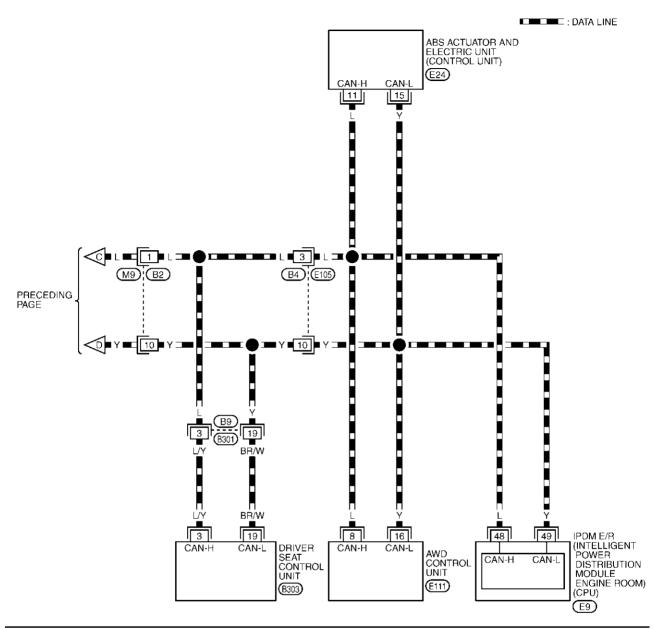
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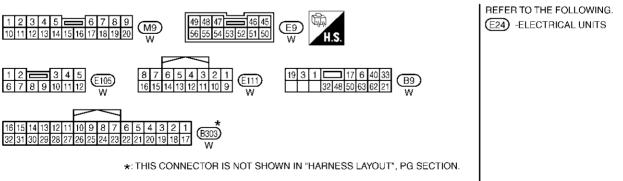
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LAN-CAN-69

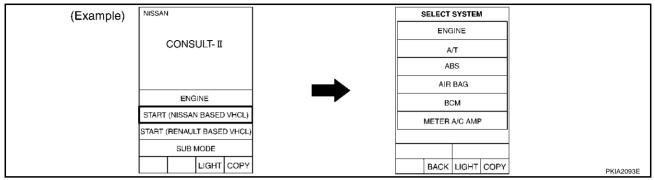




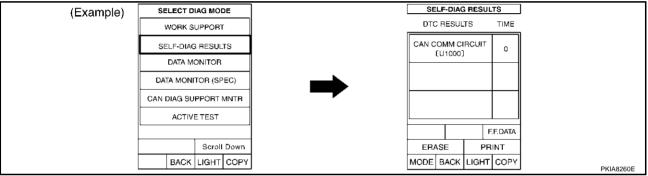
TKWA1014E

Work Flow

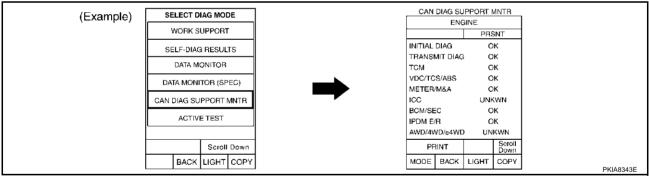
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" 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-772, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-772, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-772</u>, "CHECK SHEET".

CAN SYSTEM (TYPE 23)

[CAN]

 Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-772</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-203, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-774, "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.

					CA	N DIAG SU					
SELECT SYST	EM screen	Initial	Transmit				Receive (
	T	diagnosis	diagnosis		тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_
LL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_
		Α	ttach copy	of			Attach copy	of			
		SEI	LECT SYST	TEM		SE	LECT SYS	TEM			
					Attach copy	of					
			CANI	dis	Attach copy	unit	k sheet				
			CANI	dis	play control	of l unit ITOR check	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				
			CANI	dis	play control	unit	k sheet				

Attach copy of ENGINE SELF-DIAG RESULTS

Attach copy of TRANSMISSION SELF-DIAG RESULTS

Attach copy of всм SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS

Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS

Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS

Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINÉ CAN DIAG SUPPORT **MNTR**

Attach copy of TRANSMISSION CAN DIAG SUPPORT **MNTR**

Attach copy of всм CAN DIAG SUPPORT MNTR

Attach copy of METER A/C AMP CAN DIAG SUPPORT **MNTR**

Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR

Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR

Attach copy of ABS **CAN DIAG SUPPORT** MNTR

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CHECK SHEET RESULTS (EXAMPLE)

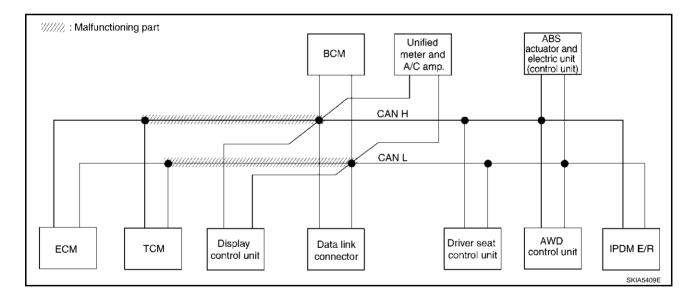
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-788</u>, "Circuit Check Between TCM and Data Link Connector" .

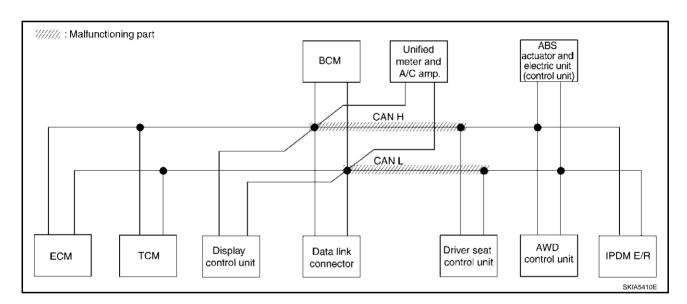
					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
322231 3131	diagnosis - NG	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	ΩΝ ΙΚ ΑΝ	UNK VN	∩ NR WN	_	NNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	Ω ΝΚ ΑΝ	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UN K ₩N	_	_	_	_	_	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-788</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnosi - NG	diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	Ω ΝΚ ΑΝΙ	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	_	UNKWN	_	NNK WN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	_	CANCAC
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNK WN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	-	_	_	NNKWN	_	-	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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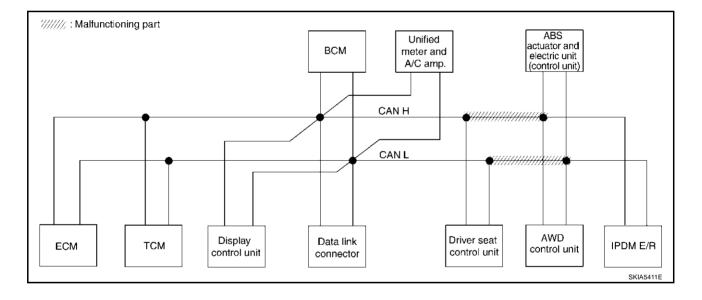
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Case 3

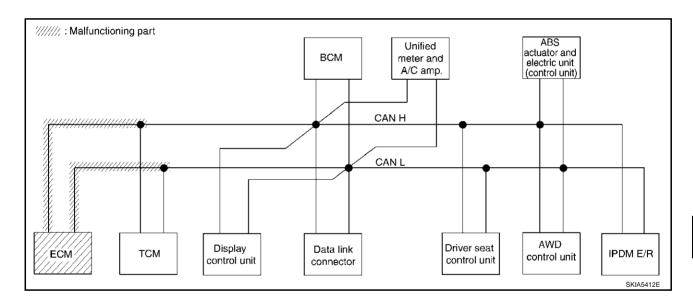
Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-789</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnosi	diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	1	UNKWN	UNKWN	∩ NR WN	_	NNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	NNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	_	CAN C/RC 7
всм	_	NG	UNKWN	UNKWN	_	-	_	UNKWN	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UN K WN	_	_	_	_	_	_	_



Case 4
Check ECM circuit. Refer to LAN-790, "ECM Circuit Check".

					CA	N DIAG SU	PPORT MN	JT R			
SELECT SYST	EM screen	Initial	Transmit				Receive o	diagnosis			
022201 0101	diagnosi NE – NG	diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	NG UNKWN	-	UNK WN	-	UNK WN	UNK VN	UNK WN	_	NNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CANORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC :
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	Π ΛΚ ΛΝ	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK WN	_	_	_	_	_	_	_



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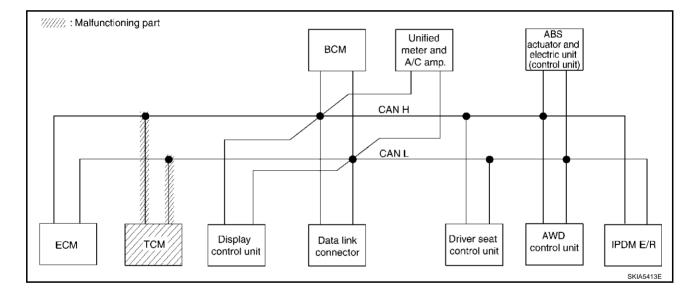
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Case 5
Check TCM circuit. Refer to <u>LAN-790</u>, "TCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	JTR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnosis - NG	diagnosis	ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	1	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



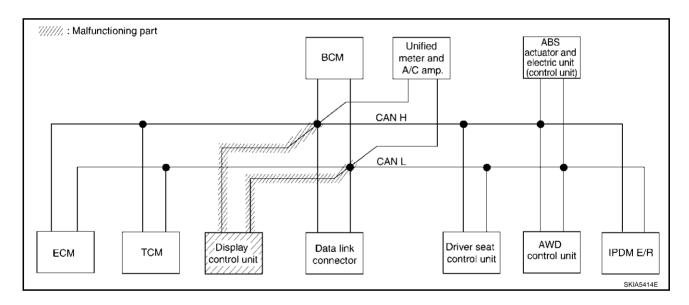
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Case 6
Check display control unit circuit. Refer to <u>LAN-791</u>, "<u>Display Control Unit Circuit Check</u>".

					CA	N DIAG SU	PPORT MN	JTR			
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnos E - NG	diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN ORC 1	CANCERC 3	J	_	CANORC 2	CANORC 5	_	_	CANOTEC 7
всм		NG	UNKWN	UNKWN		_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	υ νκ ⁄νν	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN		_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	1	_	_	UNKWN	-	1	_
ABS	_	NG	UNKWN	UNKWN	ı	_	_	_	_	_	_

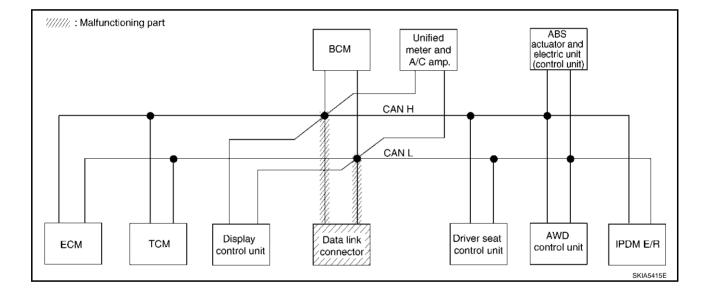


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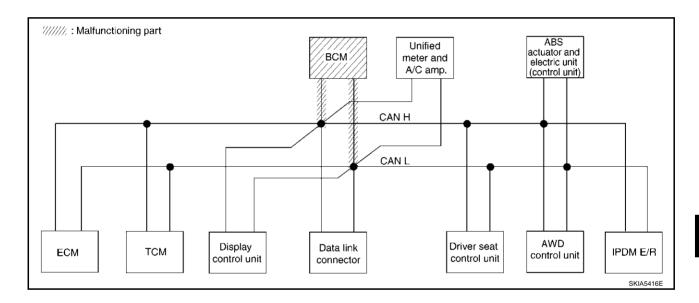
Case 7
Check data link connector circuit. Refer to <u>LAN-791</u>, "<u>Data Link Connector Circuit Check</u>".

					CA	N DIAG SU	PPORT MN	IT R			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnosis - NG	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



Case 8
Check BCM circuit. Refer to LAN-792, "BCM Circuit Check".

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	diagnosi	diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	NG UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CANC/RC 2	CAN CIRC 5	-	_	CAN CIRC 3
BCM	_	NG	UNK WN	UNK WN	_	_	_	UNK WN	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	Ω ΝΚ ΑΝ	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UN K ₩N	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	_	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



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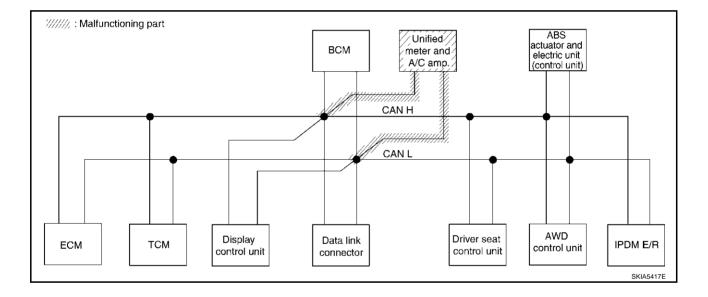
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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-792, "Unified Meter and A/C Amp. Circuit Check".

					CAI	N DIAG SU	PPORT MN	JT R			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
322231 3131	mida	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNK WN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CANOTEC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_
ABS	-	NG	UNKWN	UNKWN	_	_	_	_	_	_	_



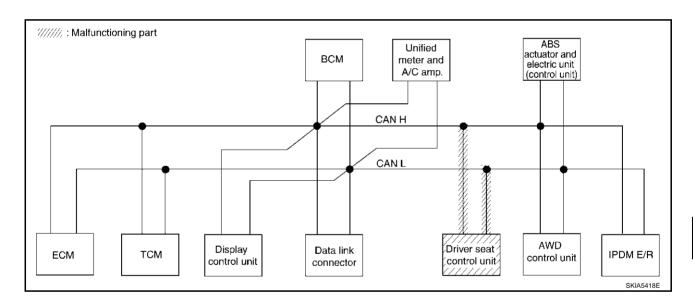
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Case 10
Check driver seat control unit circuit. Refer to <u>LAN-793</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

					CA	N DIAG SU	PPORT MN	JT R			
SELECT SYST	EM screen	Initial	Transmit				Receive o	diagnosis			
022201 0101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	=	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_

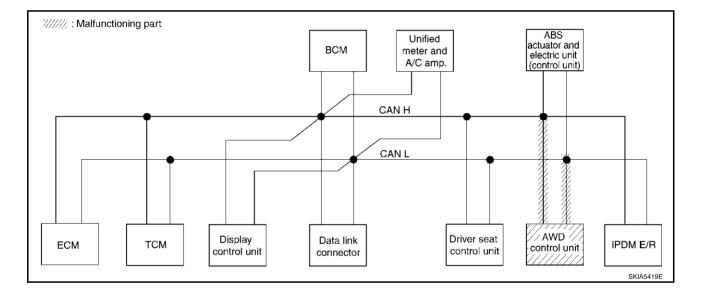


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Case 11
Check AWD control unit circuit. Refer to <u>LAN-793</u>, "AWD Control Unit Circuit Check".

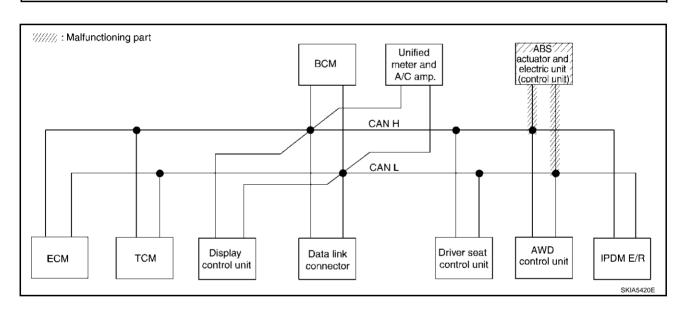
	CAN DIAG SUPPORT MNTR												
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis								
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	UNKWN	_		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	=	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	NNR AN	UNK WN	_	_	_	UNKWN	_	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	-	_	_	_	_		



Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-794</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial diagnosis	Transmit - diagnosis	Receive diagnosis									
				ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNI W WN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC		
всм	-	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_		
ABS	-	NG	UNK WN	UNK WN	_	_	_	_	_	_	_		



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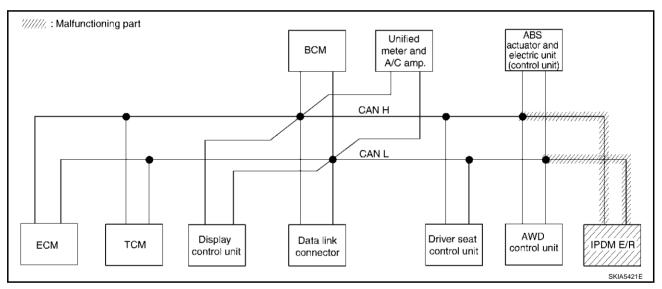
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Case 13
Check IPDM E/R circuit. Refer to <u>LAN-794</u>, "IPDM E/R Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial	Transmit		Receive diagnosis									
		Initial diagnosis		ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE		NG	UNKWN	1	UNKWN	_	UNKWN	UNKWN	UNKWN	-	NNAMN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	UNKWN	_			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	-	CANC/RC7			
всм	ı	NG	UNKWN	UNKWN		_	_	UNKWN	_		UNKWN			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	UNKWN	UNKWN	_	1	_			
ALL MODE AWD/4WD	1	NG	UNKWN	UNKWN	1	_	_	UNKWN	_	1	_			
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_			



Case 14
Check CAN communication circuit. Refer to <u>LAN-795</u>, "CAN Communication Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit		Receive diagnosis									
				ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UN K WN	_	UN K WN	UN K WN	Ω ΝΚ ΑΝΝ	_	NNRWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	UNKWN	_			
Display control unit	_	CAN COMM	CANORC 1	CANC/RC 3	_	_	CANC/RC 2	CANORC 5	_	_	CAN ORC 7			
всм	_	NG	Ω ΝΚ ΜΝ	Π ИΚ ⁄ΛИ	_	_	_	Ω ΝΚ ⁄ΛΝ	_	_	Ω ΝΚ (ΛΝ			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_			
ALL MODE AWD/4WD	-	NG	NNK WN	UNK WN	_	_	_	UNK WN	-	_	_			
ABS	_	NG	UNK WN	UN K ₩N	_	_	_	_	_	_	_			

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-799</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit	Receive diagnosis									
				ЕСМ	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN		_	_	UNKWN	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	1	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	Π ΝΚ ΜΝ	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-		
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	_	_		

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-799</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit	Receive diagnosis									
				ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	AWD/4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	UNK WN	_	UNKWN	_		
Display control unit	=	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	-	_	_		
ABS	=	NG	UNKWN	UNK WN	_	_	_	_	_	_	_		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

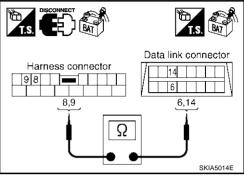
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-770, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

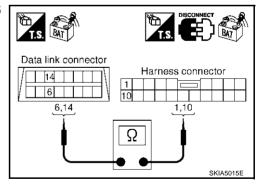
- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L) 14 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

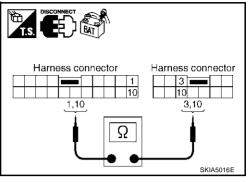
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-770, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

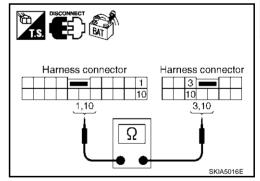
1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

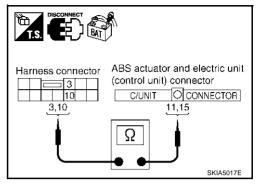
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-770, "Work Flow".

NG >> Repair harness.



AKS0073D

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

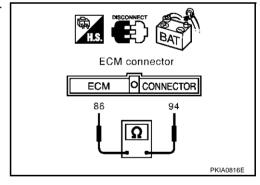
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS0073E

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

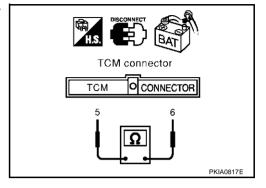
- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

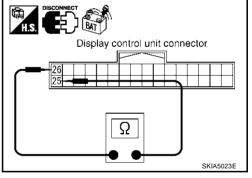
OK or NG

OK

NG

>> Replace display control unit.

>> Repair harness between display control unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. Check harness for open circuit

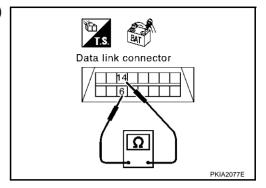
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. 54 - 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-770, "Work Flow".

NG >> Repair harness between data link connector and BCM.



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BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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

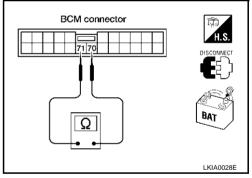
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - **71** (Y) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM"

NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF. 1.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp, for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. AKS00731

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

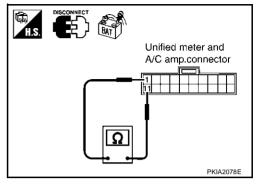
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



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Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

: Approx. 54 - 66 Ω

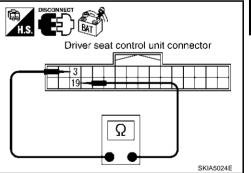
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



AWD Control Unit Circuit Check

CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

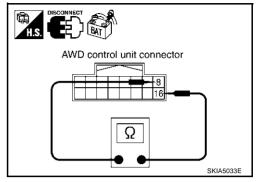
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG

>> Repair harness between AWD control unit and IPDM E/



ABS Actuator and Electric Unit (Control Unit) Circuit Check

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1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

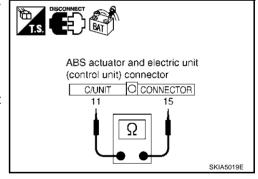
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side 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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

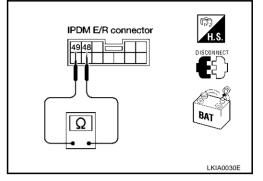
: **Approx.** 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- 2. Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

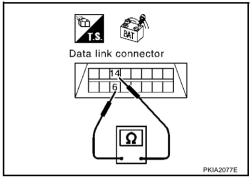
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.



Data link connector

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6, 14.

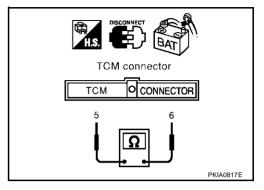
4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect TCM connector. 1.
- Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

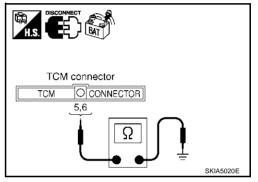
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

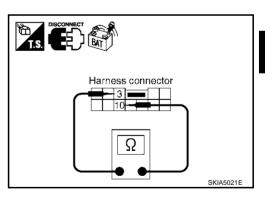
- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

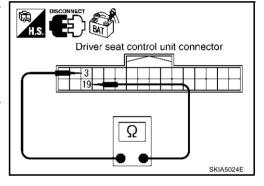
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

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3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

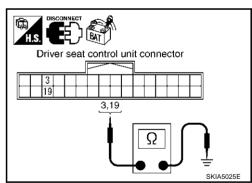
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

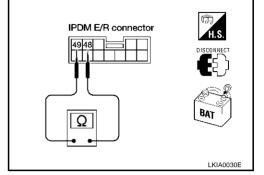
OK or NG

OK

>> GO TO 11.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 12.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 49 48 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\sf LAN-800}$, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-770, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"</u>.

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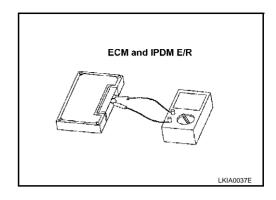
Revision; 2004 April LAN-799 2003 Murano

AKS0073P

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

CAN SYSTEM (TYPE 24)

PFP:23710

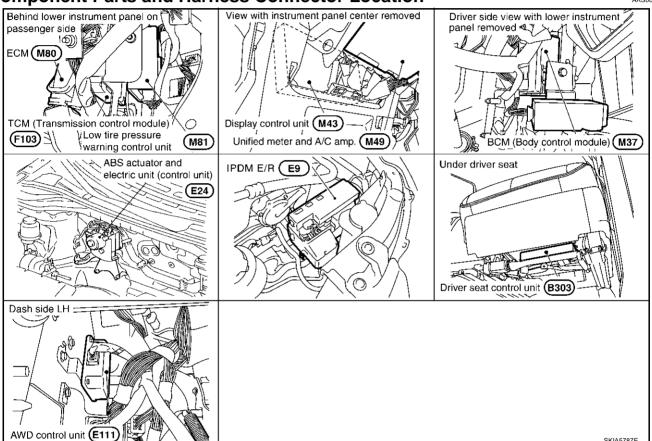
System Description

AKS0073Q

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

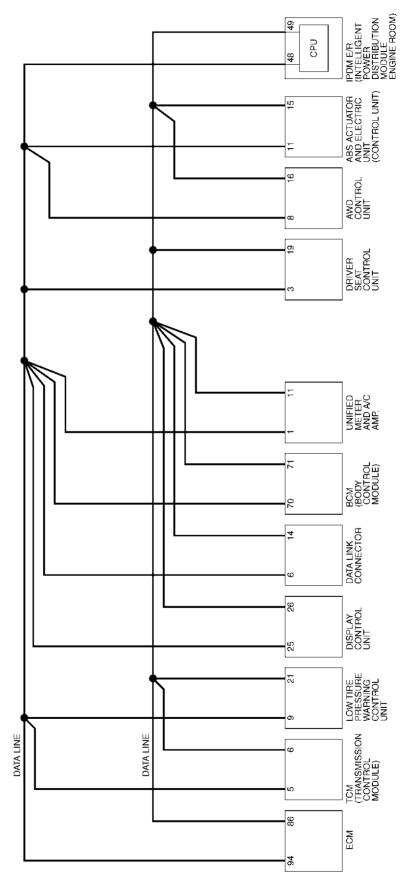
AKS0073R



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Schematic AKS0073S

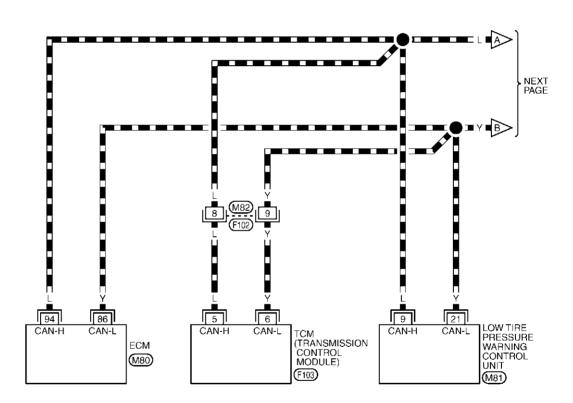


Wiring Diagram - CAN -

AKS0073T

LAN-CAN-70

: DATA LINE



12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

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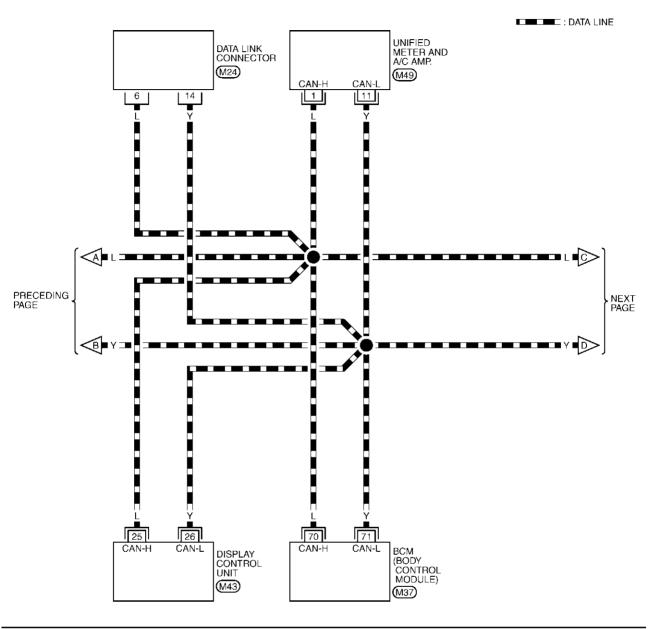
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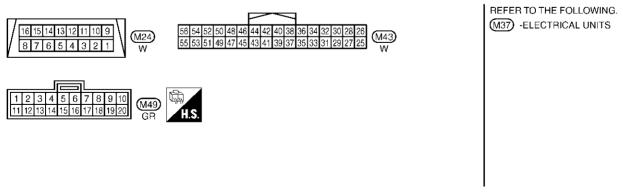
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LAN-CAN-71





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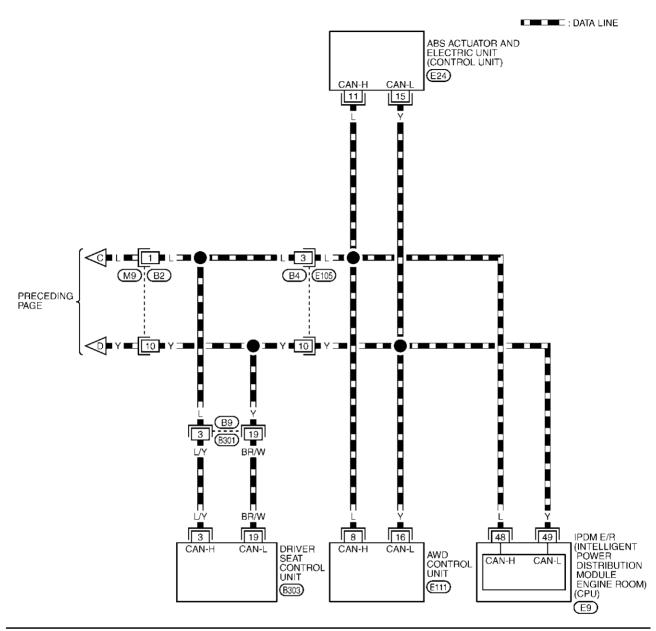
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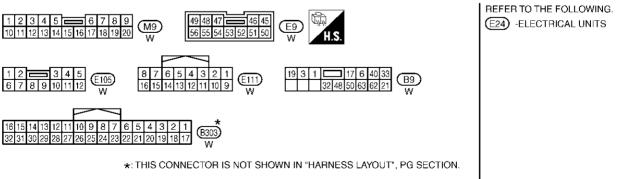
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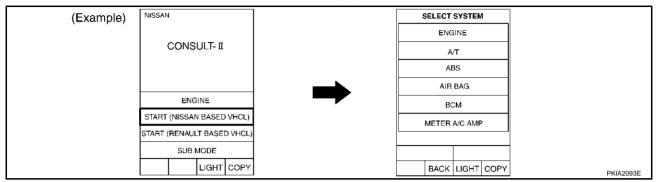




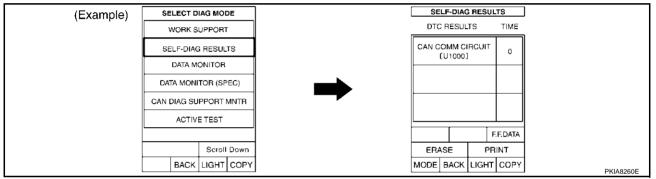
TKWA1018E

Work Flow

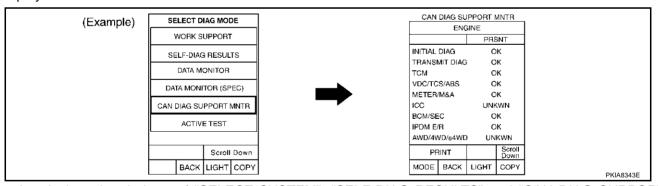
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-808</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-808</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203, "CAN Communication Line Check"</u>.

CAN SYSTEM (TYPE 24)

[CAN]

- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-808</u>, "CHECK SHEET".
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-808</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-810, "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.

Check sheet tabl	8	1										
						CAN DIA		RT MNTR eive diagn	neie			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC
ВСМ	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_
		SI	Attach co ELECT SY	py of ′STEM			Attacl SELEC	n copy of T SYSTEM	1			
			CA	N DIAG SU	Attach o display co JPPORT N	ntrol unit	check she	et				

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR

Revision; 2004 April LAN-809 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

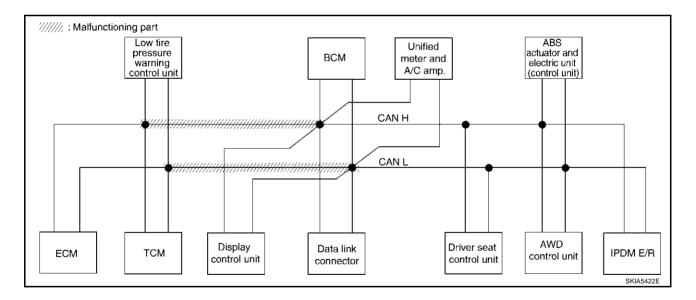
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-825</u>, "Circuit Check Between TCM and Data Link Connector" .

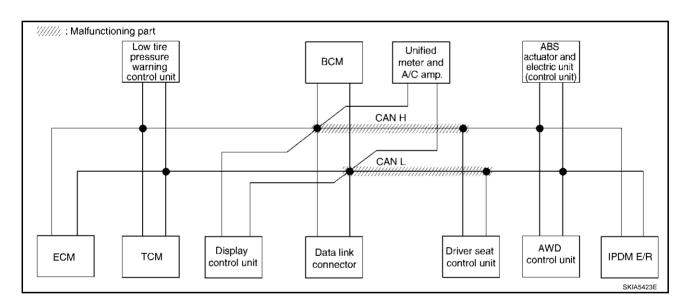
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM corean	1-16-1	Tue e e e e it					eive diagn				
3222013131	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNK WN	UNK VIN	NNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CAC 3	_	CANORC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
ВСМ	_	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	Ω ΝΚ ⁄⁄ΩΝ	NNK AN	UNK W N	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK/VN	_	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNK A NN	_	_	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNK / WN	_	_	_	_	_	_	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to LAN-826, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	2111 00/00//	diagnosis	diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UN K ∕VN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CANCACT
всм	_	NG	UNKWN	UNKWN	_	-	1	_	UNKWN	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	UNK W N	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	-	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNK W N	_	_	-	_	NNR MN	_	_	_
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	_	_



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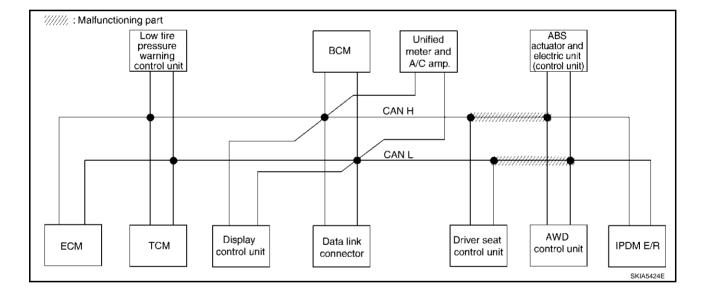
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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-826</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222373731	2.0.00.00.	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	UNKWN	_	NNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UN K ∕VN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	1	-	UNKWN	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CANCAC 7
ВСМ	_	NG	UNKWN	UNKWN	_	-	ı	-	UNKWN	_	1	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	n иk {wν	UN K∜ NN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKAN	_	_	-	_	UNK WN	_	_	_
ABS	_	NG	UNKWN	UNK / WN	_	_	_	_	_	_	_	_



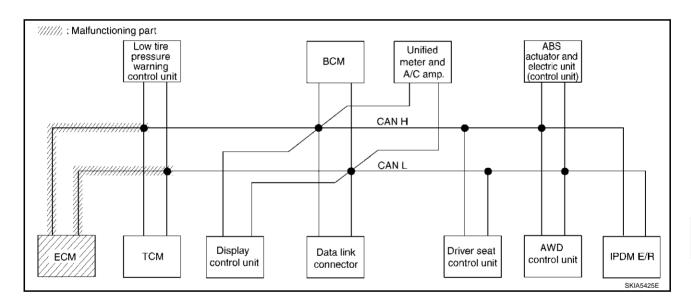
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Case 4
Check ECM circuit. Refer to LAN-827, "ECM Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222373731	2,41 00,00,,	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNK WN	_	ı	UNKWN	UNK WN	UNK WN	ı	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	1	ı	UNKWN	ı	UNKWN	ı
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	1	UNKWN	_	-	1
Display control unit	_	CAN COMM	CAN CIRC 1	CANC RC 3	_	CAN CIRC 6	ı	CAN CIRC 2	CAN CIRC 5	1	ı	CAN CIRC 7
BCM	_	NG	UNKWN	UN K ₩N	_	_	1	1	UNKWN	-	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	Ω ΝΚW Ν	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	1	-	-
ALL MODE AWD/4WD		NG	UNKWN	UNK/VN		_	-		UNKWN	_		
ABS	_	NG	UNKWN	UNK W N	_	_	_	_	_	_	_	_



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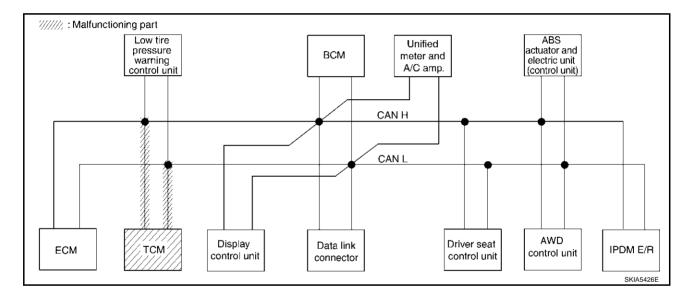
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Case 5
Check TCM circuit. Refer to <u>LAN-827</u>, "TCM Circuit Check".

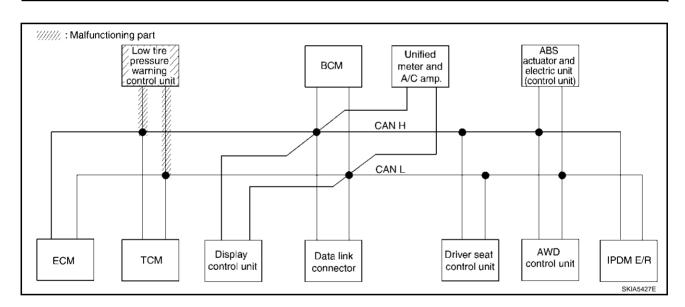
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UN K ₩N	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	ı	UNKWN	_	UNKWN	ı
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_		_	-	UNKWN	_	-	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
всм	1	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	_	1	UNKWN	UNKWN	_	_	ı
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	ı	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	-	_	_	_
												PKIB0943E



Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-828</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222070701	2111 0070077	diagnosis	diagnosis	ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	ı	UNKWN	_	ı	UNKWN	UNKWN	UNKWN	ı	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		1	1	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	ı	ı	UNKWN	-	-	_
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	CANC/RC 6	ı	CAN CIRC 2	CAN CIRC 5	1	ı	CAN CIRC 7
BCM	1	NG	UNKWN	UNKWN		_	ı	ı	UNKWN	1	1	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	1	UNKWN	UNKWN	1
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_	1	UNKWN	UNKWN	1	1	-
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	_	_	1		UNKWN			
ABS	_	NG	UNKWN	UNKWN	_		_	_	_	_	_	_



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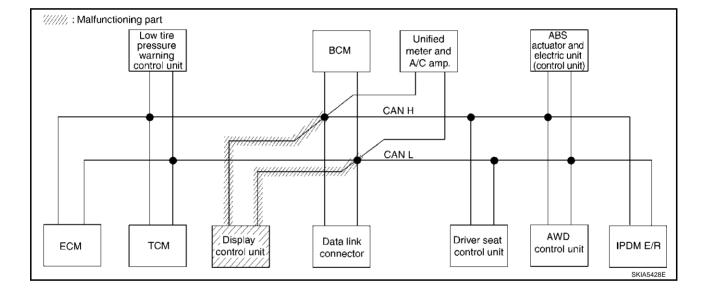
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Case 7
Check display control unit circuit. Refer to <u>LAN-828</u>, "<u>Display Control Unit Circuit Check</u>".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM coroon	1.70.1	T			Ortif Birti		eive diagn	osis			
3ELECT 3131	EIVI SCIEEII	Initial diagnosis	Transmit diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_
Display control unit	_	CAN COMM	CANORC 1	CAN CAC 3	_	CANCERC 6	_	CANORC 2	CANORC 5	_	_	CANC RC 7
BCM	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	1	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



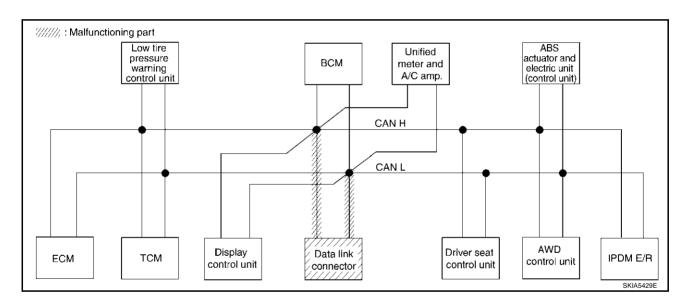
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Case 8 Check data link connector circuit. Refer to LAN-829, "Data Link Connector Circuit Check" .

						CAN DIAG	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322237 3701	2111 0070017	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	1	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	1	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	1	ı	CAN CIRC 7
BCM	_	NG	UNKWN	UNKWN	_	1	-	1	UNKWN	-	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	-
AUTO DRIVE POS.	No incleation	NG	UNKWN	-	UNKWN		-	UNKWN	UNKWN	1	-	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_		UNKWN			_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_

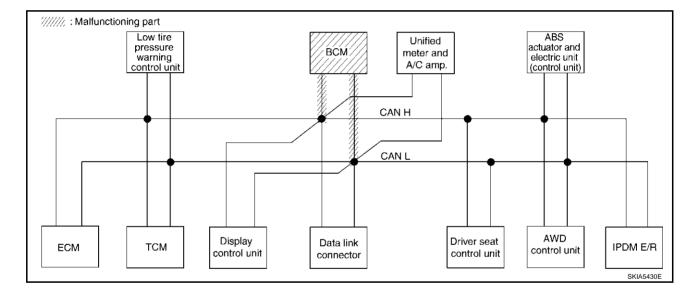


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Case 9
Check BCM circuit. Refer to <u>LAN-829</u>, "BCM Circuit Check" .

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	EN GOICEN	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	1	UNKWN	UNKWN	UNKWN	_	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	-	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	1	CAN O'RC 2	CAN CIRC 5	_	-	CAN CIRC 7
ВСМ	_	NG	UNK WN	UNKWN	_	_	-	_	Π Μ ΜΝ	_	_	Π ΝΚ /ΜΝ
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN		1	UNKWN	UNKWN	_	-	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-		UNKWN	_	. 1	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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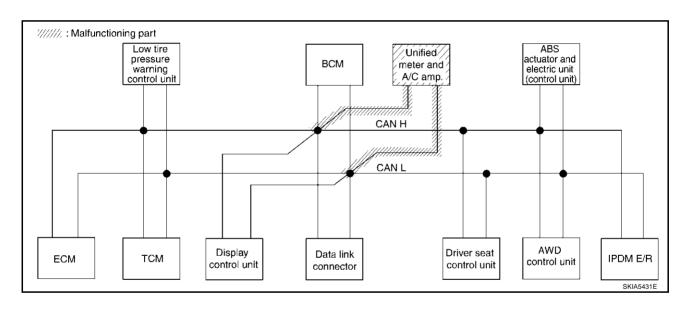
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Case 10

Check unified meter and A/C amp. circuit. Refer to LAN-830, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIAG	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222373731	2111 0070077	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNI W WN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	-	n uk wu	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UN K ₩N	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN ORC 5	_	-	CAN CIRC 7
BCM	_	NG	UNKWN	UNKWN	_	-	-	ı	UN K WN	_	1	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		1	UNKWN	η νκ γνυ	_	-	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	∩ νΚ ⁄νν	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_

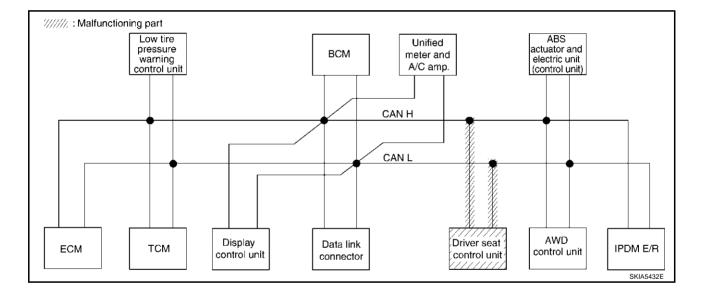


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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-830</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit									
3222373731	2.11 00/00//	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	1	1	UNKWN	UNKWN	UNKWN	1	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	1	_	UNKWN	-	1	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	1	CAN CIRC 2	CAN CIRC 5	ı	1	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	1	ı	ı	UNKWN	1	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN		1	UNKWN	UNKWN	1	1	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	ı	UNKWN		_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_



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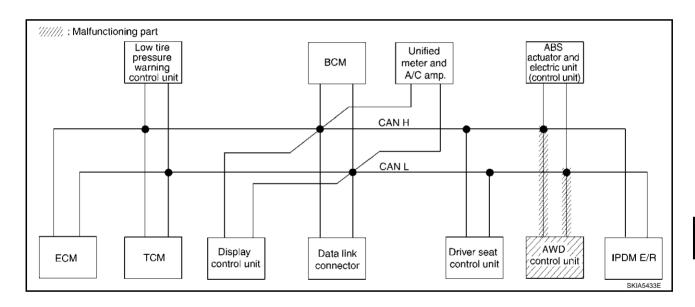
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Case 12
Check AWD control unit circuit. Refer to <u>LAN-831</u>, "AWD Control Unit Circuit Check".

						CAN DIAG	3 SUPPOI	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
0222010101	LINI SOICCII	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE		NG	UNKWN	1	UNKWN	1	1	UNKWN	UNKWN	NNK WN	1	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	-	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	-	UNKWN	_	1	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC		
BCM	_	NG	UNKWN	UNKWN	_	-	-	ı	UNKWN	_	1	UNKWN		
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK ∕ VN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		1	UNKWN	UNKWN	_		_		
ALL MODE AWD/4WD	_	NG	UN K ₩N	Π ΝΚ ΜΝ	_	_	_	_	∩ νΚ ⁄νν	_	_	_		
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_		



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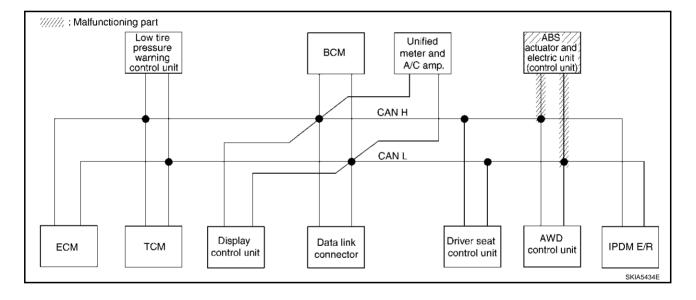
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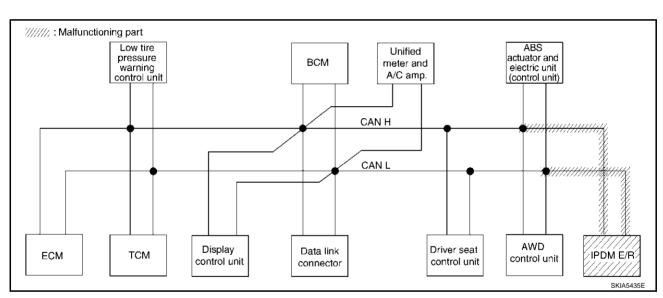
Case 13
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-831</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit diagnosis	Receive diagnosis										
02220707011	2111 0070011	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		_	_	UNKWN	_	Π νκ γνν	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_		
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7		
всм	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNK/VN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_		UNKWN	_	_	_		
ABS	_	NG	NMAMN	UN K ₩N	_	_	_	_	_	_	_	_		
												PKIB0951E		



Case 14
Check IPDM E/R circuit. Refer to LAN-832, "IPDM E/R Circuit Check".

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM corean	latitia.	Tunnanit			OAIN DIA		eive diagn	osis				
SELECT STST	EIVI SCIEEII	Initial diagnosis	Transmit diagnosis	ECM	TCM	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	=	UNKWN	_	_	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	CANORC 7	
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	UNKWN	UNKWN	_	_	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	



Case 15
Check CAN communication circuit. Refer to <u>LAN-833</u>, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit diagnosis	Receive diagnosis										
0222010101	LIVI SUICCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNK VI	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	1	UNKWN	_	_	-		
Display control unit	_	CAN COMM	CANORC 1	CANCAC 3	_	CANORC 6	-	CANCERC 2	CANCAC 5	-	=	CANORC		
ВСМ	_	NG	UNK WN	NNK WN	_	_	-	ı	UNKWN	-	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	UNKWN	UNKWN	1		
AUTO DRIVE POS.	No incleation	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	-		
ALL MODE AWD/4WD		NG	UNK WN	UNK W N	_	_	_	_	UNK VIN	_	_	_		
ABS	_	NG	UNK WN	UNK/WN	_	_	_	_	_	_	_	_		

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Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-837, "IPDM E/R Ignition Relay Circuit Check"</u>.

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222373731	2111 00/00//	diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	_	1	UNKWN	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	1	-	UNKWN	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6		CAN CIRC 2	CAN CIRC 5	_	_	CAN CIRC 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	ı	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K ∕VN	UNKWN	UNKWN	UNKWN	-	UNKWN	∩ иК \\\	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK VN	_	1	UNKWN	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-837, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
		diagnosis	1 1	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	UNKWN	_	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	ı	_	_	_	UNKWN	_	ı	ı		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	-	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	ı	_	-	ı	UNKWN	_	1	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	UNKWN	1		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	UNKWN	_	ı	ı		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_				
ABS	_	NG	UNKWN	UNK/WN	_	_	_	_	_	_	-	_		
												PKIB0955E		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

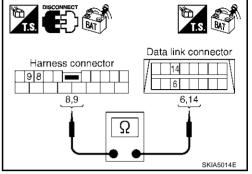
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-806, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

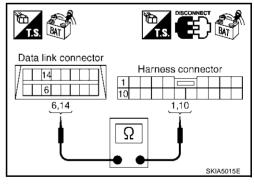
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. Check harness for open circuit

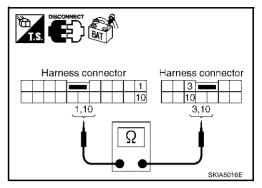
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L). 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-806, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric **Unit (Control Unit)**

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

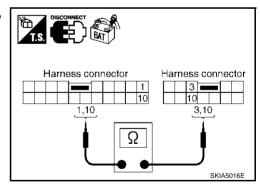
- Disconnect harness connector B2 and harness connector B4. 1.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 3. NG

>> Repair harness.



$\overline{3}$. Check harness for open circuit

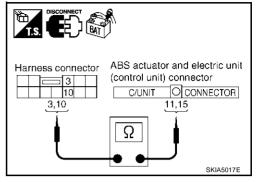
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

: Continuity should exist. 3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-806, "Work Flow".

NG >> Repair harness.



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ECM Circuit Check

CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

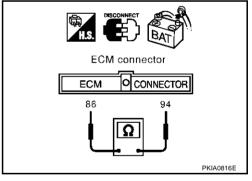
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

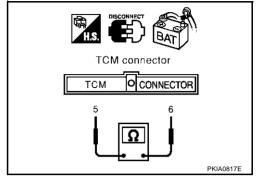
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. **54 - 66**
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OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

AKS00740

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

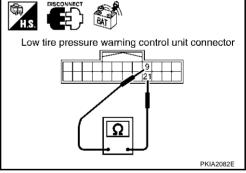
- 1. Disconnect low tire pressure warning control unit connector.
- Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure warning control unit and TCM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF. 1.

- 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. AKS00741

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

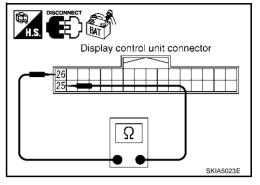
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



AKS00742

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

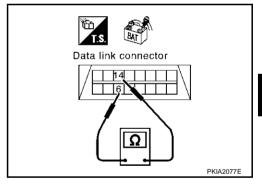
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-806, "Work Flow".

NG >> Repair harness between data link connector and BCM.



AKS00743

BCM Circuit Check 1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

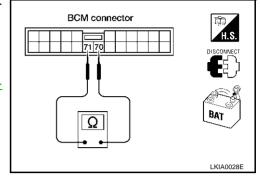
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36</u>, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS00744

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

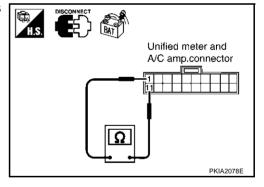
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. and data link connector.



AKS00745

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

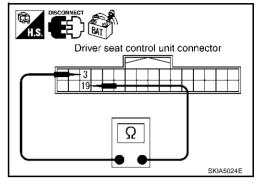
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



AKS00746

AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

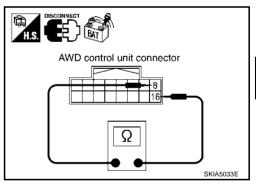
OK or NG

OK :

NG

>> Replace AWD control unit.

>> Repair harness between AWD control unit and IPDM E/ R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS00747

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.

t (control unit) for damage, bend and loose

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

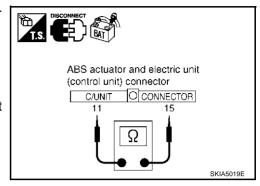
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS00748

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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 Ω

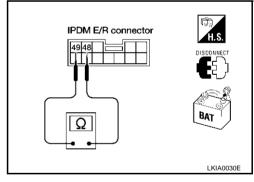
OK or NG

OK :

NG

>> Replace IPDM E/R.

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN SYSTEM (TYPE 24)

[CAN]

AKS00749

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side and harness side).
- **ECM**
- **TCM**
- Low tire pressure warning control unit
- Display control unit
- **BCM**
- Unified meter and A/C amp.
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Low tire pressure warning control unit connector
- Harness connector M82

ECM connector

- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

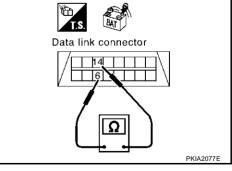
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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and harness connector M9.

4. CHECK HARNESS FOR SHORT CIRCUIT

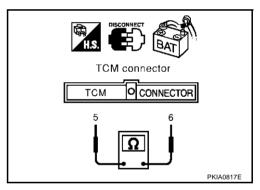
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



Data link connector

6

6, 14,

5. CHECK HARNESS FOR SHORT CIRCUIT

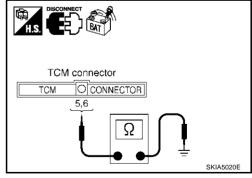
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

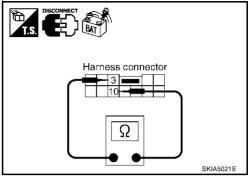
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

> 3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

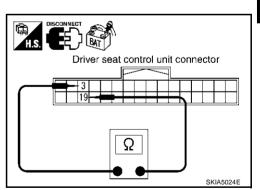
: Continuity should not exist. 3 (L/Y) - 19 (BR/W)

OK or NG

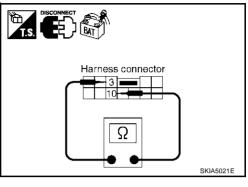
OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



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Harness connector 3

> 10 3,10

> > LAN

SKIA5022E

9. CHECK HARNESS FOR SHORT CIRCUIT

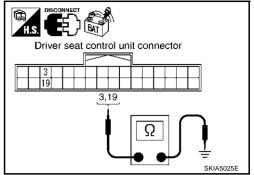
Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

3 (L/Y) - Ground : Continuity should not exist.19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

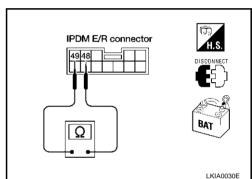
OK or NG

NG

OK >> GO TO 11.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 12.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 4948 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-837</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" . $\overline{\text{OK or NG}}$

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-806</u>, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

CAN SYSTEM (TYPE 24)

[CAN]

IPDM E/R Ignition Relay Circuit Check

AKS0074A

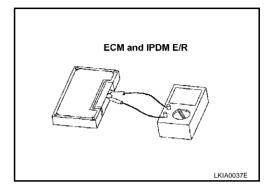
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "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 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 25)

PFP:23710

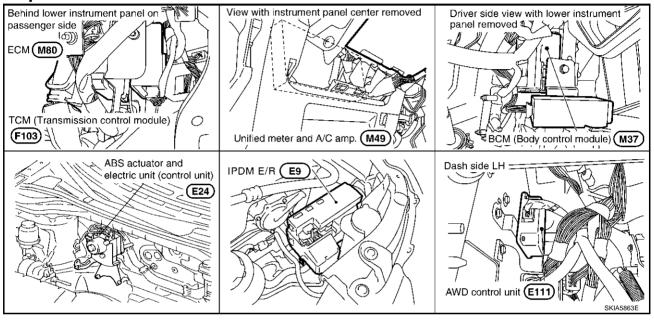
System Description

AKS0074C

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

AKS0074D



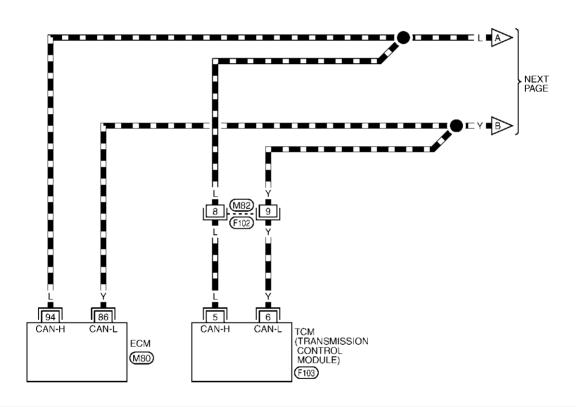
Schematic AKS0074E Α IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM) CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 5 С D 16 AWD CONTROL UNIT Е F STEERING ANGLE SENSOR ß G Н J 2 LAN ဖ DISPLAY UNIT M TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 86 ECM 94 TKWA1019E

Wiring Diagram - CAN -

AKS0074F

LAN-CAN-73

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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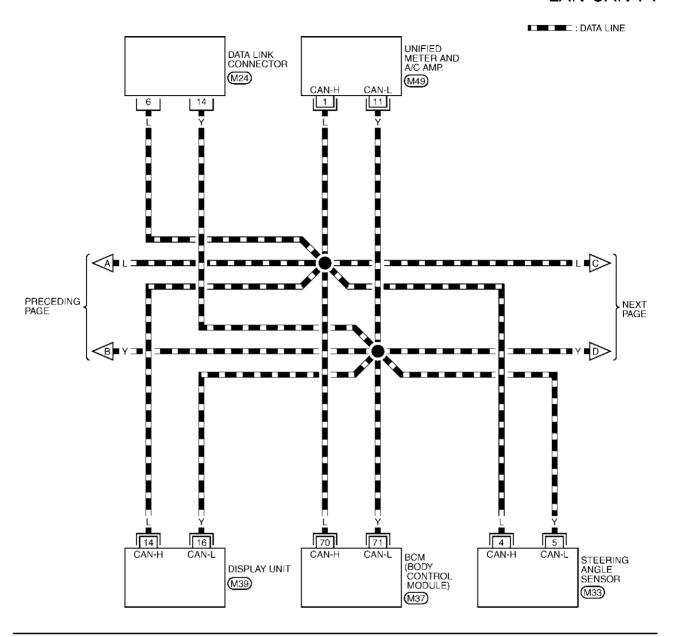
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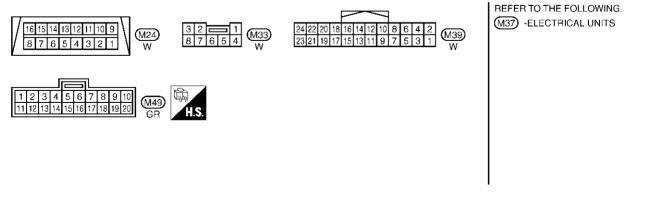
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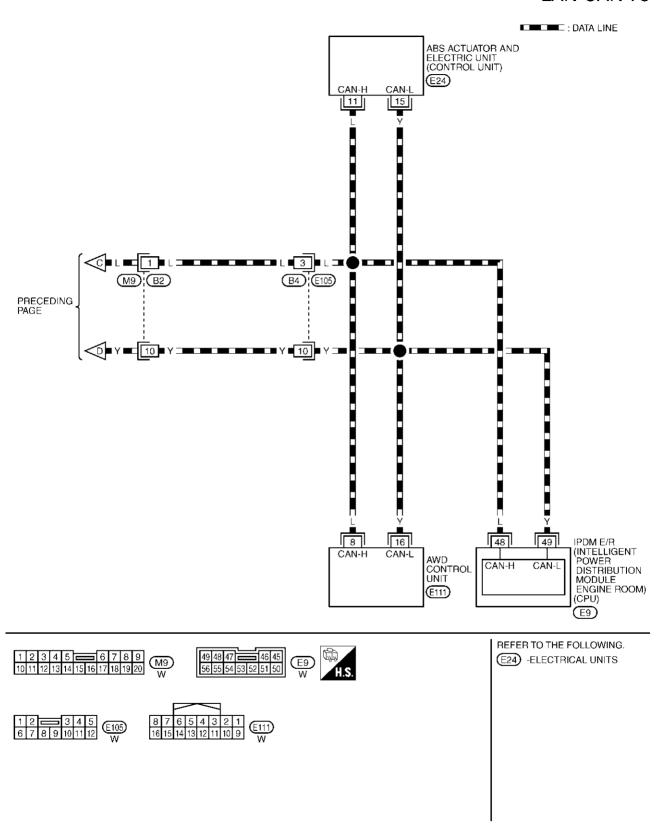
LAN-CAN-74





TKWA1021E

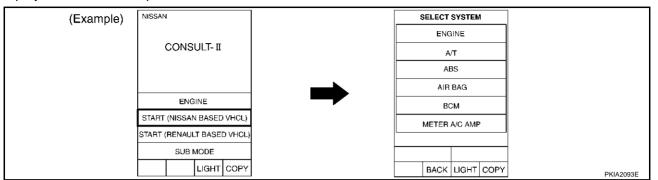
LAN-CAN-75



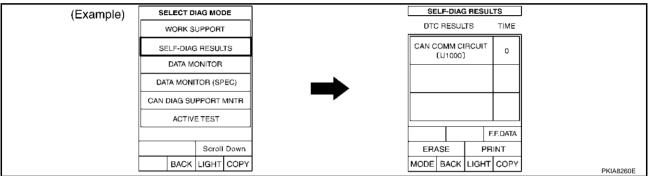
TKWA1022E

Work Flow

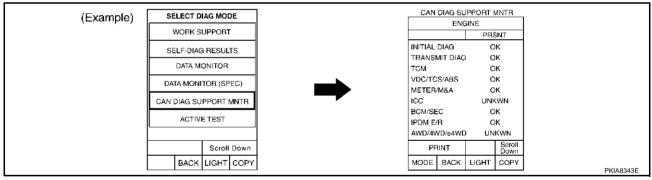
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-845</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-845</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication</u> Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-845</u>, "CHECK SHEET"

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Revision; 2004 April LAN-843 2003 Murano

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CAN SYSTEM (TYPE 25)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-845</u>, "CHECK SHEET" .

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-847, "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.

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Red	eive diagn		1		
			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	-	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_
		SI	Attach cop ELECT SY	oy of 'STEM			Attacl SELEC	n copy of FSYSTEM	1			
				CAN DI	Attach o displa AG MONI	y unit	sheet					

PKIB0957E

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR
		PK

CHECK SHEET RESULTS (EXAMPLE)

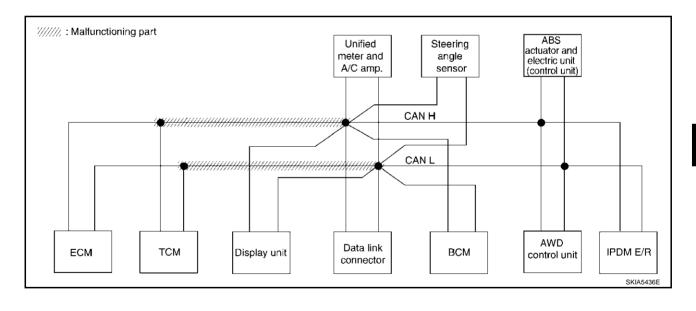
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-860</u>, "Circuit Check Between TCM and Data Link Connector".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
J==01 0101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNK WN	UN K VN	_	υν κ ⁄νν	Ω ΝΚ∕ ΛΝ	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	-	-	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	-	_	1	UNKWN	_	-	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN K WN	Ω ΝΚ ⁄ΜΝ	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UN ∳ WN	UNK/WN	_	-	_	UNKWN	UNKWN	_	_



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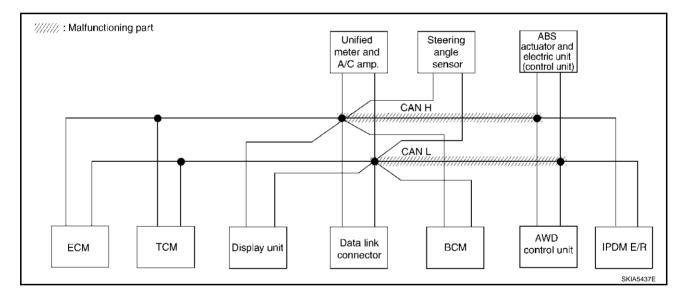
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-860</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPO	BT MNTB				
SELECT SYST	EM coroon	1.52.1	- "			0,111 0,711		eive diagn	osis			
SELECT STST	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UN K ₩N	υ νκ∕ ΜΝ	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNK WN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	υ νΚ ⁄ΜΝ	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKANN	_	_	_	UNK WN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UN ∳ WN	UNK/WN	_	_	_	UNKWN	UNKWN	_	_



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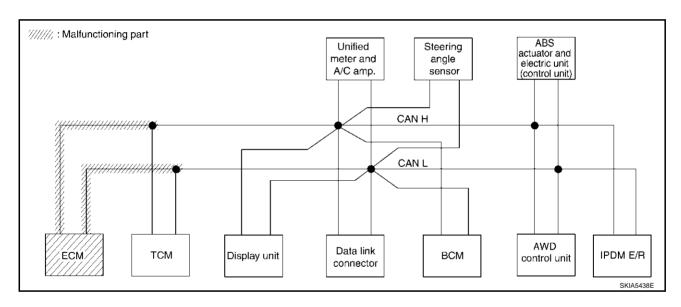
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Case 3
Check ECM circuit. Refer to LAN-861, "ECM Circuit Check".

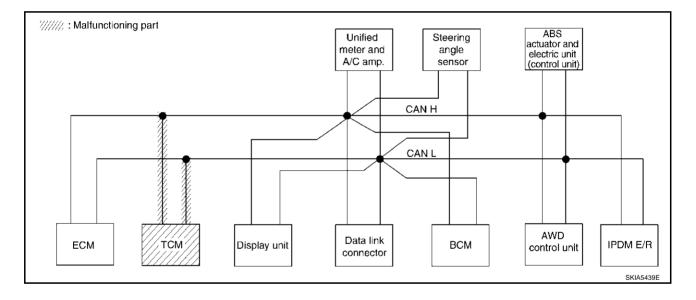
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI 30/CCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNKWN	_	UNKWN	UNK WN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UN K WN	_	_	_	UNKWN	1	-	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	-	_	_	CAN 7
всм	_	NG	UNKWN	UN K ₩N	-	_	ı	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK W N	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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Case 4
Check TCM circuit. Refer to <u>LAN-862</u>, "TCM Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
	2111 001 0011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Π ИΚ ΜИ	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	_	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	∩WKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UN K ₩N	_	_	_	UNKWN	UNKWN	_	_



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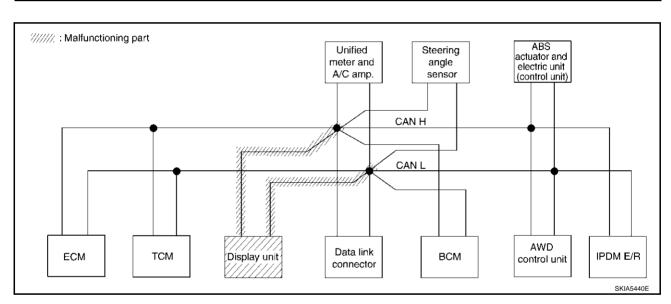
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Case 5

Check display unit circuit. Refer to LAN-862, "Display Unit Circuit Check" .

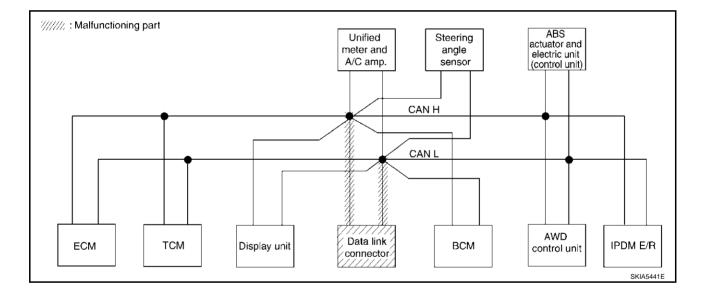
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222313131	2111 001 0011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	ı	UNKWN	_	UNKWN	UNKWN	ı	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	-	UNKWN	_
Display unit	_	CAN COMM	CAN 1	C W 13	-	_	CAN 2	CAN 5	_	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Π ΝΚW N	UNKWN	_	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	1	NG	UNKWN	UNKWN	_	_	-	UNKWN		_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	UNKWN	UNKWN	_	_
												PKIB0962E



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Case 6
Check data link connector circuit. Refer to <u>LAN-863</u>, "<u>Data Link Connector Circuit Check</u>" .

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	EIVI SOFCOII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN		UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	



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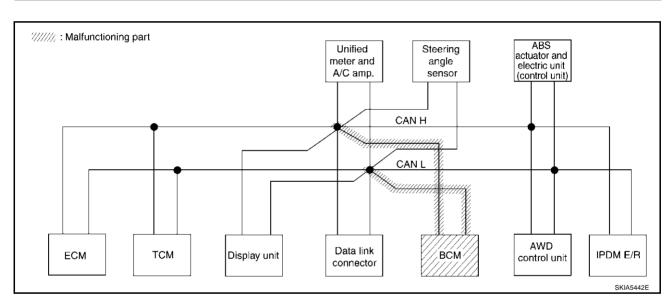
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Case 7

Check BCM circuit. Refer to LAN-863, "BCM Circuit Check".

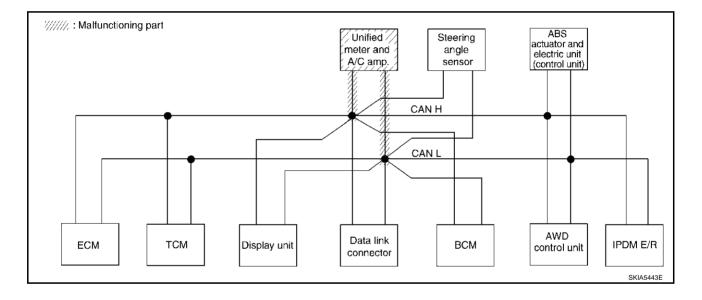
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOFCOTI	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	I	ı	UNKWN	-	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	Ω ΝΚ ⁄ΜΝ	UNK W N	_	_	_	UNKWN	_	_	_	NMM
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	ΩN K WN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	-	_	UNKWN	-	_	UNKWN	_
ABS	1	NG	UNKWN	UNKWN	UNKWN		_	_	UNKWN	UNKWN	_	_
												PKIB0964E



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Case 8
Check unified meter and A/C amp. circuit. Refer to LAN-864, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNK WN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	Ω ΝΚ ⁄⁄ΩΝ	_	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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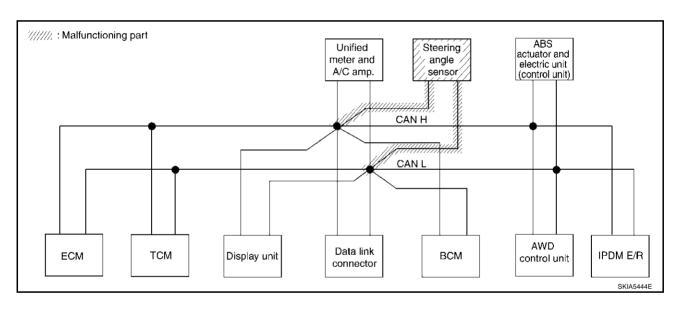
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Case 9

Check steering angle sensor circuit. Refer to LAN-864, "Steering Angle Sensor Circuit Check".

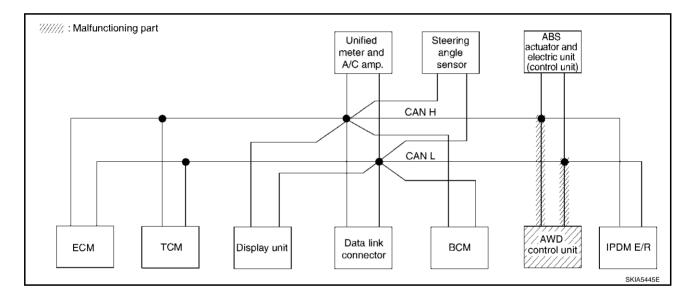
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_		UNKWN	_	_	UNKWN	1
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	UNK/WN	UNKWN	_	_



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Case 10
Check AWD control unit circuit. Refer to <u>LAN-865</u>, "AWD Control Unit Circuit Check".

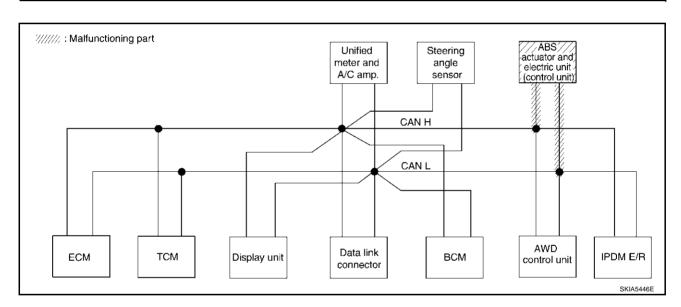
						CAN DIA	G SUPPOI	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
0222010101	LIVI SOFCOTI	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK/WN	UNKWN			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_		UNKWN	υ νκ ⁄νν	_			



Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-865</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
022201 0101	2.11.00.0011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN	η νκ ⁄νν	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	UNK WN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	-	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNK WN	_	
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNK WN	_	
ABS	_	NG	UNK/VN	UNK WN	UNK WN	_	_	_	UNK WN	υ νκ ⁄νν	_		



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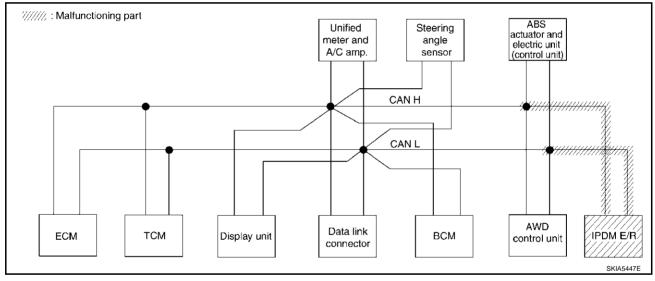
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Case 12
Check IPDM E/R circuit. Refer to <u>LAN-866</u>, "IPDM E/R Circuit Check".

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
4		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	NNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	1	_	UNKWN	-		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_		



Case 13
Check CAN communication circuit. Refer to <u>LAN-866</u>, "CAN Communication Circuit Check" .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis				
0222010101	EIVI SOFCCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UN K ₩N	=	UN ∳ WN	_	UNK WN	UNK ∕ WN	_	UNK WN	UN K ∕VN	υ κ Μν	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	C 4/ 12	CAN 5	_	_	_	CAN 7	
всм	_	NG	UNK WN	UNK WN	_	_	_	NNK WN	_	_	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	
ALL MODE AWD/4WD	-	NG	UNK WN	UN K ₩N	_	_	-	UNIOWN	_	_	UNK WN	_	
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	_	_	UNK WN	UN K ₩N	_	_	

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-869</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
0222010101	LIVI SOFCCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	Π ИΚ ΜИ	_	UNKWN	UNKWN	_	UNKWN	Ω ΝΚ ΑΝΙ	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN	-		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K ∕VN	UNKWN	UNKWN	_	_	UNKWN	UN K ∕VN	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNRWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_		UNKWN	UNKWN	_			

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-869, "IPDM E/R Ignition Relay Circuit Check" .

				CAN DIAG SUPPORT MNTR									
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis									
0222010101	LIVI SOFCOII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	UN K ∕WN	_	-	UNKWN	=	
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	-	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNK WN	UN K ₩N	_	_	

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

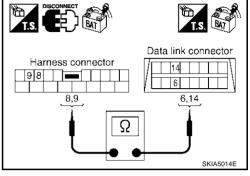
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-843, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

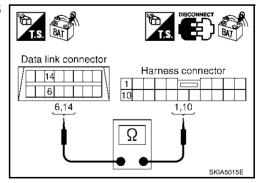
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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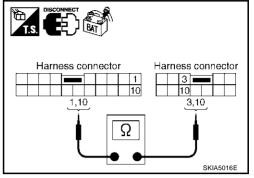
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L)

: Continuity should exist.

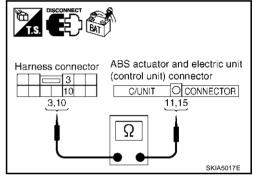
10 (Y) - 15 (Y)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-843, "Work Flow".

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 terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

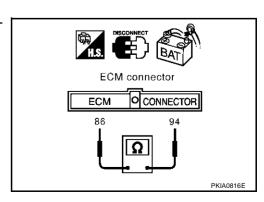
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

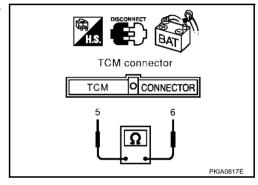
- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

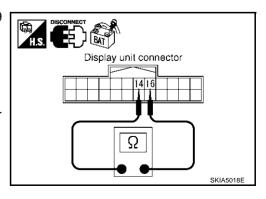
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit 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.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

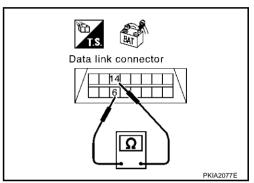
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. 54 - 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-843, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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.

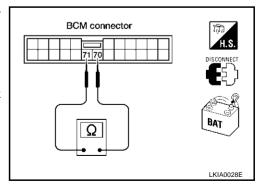
2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

AKS00740

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect unified meter and A/C amp, connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

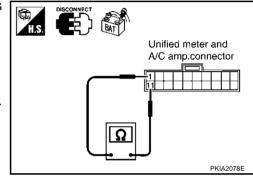
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS0074P

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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

- Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

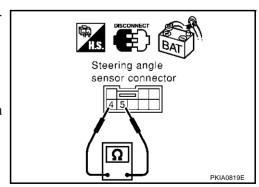
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace steering angle sensor. NG

>> Repair harness between steering angle sensor and data link connector.



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AWD Control Unit Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

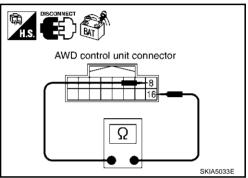
- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/R



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 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

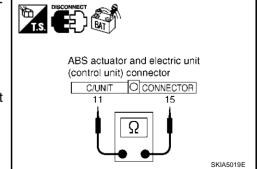
- Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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IPDM E/R Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

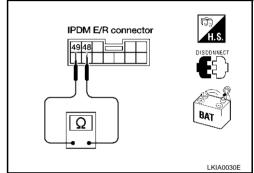
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



AKS0074T

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, unit side, meter side, sensor side, control unit side and harness side).
- ECM
- TCM
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

$oldsymbol{3}_{ ext{-}}$ check harness for short circuit

Check continuity between data link connector M24 terminals 6 (L). 14 (Y) and ground.

> 6 (L) - Ground : Continuity should not exist.

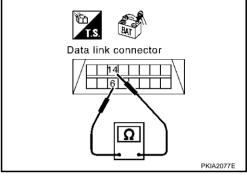
> 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

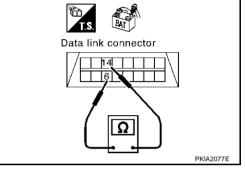
- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

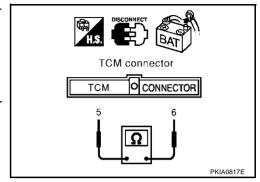
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

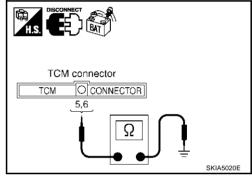
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

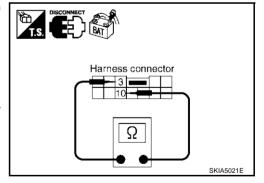
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

>> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

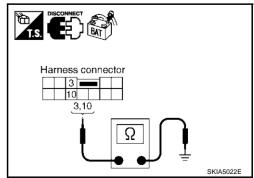
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



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8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

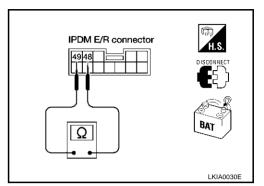
: Continuity should not exist.

OK or NG

OK

>> GO TO 9.

- NG
 - >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 48. 49 Ω LKIA0036E

$10.\,$ ecm/iPDM e/r internal circuit inspection

Check components inspection. Refer to LAN-870, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-843, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

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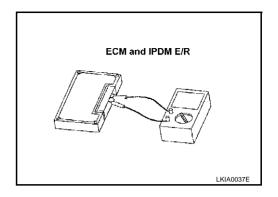
AKS0074U

AKS0074V

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



CAN SYSTEM (TYPE 26)

PFP:23710

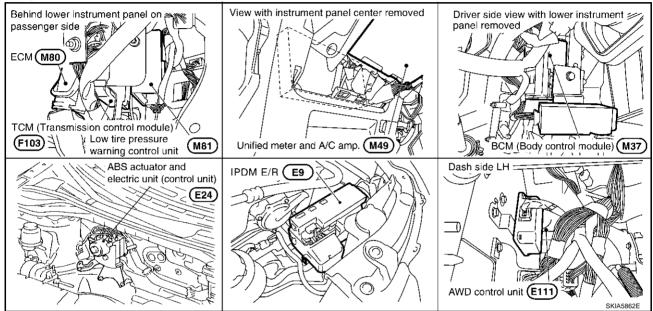
System Description

AKS0074W

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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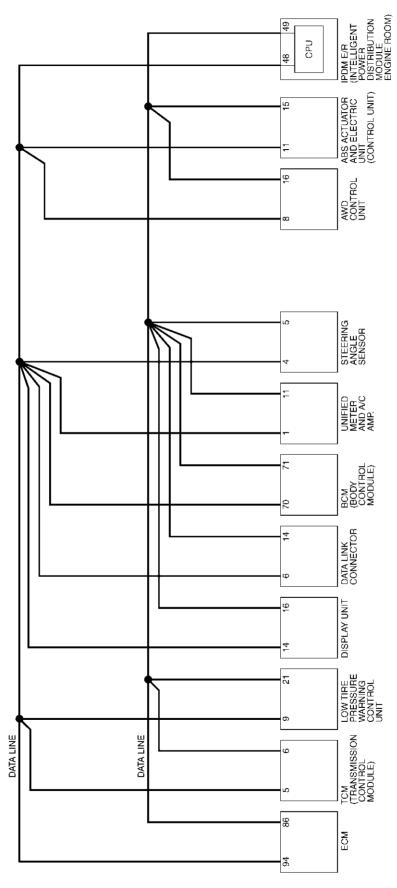


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Schematic AKS0074Y



TKWA1023E

Wiring Diagram - CAN -

AKS0074Z

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LAN-CAN-76

: DATA LINE

12 11 10 9 8 7 6 5 4 3 2 1 M	
	10-1
24 23 22 21 20 19 18 17 16 15 14 13	<u> </u>

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1 2	7	3	4	5	≡	5	3 7	8	9	10	(F102)
11	ľ	12	13	ī	14	15	16	17	Т	18	(F102)



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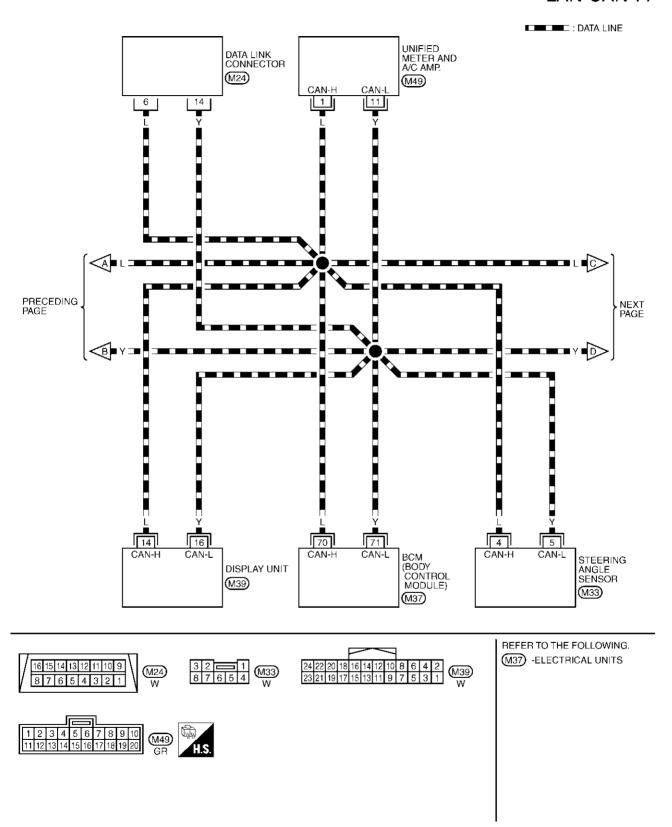
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LAN-CAN-77



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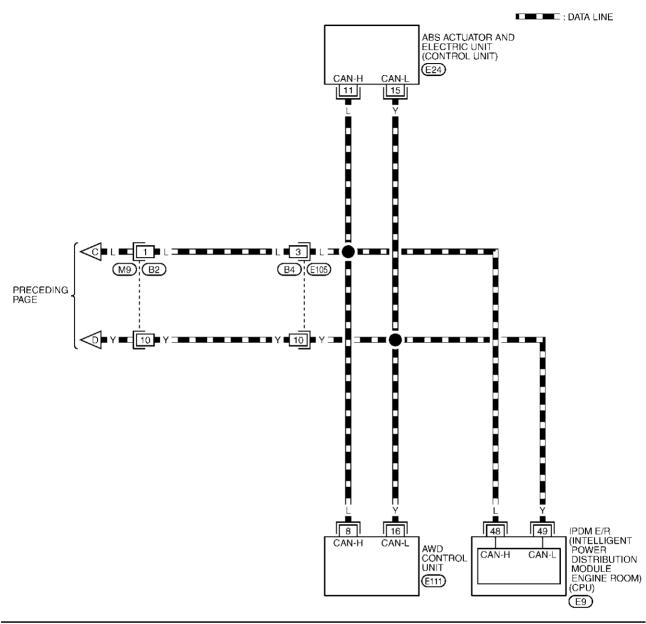
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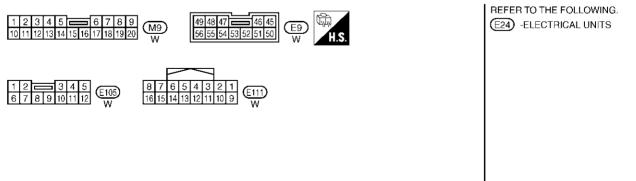
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LAN-CAN-78

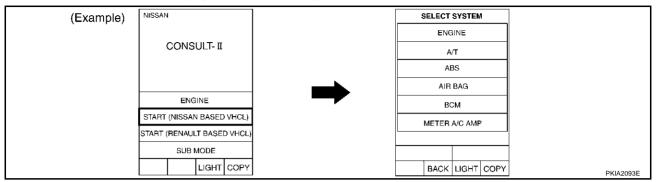




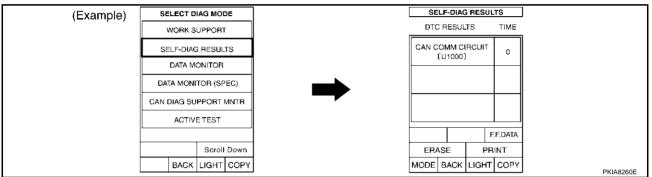
TKWA1026E

Work Flow

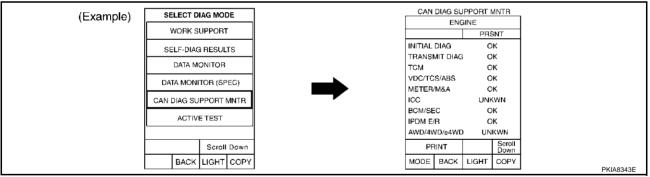
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-878</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-878</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-878</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 26)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-878</u>, "CHECK SHEET".

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-880, "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.

						CAN	DIAG SU						
SELECT SYST	EM screen	Initial	Transmit					DOM	diagnosi	S	AVAID	уролос	IDDM
		diagnosis	diagnosis	ECM	ТСМ	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	Ī	UNKWN	_	ı	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	UNKWN	UNKWN	_	-
		s	Attach c	opy of SYSTEM				Attach cop LECT SY					
				CAN	dis	ch copy o play unit NNITOR cl		et					

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	
MNTR	MNTR	MNTR	

Revision; 2004 April LAN-879 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

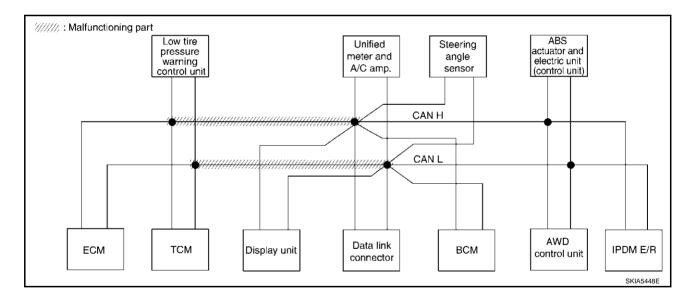
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-894</u>, "Circuit Check Between TCM and Data Link Connector" .

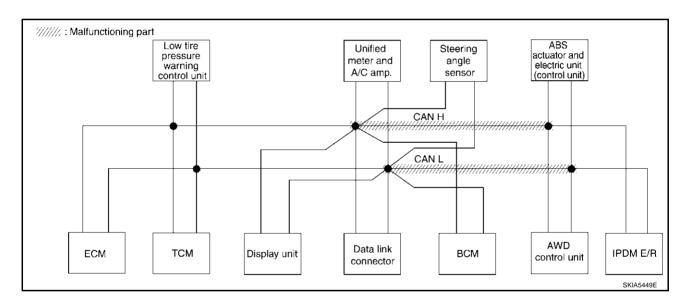
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
022201 0101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NĢ	UNKWN	_	UNKWN	_	_	n иκ ⁄ων	NNK WN	_	Π ΝΚW N	NMAMN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	с₩из	_	C W 6	_	CAN 2	CAN 5	-	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	-	_	-	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	ΩΝ Κ ⁄ΜΝ	UNK WN	UN K WN	UNKWN	UNKWN	1	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	NNKWN	_	_	-	-	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	_	_	UNKWN	UNKWN	_	_



Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-894</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNK WN	NMAMN	UNK W N
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	UN W WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	_	_	_
Display unit	=	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	-	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UN K WN	UN K ₩N	_
ALL MODE AWD/4WD	_	NG	UNKWN	NNKWN	-	-	_	-	NNK WN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNIK WN	UNKWN	_	_	_	_	UNK WN	UNKWN	_	_



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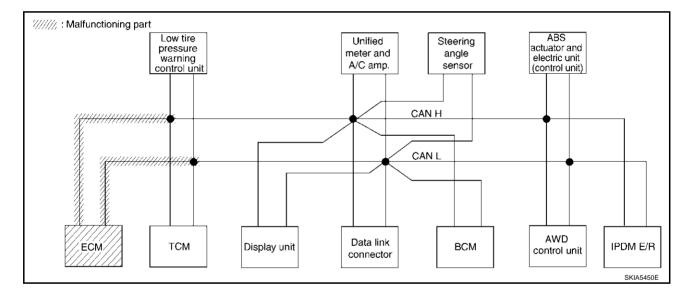
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Case 3
Check ECM circuit. Refer to <u>LAN-895</u>, "ECM Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
022201 0101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNK WN	_	_	UNK WN	UNK WN	_	UN K ₩N	UNKWN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNIA WN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	СМЗ	_	CAN 6	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	NNKWN	_	_	-	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



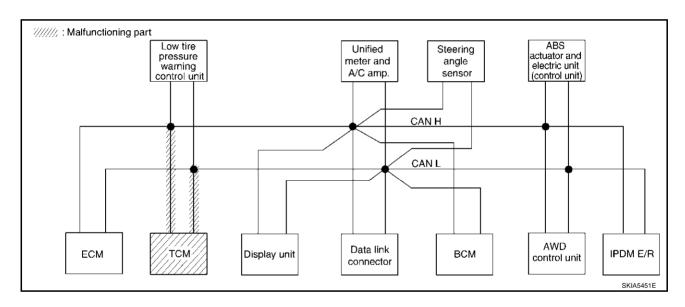
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Case 4
Check TCM circuit. Refer to <u>LAN-896, "TCM Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
322231 3101	LIW BOILDON	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	1	UNKWN	_	_	1	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	1	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	n uk {Μν	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	ı	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNI S WN	_	_	_	-	UNKWN	UNKWN	-	_



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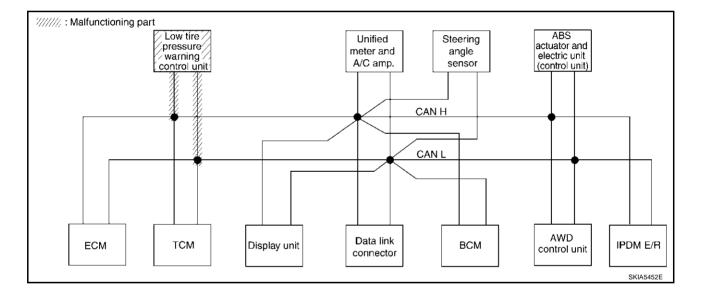
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Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-896</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	C ∜√ 6	_	CAN 2	CAN 5	_	_	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UN K ∕VN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	_	_



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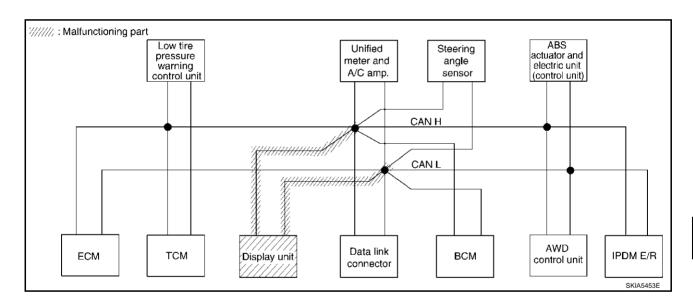
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Case 6

Check display unit circuit. Refer to LAN-897, "Display Unit Circuit Check".

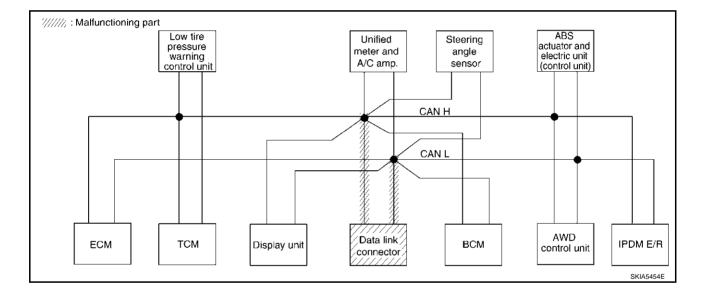
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
322231 3101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	сұ√із	_	CAN 6	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UN K ₩N	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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Case 7
Check data link connector circuit. Refer to <u>LAN-897</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	5			
322231 3131	20, 50, 50, 1	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	=	_	_	_	_	UNKWN	_	_	_	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
ABS	=	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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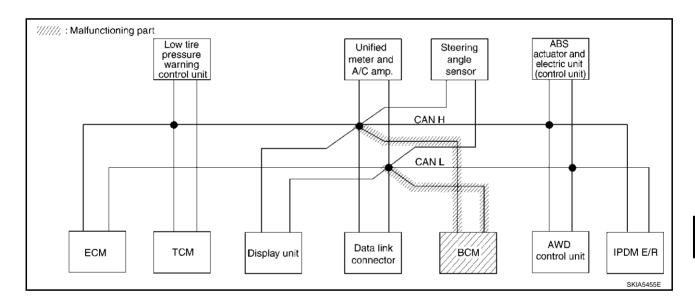
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Case 8
Check BCM circuit. Refer to LAN-898, "BCM Circuit Check".

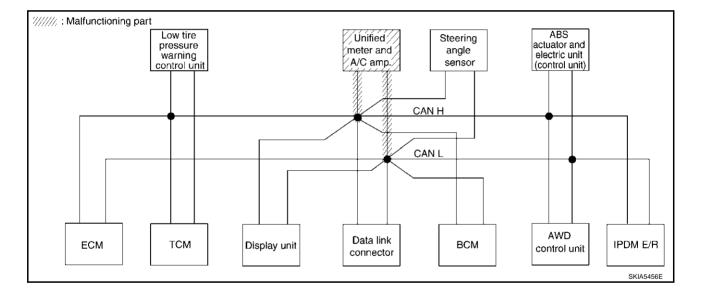
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
322231 3101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	=	_	_	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	-	_	_	CAN 7
всм	_	NG	UNKWN	UNI	_	_	_	-	UNK/WN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-898, "Unified Meter and A/C Amp. Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101	LIVI SCICCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UN K WN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNK WN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	-	_	UNK WN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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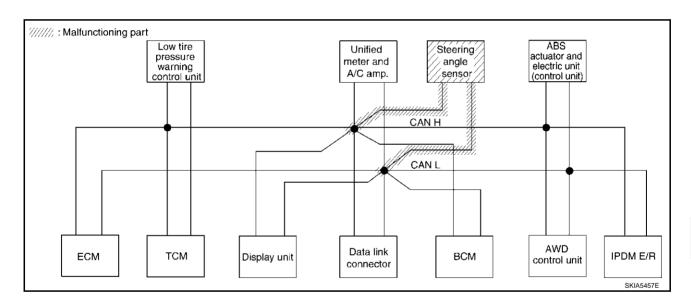
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Case 10

Check steering angle sensor circuit. Refer to LAN-899, "Steering Angle Sensor Circuit Check".

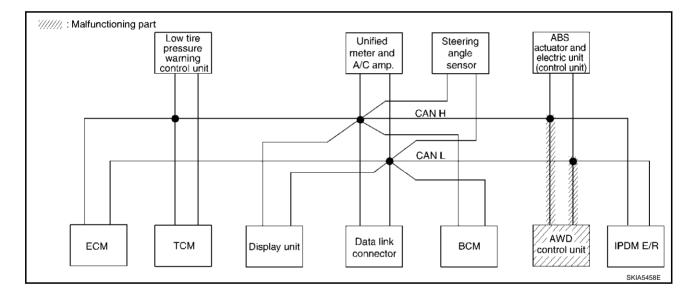
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNK WN	UNKWN	_	_



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Case 11
Check AWD control unit circuit. Refer to <u>LAN-899</u>, "AWD Control Unit Circuit Check".

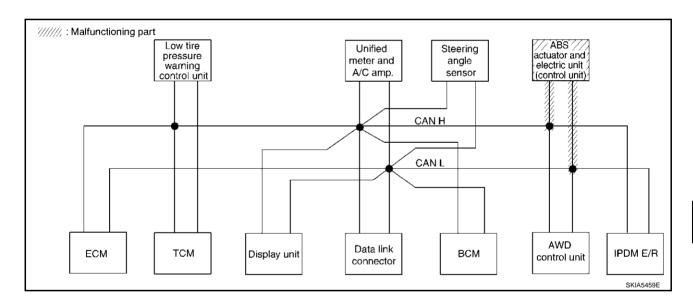
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
322231 3131		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNK WN	UNKWN	_
ALL MODE AWD/4WD	_	NG	n иκ ⁄ωи	UNRWN	-	_	_	_	UNKWN	_	_	NNR MN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNION	_	_



Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-900</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	5			
322231 3101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	NNK MN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	-	-	UNKWN	_	_	UNK ∕ NN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	ΠΝΚ ΜΝ	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNK WN	_
ABS	_	NG	UNK WN	UNKWN	UNK WN	_	_	_	_	UNK WN	UNI WN	_	



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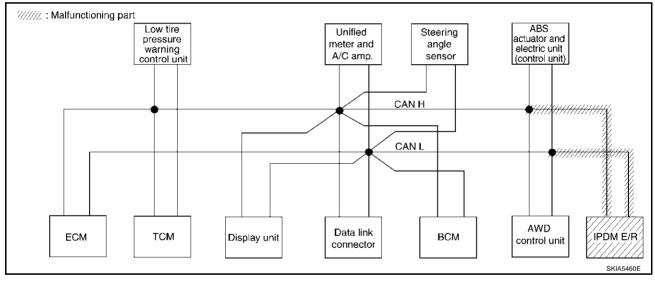
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Case 13
Check IPDM E/R circuit. Refer to <u>LAN-900, "IPDM E/R Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	ONK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	-	UNKWN	-	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-	UN K ₩N
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



Case 14
Check CAN communication circuit. Refer to <u>LAN-901</u>, "CAN Communication Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
3222313131		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UN K ₩N	_	_	n иκ ⁄ων	∩ NK WN	-	n νκ ⁄ων	NNK MN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_	_
Display unit	=	CAN COMM	CAN 1	CAN 3	_	C ∜√ 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNK WN	-	_	-	-	UNKWN	_	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNK WN	NNR MN	_	_	-	-	UNKWN	-	_	UNK WN	_
ABS	_	NG	UNK WN	UNKWN	UNK WN	_	_	_	_	UNK WN	UNK WN	_	_

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-904, "IPDM E/R Ignition Relay Circuit Check"</u> .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
322201 3131		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	NNR NN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	Π ΝΚ ΜΝ	UNKWN	UNKWN	UNKWN	_	_	UNKWN	Π υΚ ΛΝ	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	NNR AN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_

Case 16

Case 23: Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-904</u>, "IPDM E/R Ignition Relay Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	1	ΩN K WN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	ı	_	1	UNKWN	ı	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	ı	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	ı	-	ı	UNKWN	1	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	ı	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	-	ı	1	Ω ΝΚ ⁄ΝΝ	UNK WN	_	_
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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

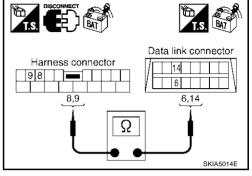
: Continuity should exist.

OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-876, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

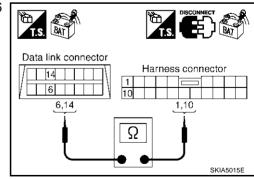
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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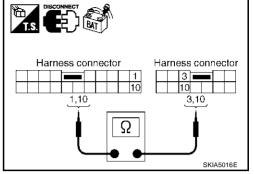
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L)

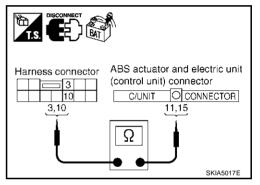
: Continuity should exist.

10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-876, "Work Flow".

NG >> Repair harness.



AKS00753

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

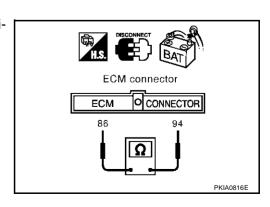
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

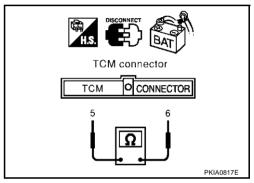
OK or NG

OK

>> Replace TCM.

NG

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

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1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

9 (L) - 21 (Y)

: Approx. 54 - 66 Ω

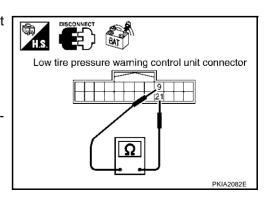
OK or NG

NG

OK

>> Replace low tire pressure warning control unit.

>> Repair harness between low tire pressure warning control unit and TCM.



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Display Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

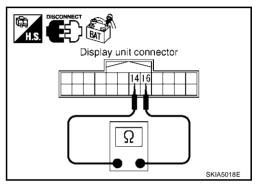
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

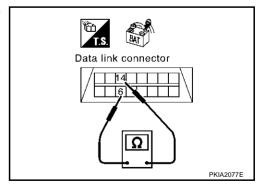
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to <u>LAN-876, "Work Flow"</u>.

NG >> Repair harness between data link connector and BCM.



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BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

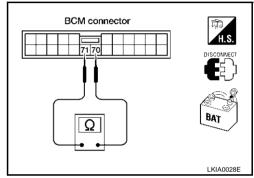
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS00759

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

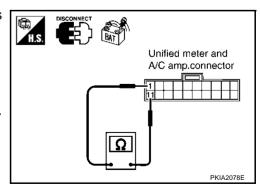
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. and data link connector.



AKS0075A

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

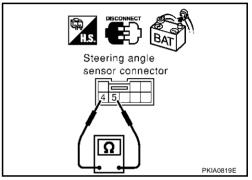
- 1. Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG >> Repair harness between steering angle sensor and data link connector.



AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

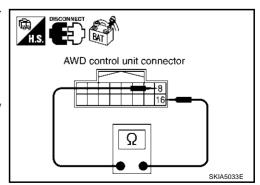
- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/R



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ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

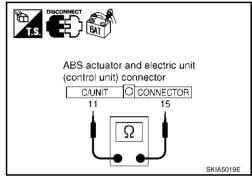
OK or NG

NG

OK >> Repla

>> Replace ABS actuator and electric unit (control unit).

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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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 E9 terminals 48 (L) and 49 (Y).

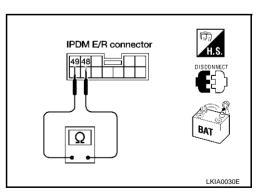
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness betw

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN SYSTEM (TYPE 26)

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CAN Communication 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, control unit side, unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

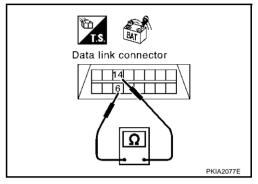
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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6, 14,

4. CHECK HARNESS FOR SHORT CIRCUIT

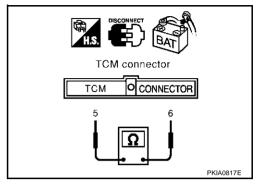
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

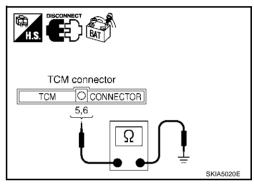
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

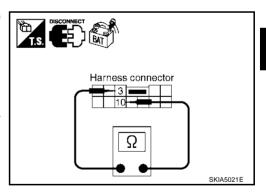
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

>> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

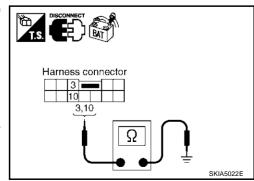
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



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8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

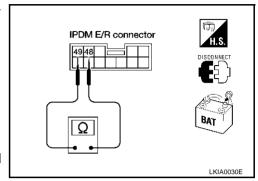
OK or NG

OK

>> GO TO 9.

NG >> Che

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 4948 48, 49 BAT LKIA0036E

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-905}}$, " $\underline{\mathsf{FCM/IPDM}}$ $\underline{\mathsf{E/R}}$ $\underline{\mathsf{INTERNAL}}$ $\underline{\mathsf{CIRCUIT}}$ $\underline{\mathsf{INSPECTION}}$ ". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-876, "Work Flow"</u>.

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS0075F

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"</u>.

CAN SYSTEM (TYPE 26)

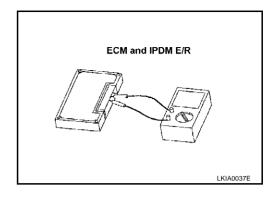
[CAN]

AKS0075G

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 27)

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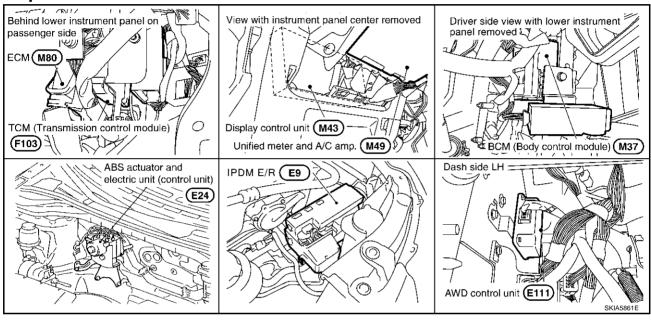
System Description

AKS0075H

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

AKS00751



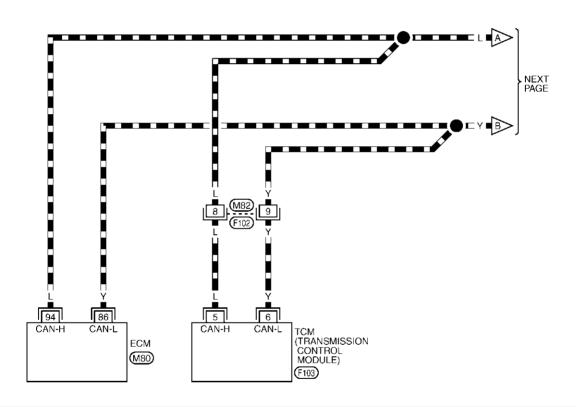
Schematic AKS0075J Α IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM) CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 5 С D 16 AWD CONTROL UNIT Е F STEERING ANGLE SENSOR ß G Н J 2 4 LAN ဖ 56 DISPLAY CONTROL UNIT M 25 TCM (TRANSMISSION CONTROL MODULE) DATA LINE DATA LINE 86 ECM 94 TKWA1027E

Wiring Diagram - CAN -

AKS0075K

LAN-CAN-79

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.
(M80), (F103) -ELECTRICAL
UNITS

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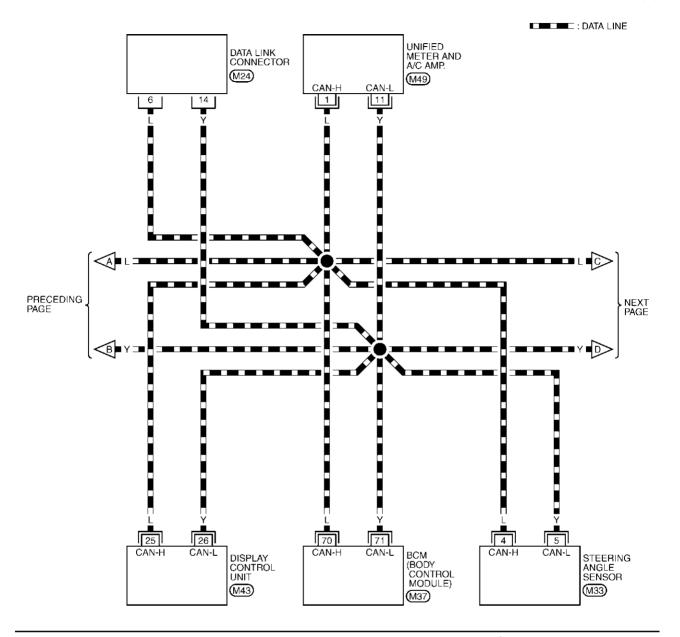
G

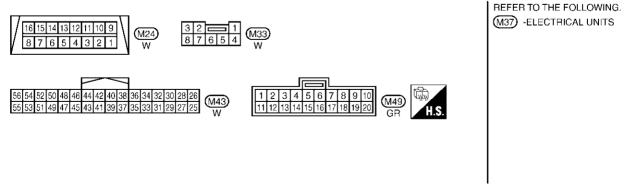
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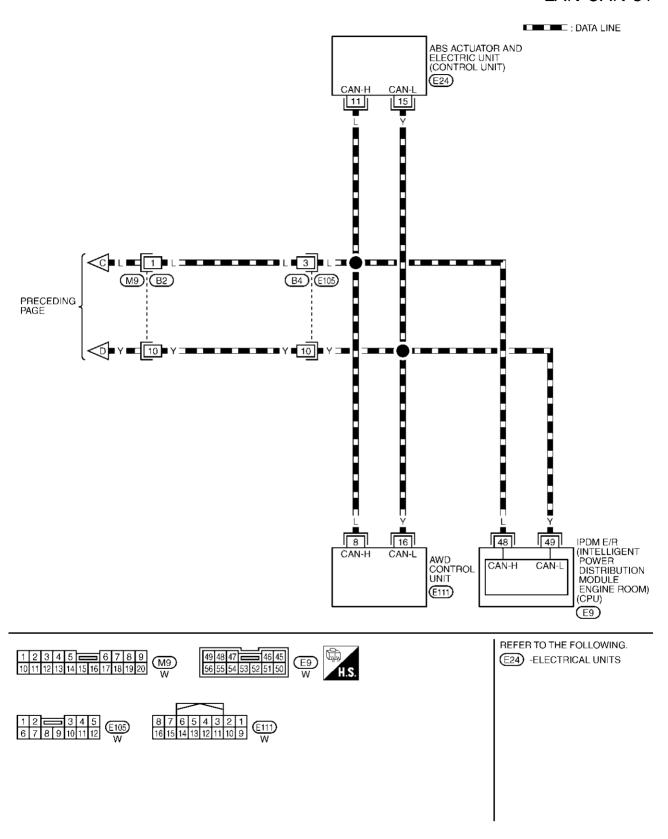
LAN-CAN-80





TKWA1029E

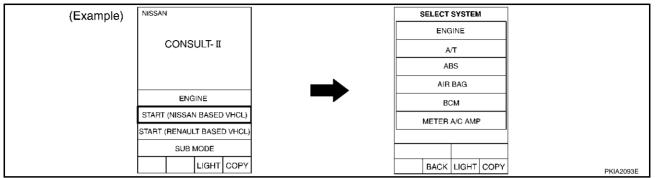
LAN-CAN-81



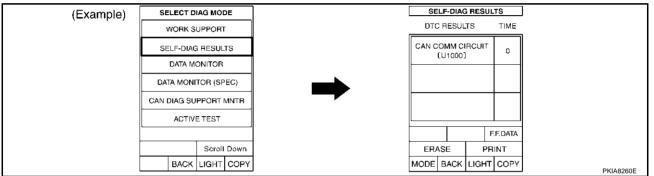
TKWA1030E

Work Flow

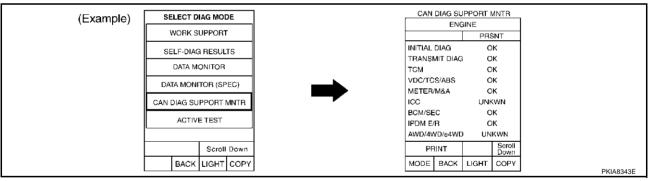
1. When there are no indications of "TRANSMISSION" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-913</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-913</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-913</u>, "CHECK SHEET".

Revision; 2004 April LAN-911 2003 Murano

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CAN SYSTEM (TYPE 27)

[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-913</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-915, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

CAN SYSTEM (TYPE 27)

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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.

place the cont	rol unit.			<u> </u>						_		
Check sheet tabl	e											
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit					eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	ı	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_
		SI	Attach co ELECT SY	py of ′STEM				n copy of FSYSTEM				
			CA	N DIAG SU	Attach display co UPPORT M	ntrol unit	check she	et				

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Attach copy of	Attach copy of	Attach copy of
ENGINE	TRANSMISSION	BCM
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	ALL MODE AWD/4WD	ABS
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	ALL MODE AWD/4WD	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR
		PKI

CHECK SHEET RESULTS (EXAMPLE)

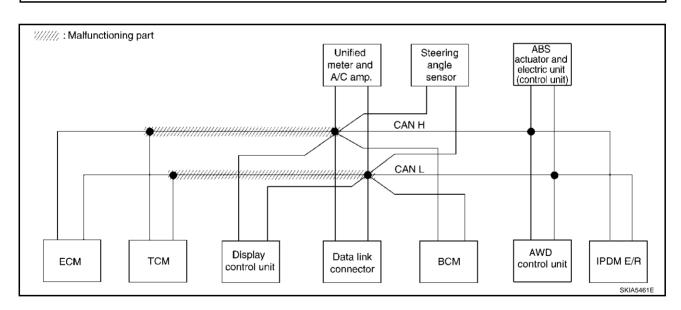
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-928</u>, "Circuit Check Between TCM and Data Link Connector" .

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	2111 001 0011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	_	UN K ₩N	Ω ΝΚ ⁄ΛΝ	-	n νκ ⁄ων	UN K ∕NN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN K ₩N	Π ΛΚ ΛΝ	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UN K ∕WN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	-	_	UNKWN	UNKWN	_	_



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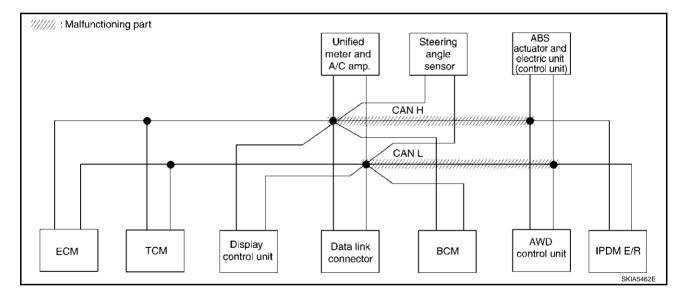
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-928</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNKWN	ı	UNKWN	UNKWN	_	Π ΝΚ ΜΝ	UNKWN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	-	_	∩ νκ ων	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANCERC 7
всм	_	NG	UNKWN	UNKWN	-	_	-	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	ΩN KW N	Ω ΝΚ ΛΝ	_
ALL MODE AWD/4WD	_	NG	UNKWN	η νκ ⁄νν	-	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	υ νκ ⁄νν	UNKWN	_	_	_	UNKWN	UNKWN	_	-
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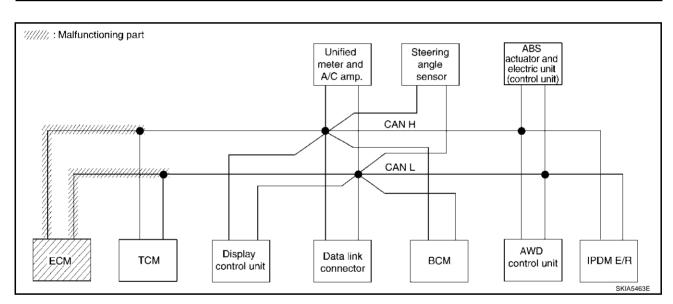
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Case 3
Check ECM circuit. Refer to LAN-929, "ECM Circuit Check".

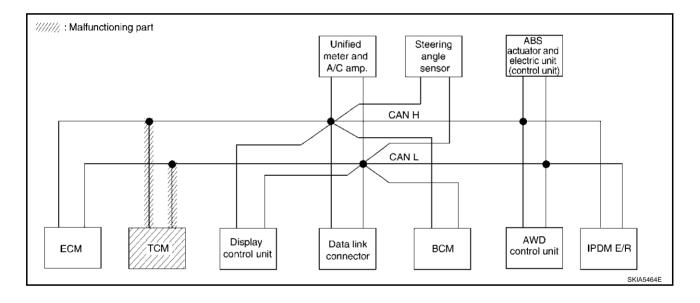
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK W N	_	NMANN	_	Ω ΝΚ ⁄ΜΝ	UNKAN	_	UNK WN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚ (ΛΝ	-	-	=	UNKWN	_	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN ORC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	NMM MN	_	_	_	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNA WN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNKWN	UNKWN	-	_



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Case 4
Check TCM circuit. Refer to <u>LAN-930</u>, "TCM Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	EIVI OUICCII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	NNR MN	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	=	UNKWN	_	_	UNKWN	1
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	Π ΛΚW M	UNKWN	UNKWN		_	UNKWN	UNKWN	1
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKAN	_	_	_	UNKWN	UNKWN	_	-



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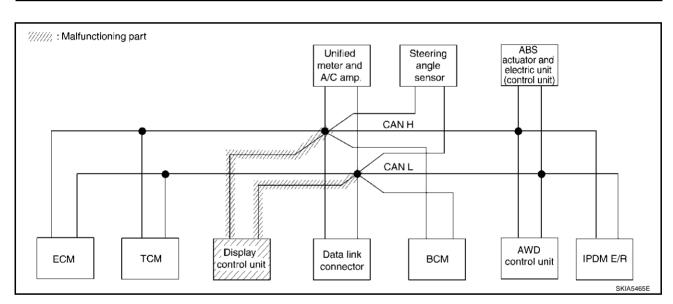
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Case 5
Check display control unit circuit. Refer to <u>LAN-930</u>, "<u>Display Control Unit Circuit Check</u>".

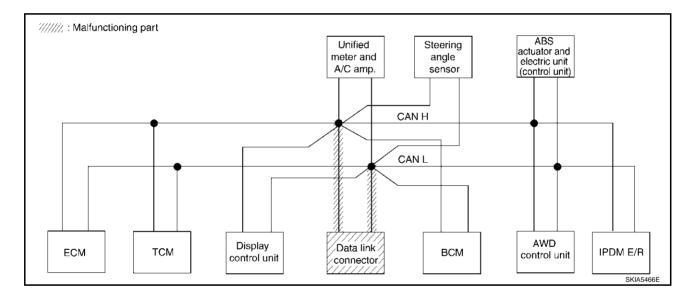
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	UNKWN	UNKWN	ı	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	1
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	_	-	CANORC 2	CAN CAC 5	_	_	_	CAN CIAC 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	∩ иК {\mathbb{N}}	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	-	-



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Case 6
Check data link connector circuit. Refer to LAN-931, "Data Link Connector Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Red	eive diagn	osis			
022201 0101		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display control unit	_	CAN COMM	CAN GIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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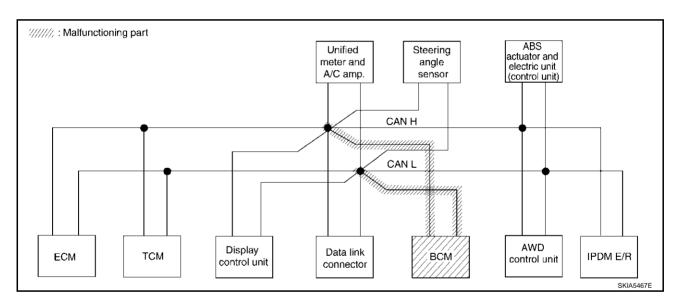
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Case 7
Check BCM circuit. Refer to <u>LAN-931, "BCM Circuit Check"</u>.

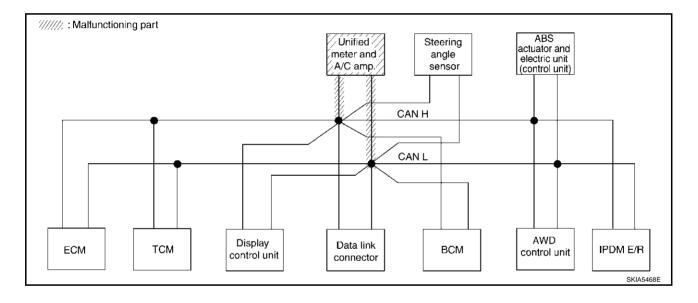
						CAN DIA	G SUPPO					
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	UNK WN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CANC RC 2	CAN CIRC 5	-	_	_	CAN CIRC 7
ВСМ	_	NG	Π Μ ΑΝΝ	UN K ∕VN	-	_	_	UNK WN	_	_	-	NWWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	η νκ ⁄νν	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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Case 8
Check unified meter and A/C amp. circuit. Refer to LAN-932, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Red	eive diagn	osis			
022201 0101		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNK WN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	Ω Ν Ι ∕ ΜΝ	_	_	UNKWN	_
Display control unit	_	CAN COMM	CAN GIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CANORC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	Ω ΝΚ (WN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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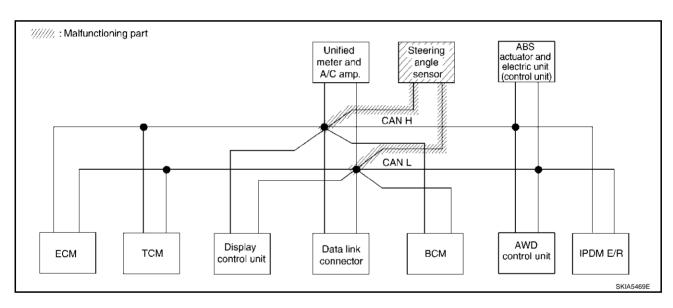
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Case 9

Check steering angle sensor circuit. Refer to LAN-932, "Steering Angle Sensor Circuit Check".

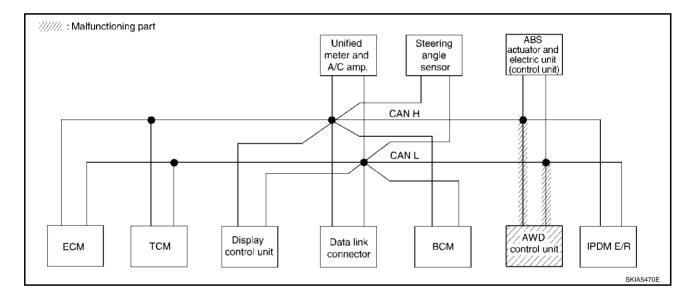
						CAN DIA	G SUPPO		:_			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	eive diagn METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	-	UNKWN	-	-	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	-	_	_	CAN CIRC 7
ВСМ	_	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNK WN	UNKWN	_	_



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Case 10
Check AWD control unit circuit. Refer to <u>LAN-933</u>, "AWD Control Unit Circuit Check".

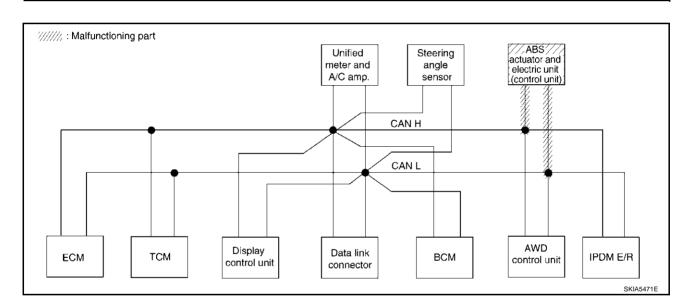
						CAN DIA	G SUPPOI	RT MNTR						
SELECT SYST	EM screen	Initial Transmit		Receive diagnosis										
0222010101	EIVI GOICEIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	NNR MN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN GIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		_	ΩN K ₩N	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNK WN	_	_	UNK WN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UN W WN	_	_		



Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-933</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIAG	G SUPPO	RT MNTR					
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis									
OEEEOT OTOT	LIVI OUICCII		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UN K ∕VN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNK WN	-	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	∩ NK WN	-	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNK WN		
ABS	_	NG	UN K ₩N	UNK WN	UNKWN	_	_	_	UNK/WN	UNI WN	_	-	



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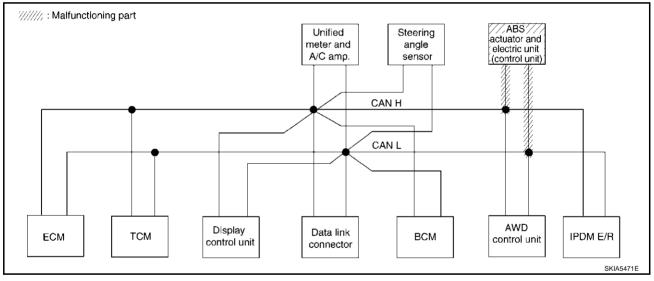
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Case 12
Check IPDM E/R circuit. Refer to <u>LAN-934, "IPDM E/R Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
0222010101	EIVI GOICEII	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	-		
Display control unit	_	CAN COMM	CAN GIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANCIRC 7		
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	-	NMAN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-		
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_		



Case 13
Check CAN communication circuit. Refer to <u>LAN-934</u>, "CAN Communication Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis									
022201 0101	Z.III OUI GOIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	Ω ΝΚ (WN	_	UN K ₩N	_	Ω ΝΚ ∕ΛΝ	Ω ΝΚ ⁄ΜΝ	_	η νκ ⁄νν	∩ ИК МИ	Π ΝΚW M		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
Display control unit	_	CAN COMM	CANC/RC1	CANORC 3	_	_	CANORC 2	CANOTRO 5		-	_	CANORC 7		
всм	_	NG	NNKWN	UNIVWN	_	_	_	UNKWN	_	_	-	UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_		UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UN K ∕VN	_	_	-	UNK/WN	_	_	UNKWN	_		
ABS	_	NG	UNK WN	UN K ₩N	UNKWN	_	_	_	UNKWN	UNKWN	_	_		

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Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-937</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
OLLLO1 O101	EIVI OUICCII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UN A WN	_	UNKWN	UNKWN	_	UNKWN	UN A WN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5		_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K WN	UNKWN	UNKWN	_		UNKWN	UNKWN	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNISWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_		

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-937</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

					ı	ı		1		UNK WN		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_		. 1	UNKWN
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	-	CAN CIRC 7
TRANSMISSION	No indication	NG	UNKWN	Ω ΝΚW M	_	_		UNIONN	_	-	UNKWN	1
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
SELECT SYSTI	EM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
l			CAN DIAG SUPPORT MNTR Receive diagnosis									

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PKIB1014E

Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

AKS0075M

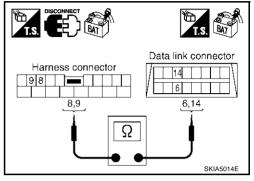
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

8 (L) - 6 (L) : Continuity should exist. 9 (Y) - 14 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-911, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

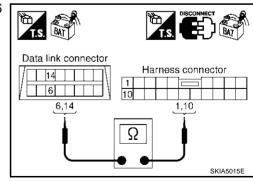
6 (L) - 1 (L) 14 (Y) - 10 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG

>> Repair harness.



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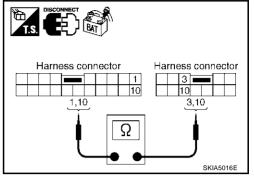
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

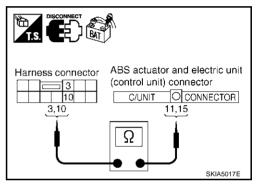
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-911, "Work Flow"</u>.

NG >> Repair harness.



AKS00750

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

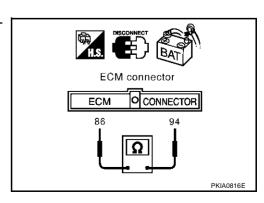
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

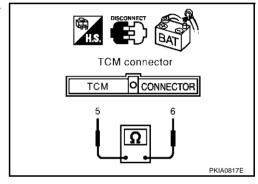
- Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

>> Repair harness between TCM and ECM. NG



Display Control Unit Circuit Check

AKS00750

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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

- Disconnect display control unit connector.
- Check resistance between display control unit harness connec-2. tor M43 terminals 25 (L) and 26 (Y).

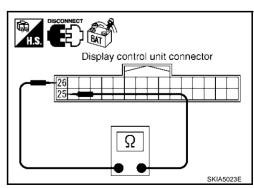
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

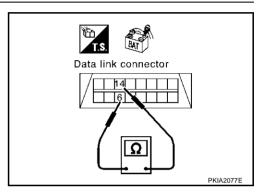
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - **14 (Y)** : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-911, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 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

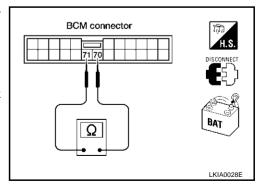
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - 71 (Y) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace BCM. Refer to <u>BCS-36</u>, "Removal and Installation of <u>BCM"</u>.

NG >> Repair harness between BCM and data link connector.



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Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

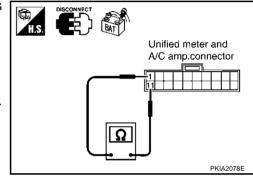
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS0075U

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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 M33 terminals 4 (L) and 5 (Y).

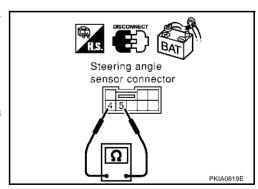
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



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AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

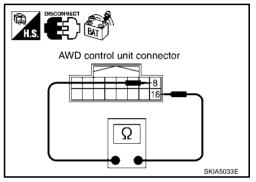
- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/R



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 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

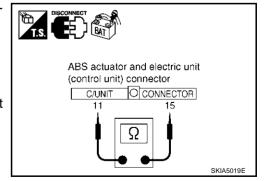
- Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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Revision; 2004 April LAN-933 2003 Murano

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

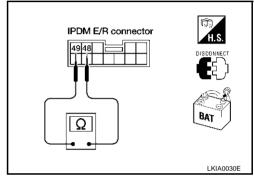
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



AKS0075Y

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

$oldsymbol{3}_{ ext{-}}$ check harness for short circuit

Check continuity between data link connector M24 terminals 6 (L). 14 (Y) and ground.

> 6 (L) - Ground : Continuity should not exist.

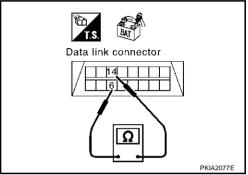
> 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

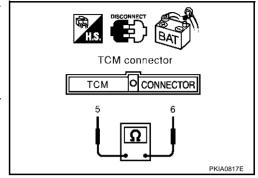
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

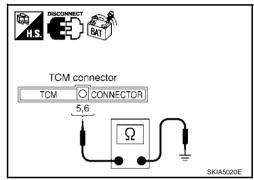
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

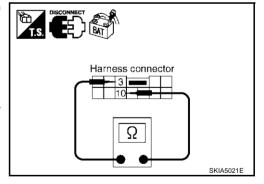
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

>> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

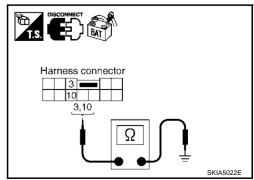
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



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8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

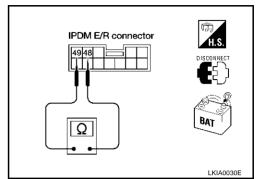
OK or NG

OK

>> GO TO 9.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 48. 49 Ω LKIA0036E

$10.\,$ ecm/iPDM e/r internal circuit inspection

Check components inspection. Refer to LAN-938, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-911, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

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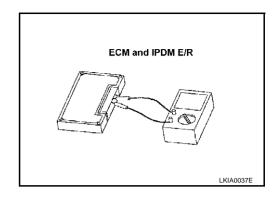
AKS0075Z

AKS00760

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

CAN SYSTEM (TYPE 28)

PFP:23710

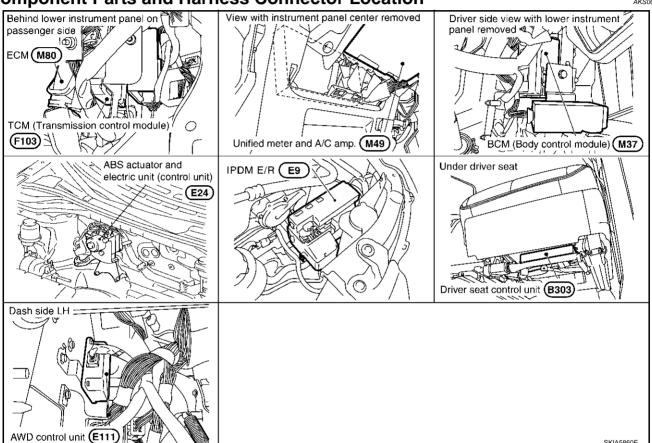
System Description

AKS00761

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

AKS00762

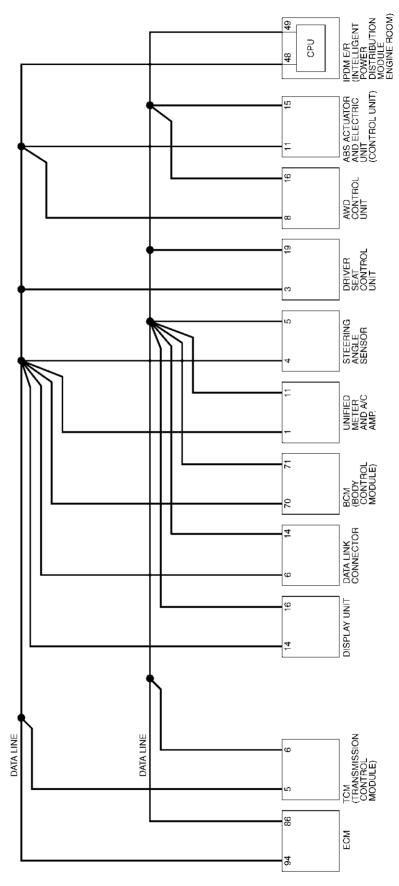


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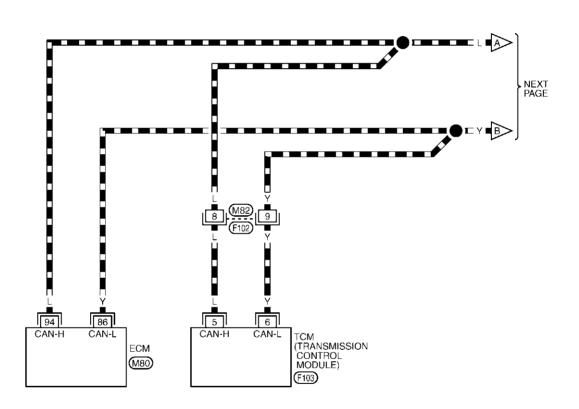
Schematic AKS0076



AKS00764

LAN-CAN-82

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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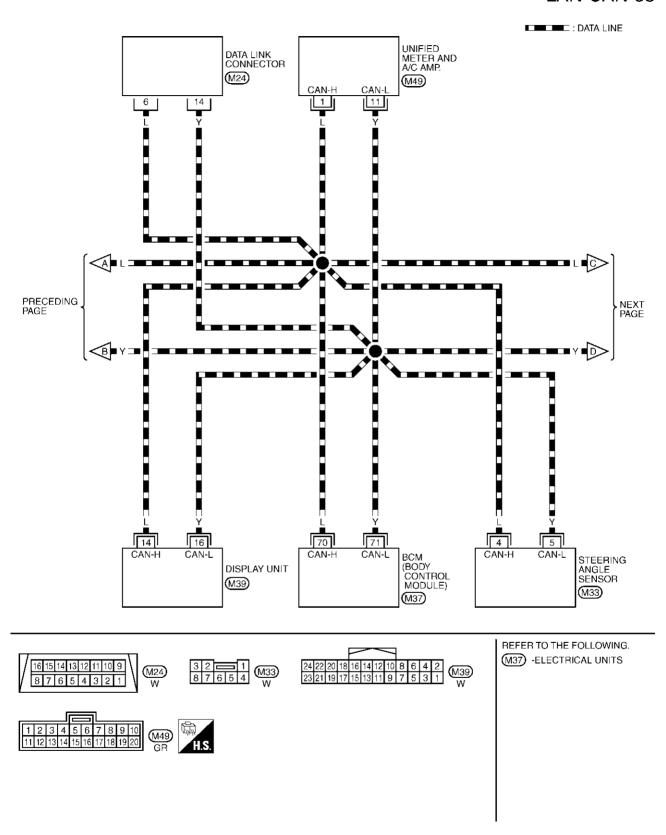
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LAN-CAN-83



TKWA1033E

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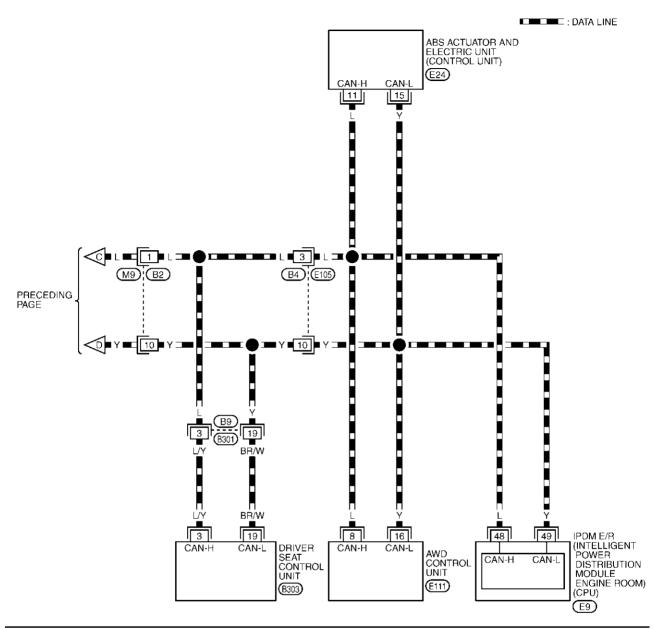
G

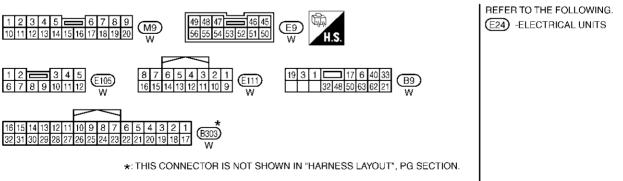
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LAN-CAN-84

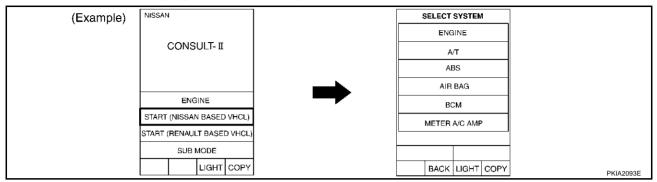




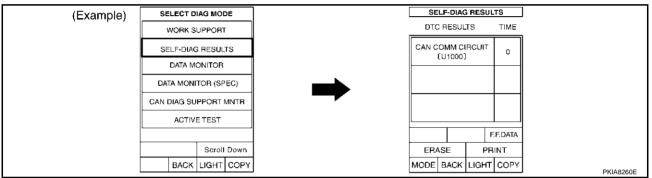
TKWA1034E

Work Flow

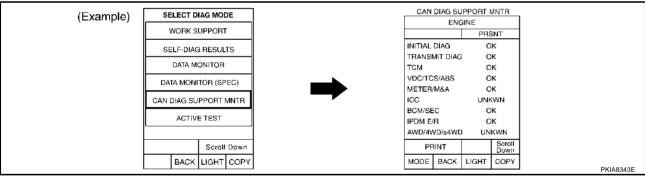
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-946</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-946, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the integrated display system. Refer to AV-110, "CAN Communication Line Check".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-946</u>, "CHECK SHEET"

CAN SYSTEM (TYPE 28)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-946</u>, "CHECK SHEET".

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-948, "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.

						CAN DIA	G SUPPO						
SELECT SYST	EM screen	Initial	Transmit			Ι	DCM	eive diagn METER		AWD	VDC/TCS	IPDM	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	/M&A	STRG	/4WD	/ABS	E/R	
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	ı	UNKWN	UNKWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN		_	UNKWN		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	ı	_	_	CAN 7	
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	-	
						Γ							
		SI	Attach cop ELECT SY	py of /STEM			Attach SELECT	n copy of FSYSTEM	ı				
						L							
				CAN DI	Attach c display AG MONIT	/ unit	: sheet						

Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of TRANSMISSION SELF-DIAG RESULTS Attach copy of BCM SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS

Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINE CAN DIAG SUPPORT MNTR

Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of BCM CAN DIAG SUPPORT MNTR Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR

Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR Attach copy of ABS CAN DIAG SUPPORT MNTR

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CHECK SHEET RESULTS (EXAMPLE)

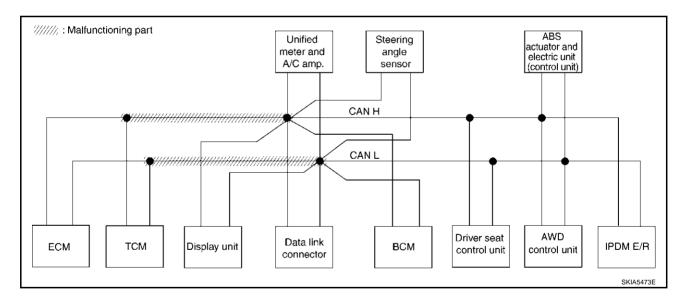
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-963</u>, "Circuit Check Between TCM and Data Link Connector" .

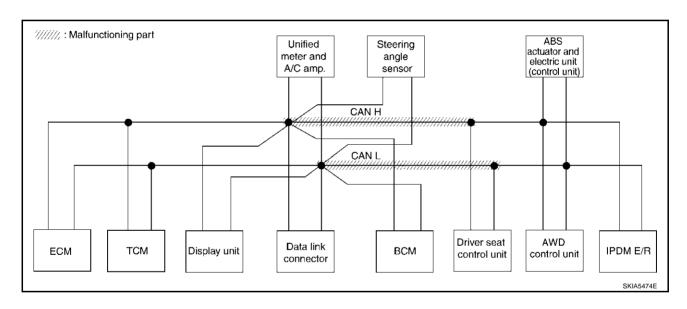
						CAN DIAG	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	Ω ΝΚ ⁄ΛΝ	UNIX WN	_	UNR WN	UN K ₩N	UNIV
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	UNKWN	_	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	C 44 3	_	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNIKWN	_	-	_	UNKWN	-	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNIVAN	υν κ ⁄νν	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN K ₩N	_	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN	-
ABS	_	NG	UNKWN	UNIMON	UNI W N	_	_	_	UNKWN	UNKWN	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-963</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNR WN	Ω ΝΚ ΑΝΙ	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	ı	UNKWN	1	_	UNK WN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	-	-	_	UNKWN	-	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	-	NNKWN	ΠΝΚ ΜΝ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	UNKWN	_
ABS	-	NG	UNKWN	UNI WN	UNKWN	_	_	-	UN₩WN	UNKWN	_	_



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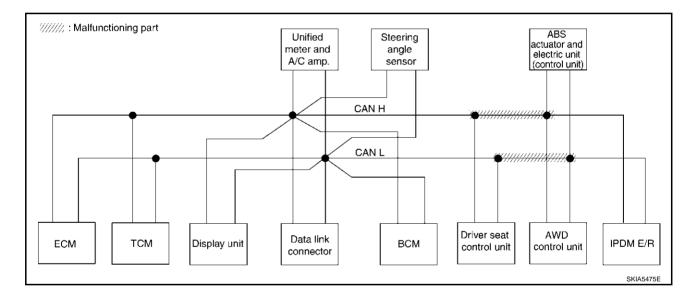
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Case 3

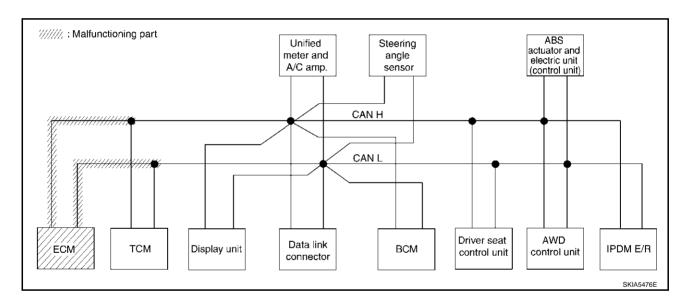
Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-964</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	EIVI SOICOIT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	NMAN	UNK W N	UNION
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	1	UNKWN	_	_	UNK WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	_	CAN 7
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	UNK WI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	NNKWN	UNIX WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	NNKWN	_	_	ı	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNI WN	UNK WN	_	_	_	UN K WN	UNKWN	_	_



Case 4
Check ECM circuit. Refer to LAN-965, "ECM Circuit Check".

						CAN DIAG	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	ZIVI BOTOOTT		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	1	UNKWN	UNKWN	-	NNKMN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UN K ₩N	_		1	UNKWN	-	_	UNKWN	
Display unit	_	CAN COMM	CAN 1	CAN 3	-	1	CAN 2	CAN 5	1	_	_	CAN 7
всм	_	NG	UNKWN	UNK WN	_	1	1	UNKWN	1	_	_	UNKWN
METER A/C AMP	No indication		UNKWN	UNION	UNKWN	UNKWN	UNKWN	1	I	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	1	l	UNKWN	ı	_	UNKWN	
ABS	_	NG	UNKWN	NA AN	UNKWN		-	-	UNKWN	UNKWN	_	_



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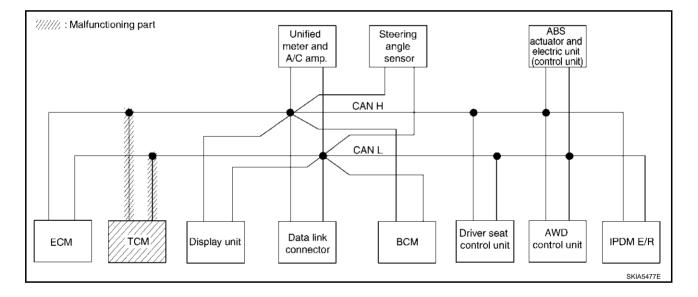
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Case 5
Check TCM circuit. Refer to <u>LAN-965</u>, "TCM Circuit Check".

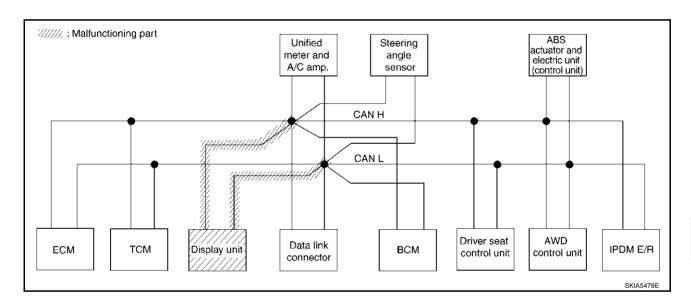
						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EIVI BOICOIT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	NNK MN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No incication	NG	UNKWN	UNKWN	-	_	-	UNKWN	_	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	1	ı	CAN 2	CAN 5	1	_	1	CAN 7
всм	_	NG	UNKWN	UNKWN	-	1	1	UNKWN	-	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNK WN	_	UNKWN	UNKWN	_	_	_	ı
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_		UNKWN	_	_	UNKWN	ı
ABS	_	NG	UNKWN	UNKWN	UN K ∕WN	-	_	_	UNKWN	UNKWN	_	=



Case 6

Check display unit circuit. Refer to LAN-966, "Display Unit Circuit Check".

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EIVI BOTOGIT		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	-	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	САЛЗ	_	_	CAN 2	CAN 5	_	_	_	C 4/ 17
всм	_	NG	UNKWN	UNKWN	-	-	-	UNKWN	-	-	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Π Μ ΜΝ	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	ı	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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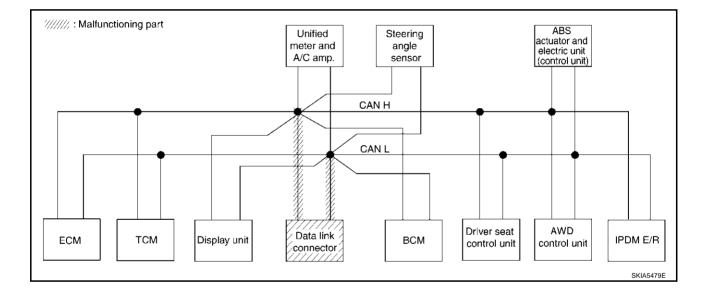
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Case 7
Check data link connector circuit. Refer to LAN-966, "Data Link Connector Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	EIVI SOLCOIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	-	UNKWN	_	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	1	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_		UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_		UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	UNKWN	_	_



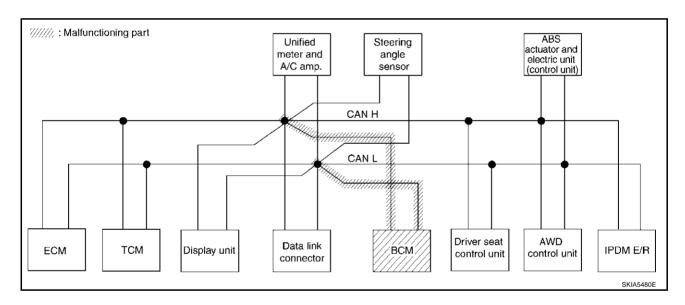
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Case 8
Check BCM circuit. Refer to <u>LAN-967, "BCM Circuit Check"</u>.

						CAN DIAG	G SUPPOI	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOTGOTT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1		1	UNKWN	-	_	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	_	_	_	CAN 7
ВСМ	_	NG	UNK WN	UNKWN	-	-	-	NMAMN	-	-	_	UNK W N
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	Π ИΚ (ΛΙΝ	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	ı	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	UNKWN	_	_



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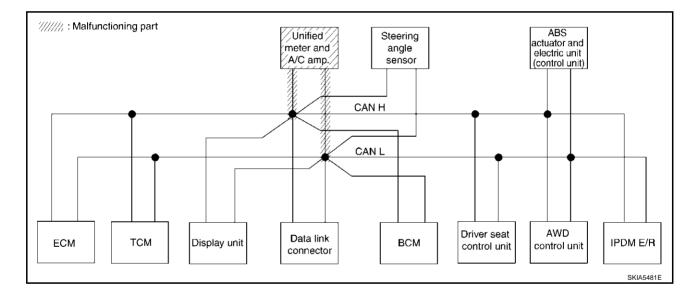
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Case 9
Check unified meter and A/C amp. circuit. Refer to LAN-967, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIA	G SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
OLLLOT GTGT	EN Sercon		diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	∩ NK WN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNI W WN	_	_	UNKWN	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	C 4√ 15	-	-	-	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	NMAMN	1	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	UNKWN	UNKVN	_	_	_	1
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNI S WN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	UNKWN	_	ı



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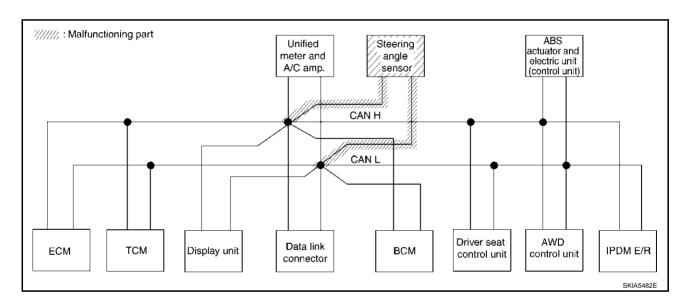
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Case 10
Check steering angle sensor circuit. Refer to LAN-968, "Steering Angle Sensor Circuit Check".

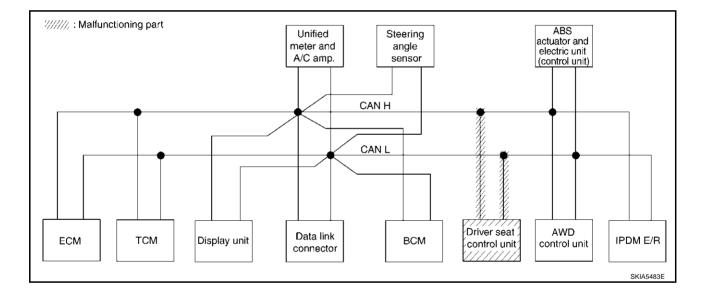
						CAN DIAG	3 SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	LIVI BOTOGIT		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	_	_	UNKWN	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	-	_	CAN 7
всм	-	NG	UNKWN	UNKWN	_	-	1	UNKWN	-	_	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNK W N	UNKWN	_	_



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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-968</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

				CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Tuo us a usa i A	Receive diagnosis										
OLLLOT GTGT	EN Sercon	diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	_	_	UNKWN			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	-	-	-	UNKWN	-	_	_	UNKWI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	UNKWN	UNKWN	-	_	_	1		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_		UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	-		



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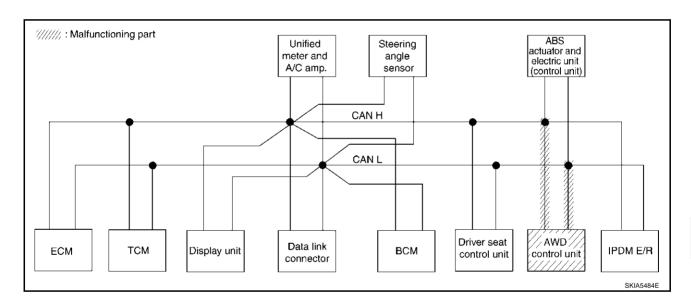
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Case 12
Check AWD control unit circuit. Refer to <u>LAN-969</u>, "AWD Control Unit Circuit Check".

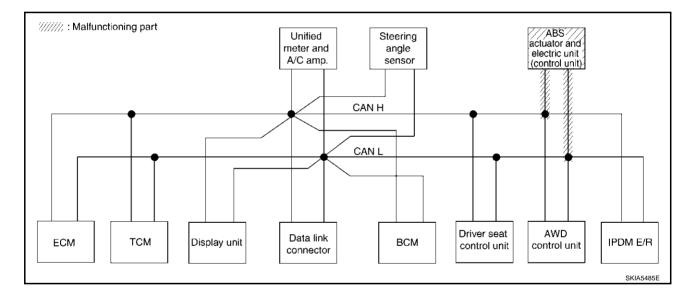
				CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
OLLLO1 CTC1	EIVI SOLCOIT		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		-	UNKWN	_	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	CAN 5	-	-	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	-	-	UNKWN	-	_	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UN K ₩N	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	UNKWN	-	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNI W WN	_	_	_	UNION	_	_	UNK WN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	UNI S WN	_	_		



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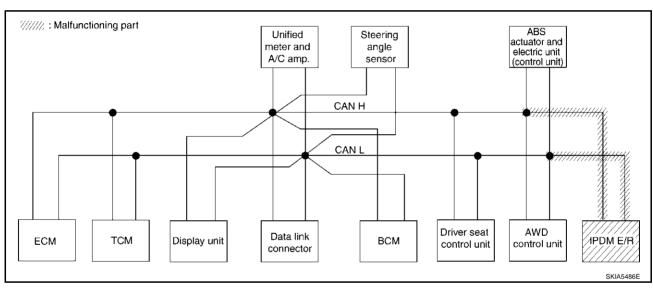
Case 13
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-969</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN DIAG	3 SUPPOI	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
0222010101	EIVI GOTGOTT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNK WN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	-	1	UNKWN	1	_	NNK WN	ı		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	_	_	_	CAN 7		
ВСМ	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNIX WN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	_	UNKW N	ı		
ABS	_	NG	UNK WN	UM WN	UNK WN	-	_	_	UN K WN	UN K WN	_	-		



Case 14
Check IPDM E/R circuit. Refer to LAN-970, "IPDM E/R Circuit Check".

						CAN DIA	3 SUPPOI	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101	LIVI GOLGGIN	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	_	_	UNKWN	_		
Display unit	-	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	1	NG	UNKWN	UNKWN	_	_	1	UNKWN	1	_	_	UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_		UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_		



Case 15
Check CAN communication circuit. Refer to <u>LAN-971</u>, "CAN Communication Circuit Check" .

			CAN DIAG SUPPORT MNTR												
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis										
0222010101	EIVI GOTGOTT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNR WN	_	UNK WN	_	UNIA WN	∩ NR WN	_	UNK WN	UN K ₩N	UNK WN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	C4 2	CAN 5	_	_	_	CAN 7			
всм	_	NG	UNK/WN	UNKWN	_	_	_	NNR WN	_	_	_	UNK WN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_		_	_			
ALL MODE AWD/4WD	_	NG	UNKVN	UNKWN	_	_	-	UNKWN	_	_	UNK WN	_			
ABS	_	NG	UNION	UN K WN	UNION	-	_	_	UN K ∕WN	UNK WN	_	-			

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Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-975, "IPDM E/R Ignition Relay Circuit Check"</u> .

						CAN DIA	3 SUPPOI	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
322231 3131			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN		UN K ₩N	_	UNKWN	UNKWN	_	UNKWN	UNK WN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	1	UNKWN	1	_	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK ∕ AN	UNKWN	UNKWN	_	_	UNKWN	UNIXWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	υ νκ ⁄ΜΝ	_	UNKWN	UNKWN	_	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNK WN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_		

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-975, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIA	CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial Transmit		Receive diagnosis														
		diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R						
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN						
TRANSMISSION	No indication	NG	UNKWN	UNK ₩N	_	_	-	∩ NR WN	-	_	UNKWN	_						
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	CAN 2	CAN 5	-	_	_	CAN 7						
всм	_	NG	UNKWN	UNKWN	-	-	-	UNKWN	-	-	_	UNKWN						
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_						
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_						
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	UNKWN	_						
ABS	_	NG	UNKWN	UN W WN	UNKWN	_	_	_	UN K ₩N	UN K ₩N	_	_						

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

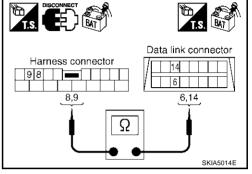
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-944, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

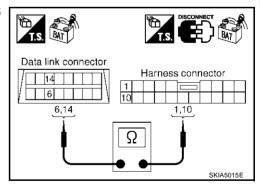
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. Check harness for open circuit

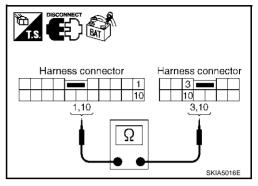
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-944, "Work Flow"</u>.

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

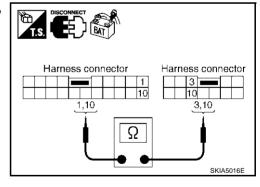
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) : Continuity should exist. 10 (Y) - 10 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



$\overline{3}$. Check harness for open circuit

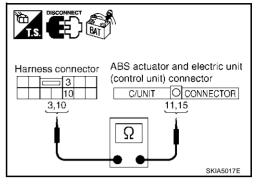
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

: Continuity should exist. 3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-944, "Work Flow".

NG >> Repair harness.



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ECM Circuit Check

CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

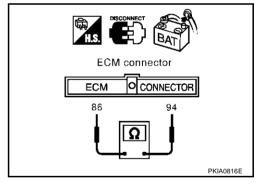
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS0076A

TCM 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).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

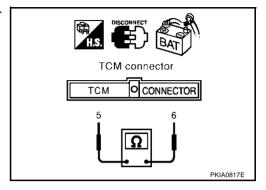
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



AKS0076B

Display Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

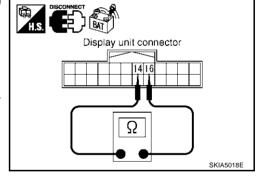
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

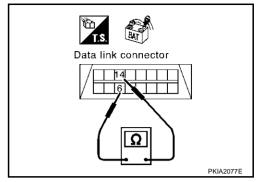
: Approx. 54 - 66
$$\Omega$$

OK or NG

OK

>> Diagnose again. Refer to LAN-944, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

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

Disconnect BCM connector.

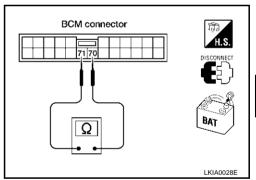
Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM"

NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp, for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

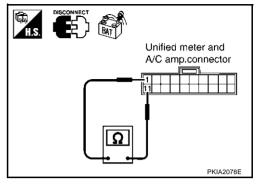
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



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Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

: Approx. 54 - 66 Ω

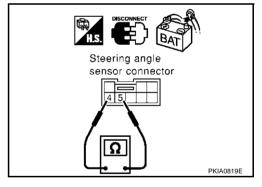
OK or NG

OK

>> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



AKS0076G

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

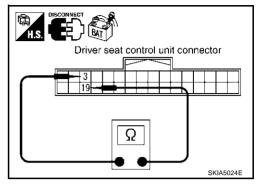
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



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AWD Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

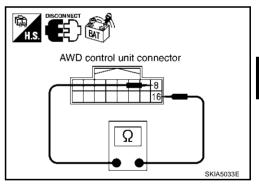
OK or NG

NG

OK

>> Replace AWD control unit.

>> Repair harness between AWD control unit and IPDM E/ R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

11 (L) - 15 (Y)

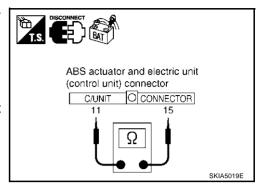
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



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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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

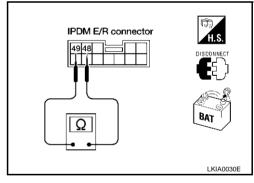
: Approx. 108 - 132 Ω

OK or NG

OK >>

>> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



CAN SYSTEM (TYPE 28)

[CAN]

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, unit side, meter side, sensor side, control unit side and harness side).
- ECM
- TCM
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

4. CHECK HARNESS FOR SHORT CIRCUIT

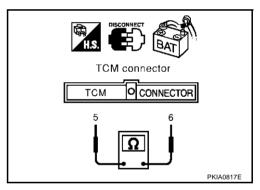
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



Data link connector

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5. CHECK HARNESS FOR SHORT CIRCUIT

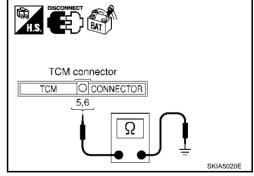
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

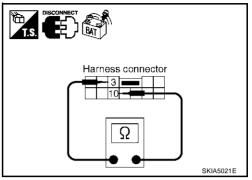
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

> 3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

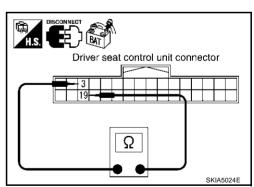
: Continuity should not exist. 3 (L/Y) - 19 (BR/W)

OK or NG

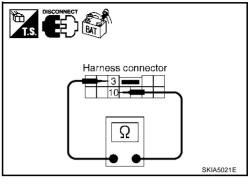
OK >> GO TO 9.

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>> Repair harness between driver seat control unit and harness connector B301.



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Harness connector 3

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SKIA5022E

9. CHECK HARNESS FOR SHORT CIRCUIT

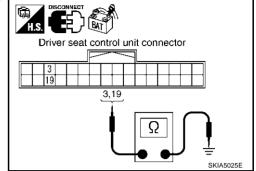
Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

3 (L/Y) - Ground : Continuity should not exist.19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

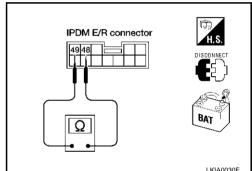
OK or NG

NG

OK >> GO TO 11.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 12.

>> Check the following harnesses. If any harness is damaged, repair the harness.

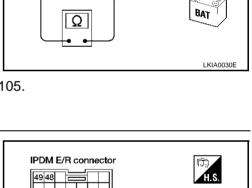
- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-975}}$, " $\underline{\mathsf{ECM/IPDM}}$ $\underline{\mathsf{E/R}}$ INTERNAL CIRCUIT INSPECTION" . $\underline{\mathsf{OK}}$ or $\underline{\mathsf{NG}}$

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-944, "Work Flow"</u>.

NG >> Replace ECM and/or IPDM E/R.



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CAN SYSTEM (TYPE 28)

[CAN]

IPDM E/R Ignition Relay Circuit Check

AKS0076L

Α

Check the following. If no malfunction is found, replace the IPDM E/R.

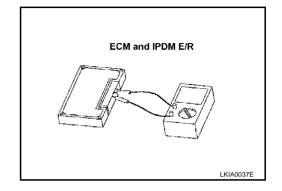
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS0076M

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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CAN SYSTEM (TYPE 29)

PFP:23710

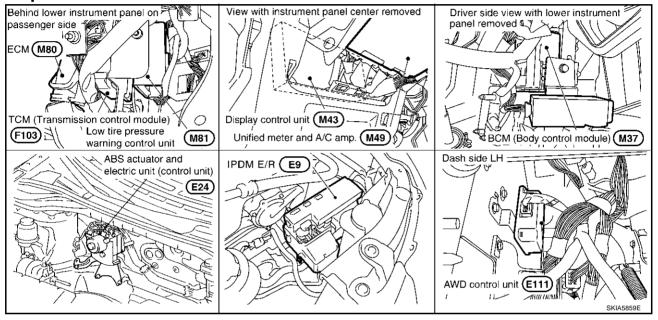
System Description

AKS0076N

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

AKS00760



Schematic AKS0076P Α IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM) 6 CPU 48 В ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 5 С D 16 AWD CONTROL UNIT α Е F ഹ G Н J 2 DATA LINK CONNECTOR 4 LAN Ø 26 DISPLAY CONTROL UNIT M 25 LOW TIRE PRESSURE WARNING CONTROL UNIT 2 TCM (TRANSMISSION CONTROL MODULE) DATA LINE S 88 ECM 46

2003 Murano

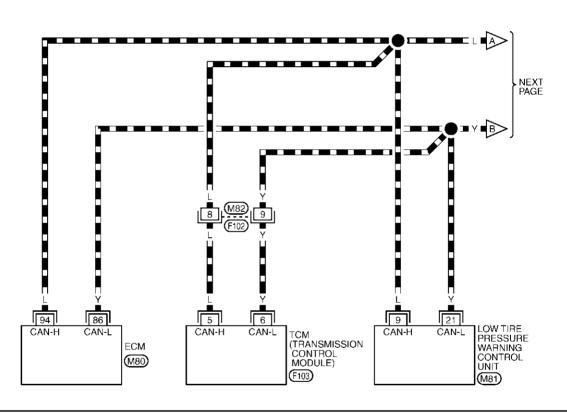
TKWA1035E

Wiring Diagram - CAN -

AKS0076Q

LAN-CAN-85

: DATA LINE





1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W	1	2	3	4	5	⊫	ฮ	6	7	8	9	10	(E100)
	11	Ŀ	12	13	3	14	12	;	16	17	7	18	(F102)

REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL
UNITS

TKWA1036E

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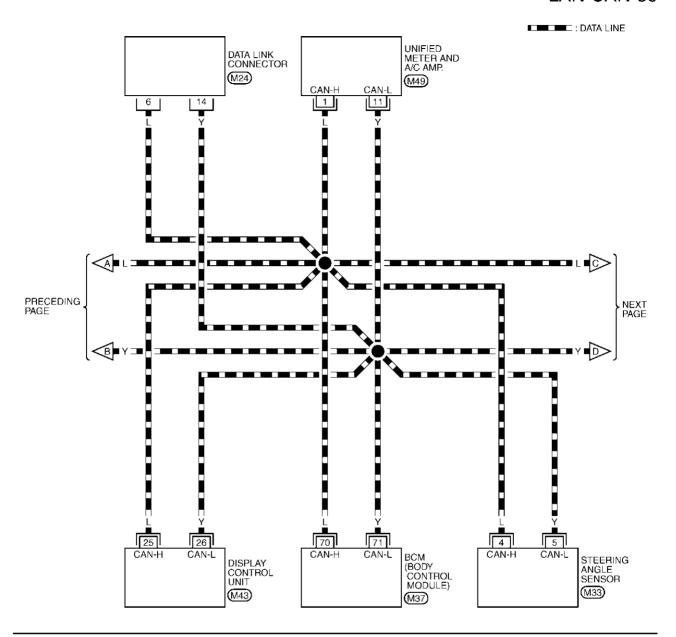
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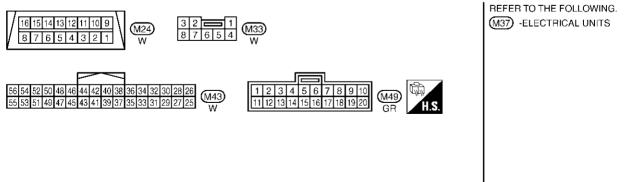
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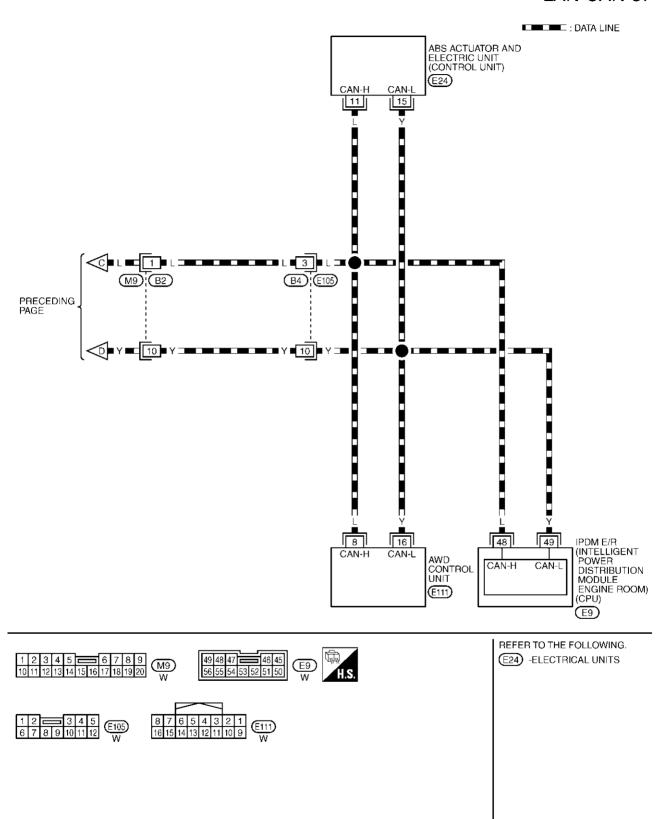
LAN-CAN-86





TKWA1037E

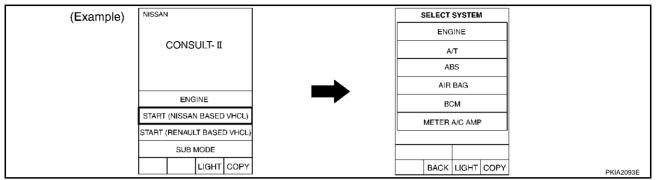
LAN-CAN-87



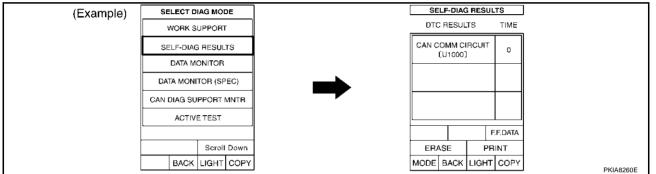
TKWA1038E

Work Flow

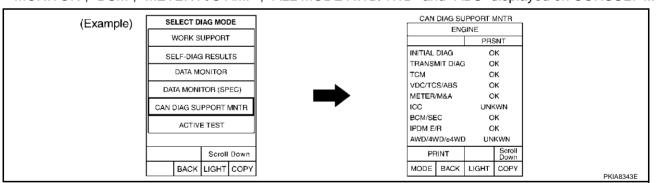
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-983</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-983</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-983</u>, "CHECK SHEET".

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CAN SYSTEM (TYPE 29)

[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-983</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-985, "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.

ENGINE							CAN	DIAG SU	PPORT N	INTR				
	SELECT SYST	EM screen	Initial	Transmit							3			
TRANSMISSION No indication NG UNKWN UNKWN - - - - UNKWN - - UNKWN - - UNKWN - - - UNKWN - - - - UNKWN - - - - UNKWN - - - - UNKWN UNKWN UNKWN UNKWN UNKWN - - - UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN - - UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN - - UNKWN UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN UNKWN - UNKWN				ECM	тсм	TIRE-P	DISPLAY			STRG			IPDM E/R	
Attach copy of display control unit Attach copy of display control unit No indication NG UNKWN NO NO NO NO NO NO NO	ENGINE	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	ı	UNKWN	UNKWN	UNKWN
Display control unit	TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
BCM - NG UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN - UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN	AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
METER A/C AMP No indication — UNKWN UNKWN UNKWN UNKWN UNKWN — — UNKWN UNKWN — ALL MODE AWD/4WD — NG UNKWN UNKWN — — — — — UNKWN — — UNKWN — — ABS — NG UNKWN UNKWN UNKWN — — — — UNKWN UNKWN — — — — UNKWN UNKWN — — — — Symptoms: Attach copy of SELECT SYSTEM Attach copy of display control unit	Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
ALL MODE AWD/4WD - NG UNKWN UNKWN UNKWN - UNKWN - ABS - NG UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN ABS - UNKWN UNKWN UNKWN UNKWN ABS - UNKWN UNKWN UNKWN UNKWN ABS - UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN ABS - UNKWN UNKWN UNKWN UNKWN ABS - UNKWN	ВСМ	_	NG	UNKWN	UNKWN	_	-	-	_	UNKWN	_	_	_	UNKWN
Attach copy of display control unit	METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
Symptoms: Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM	ALL MODE AWD/4WD	l	NG	UNKWN	UNKWN	I	_	ı	ı	UNKWN	ı	1	UNKWN	_
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of Gisplay control unit	ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_	_
display control unit			S											
				С	AN DIAG	display	control u	ınit	k sheet					

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ALL MODE AWD/4WD	ABS	
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	
MNTR	MNTR	MNTR	

CHECK SHEET RESULTS (EXAMPLE)

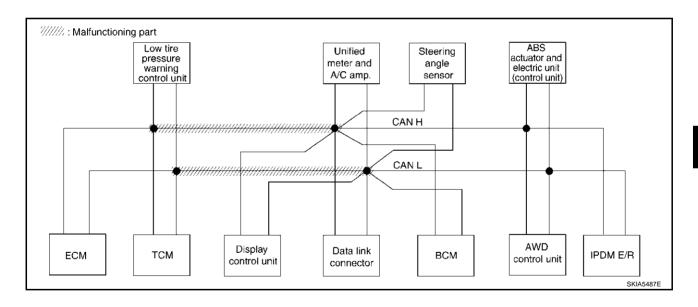
NOTE:

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 data link connector. Refer to <u>LAN-999</u>, "Circuit Check Between TCM and Data Link Connector" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
322231 3131	2111 3010011	diagnosis		ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNK WN	Ω ΝΚ ⁄ΜΝ	_	UNK WN	ON! WN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANOTEC 3	_	CANORC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UN K ∕WN	UN K WN	UNK WN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNK WN	_	-	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNIGWN	UNI S WN	_	_	_	_	UNKWN	UNKWN	_	_



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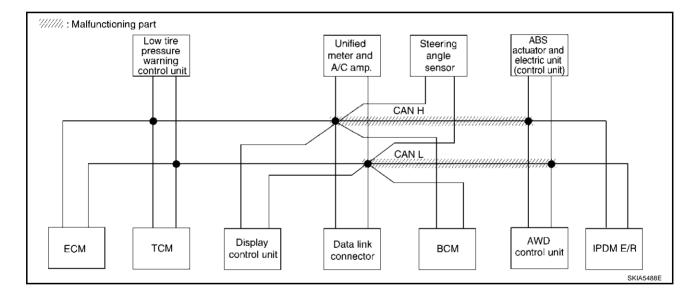
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-999</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101		diagnosis		ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	-	UNK WN	UNK WN	UNK WI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNK WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANCERC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKW
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	n nk {ων	UNK WN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKW N	_	_	-	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNION	UNKWN	_	_	_	_	UNK WN	UNKWN	_	_



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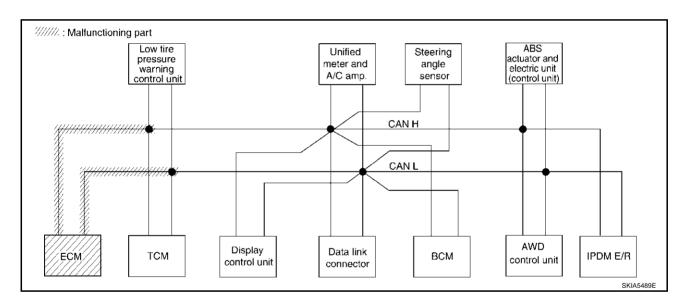
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Case 3
Check ECM circuit. Refer to <u>LAN-1000</u>, "ECM Circuit Check".

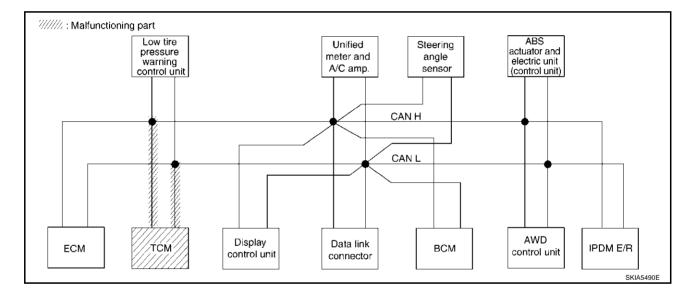
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	\$			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	NNK WN	_	UNKWN	_	_	UNKWN	UNK WN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	n M γγν	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN O'RC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
BCM	-	NG	UNKWN	UNK WN	-	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-
ALL MODE AWD/4WD	-	NG	UNKWN	UN K ₩N	_	_	_	_	UNKWN	-	_	UNKWN	_
ABS	=	NG	UNKWN	UNI W NN	UNKWN	_	_	_	-	UNKWN	UNKWN	_	-



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Case 4
Check TCM circuit. Refer to <u>LAN-1001</u>, "TCM Circuit Check".

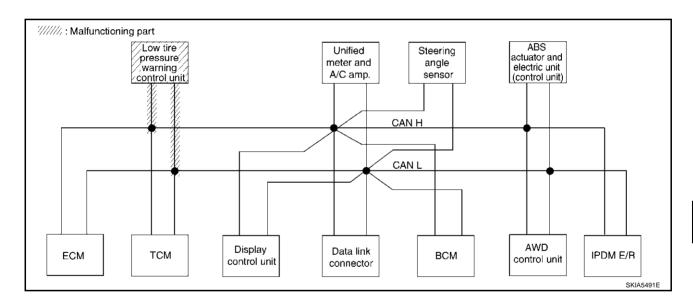
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
32223. 3.3.		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	-	_	_	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	-	_	_		UNKWN		_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	ı	1	UNKWN	UNKWN	1
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNK WN	_	_	_	_	UNKWN	UNKWN	_	_



Case 5

Check low tire pressure warning control unit circuit. Refer to <u>LAN-1001</u>, "Low <u>Tire Pressure Warning Control Unit Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	_	-	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	1	CANCAC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
BCM	-	NG	UNKWN	UNKWN	1	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Ω NK WN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	1	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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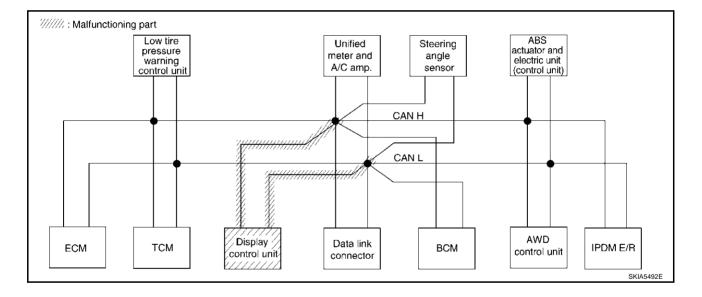
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Case 6
Check display control unit circuit. Refer to <u>LAN-1002</u>, "<u>Display Control Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	MNTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
02220.0.0.		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	-	CAN COMM	CANORC 1	CANCIRC 3	_	CAN CAC 6	_	CANORC 2	CANCIRC 5	_	_	_	CANCARC
всм	1	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	NNK WN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



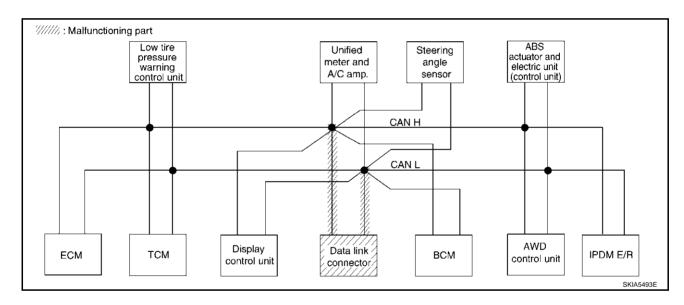
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Case 7
Check data link connector circuit. Refer to <u>LAN-1002</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	-	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_

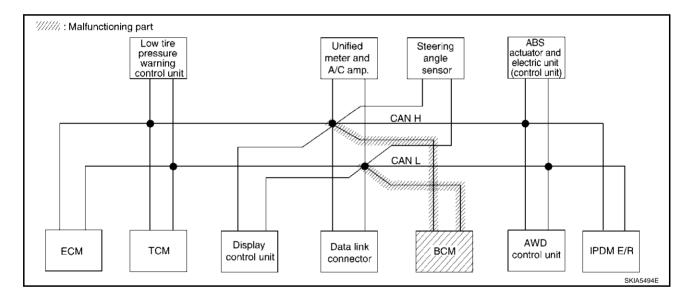


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Case 8
Check BCM circuit. Refer to <u>LAN-1003</u>, "BCM Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	_	_	UNK WN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CANOIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	-	NG	UN K WN	Ω ΝΚW M	-	_	_	_	Π ΝΚ ΜΝ	_	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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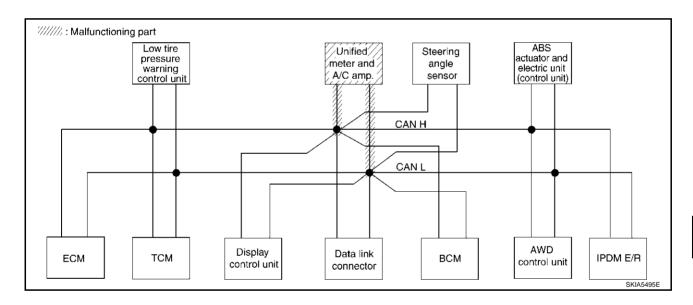
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Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-1003, "Unified Meter and A/C Amp. Circuit Check" .

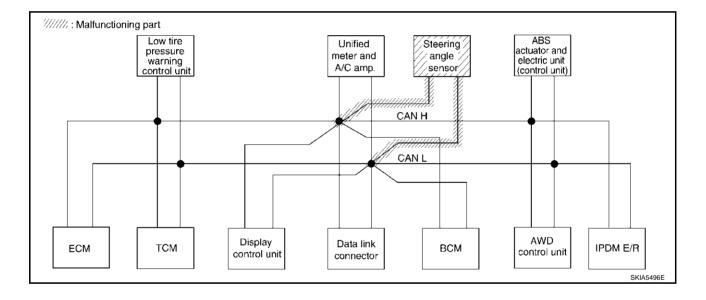
						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis									
022201 0101	LIVI SCIEGII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	NNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	Π ΝΚ ΜΝ	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	∩ N {\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	_	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN OIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UN K WN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	_	UN K WN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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Case 10
Check steering angle sensor circuit. Refer to <u>LAN-1004</u>, "Steering Angle Sensor Circuit Check".

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis									
022201 0101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKW
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNK WN	UNKWN	=	_



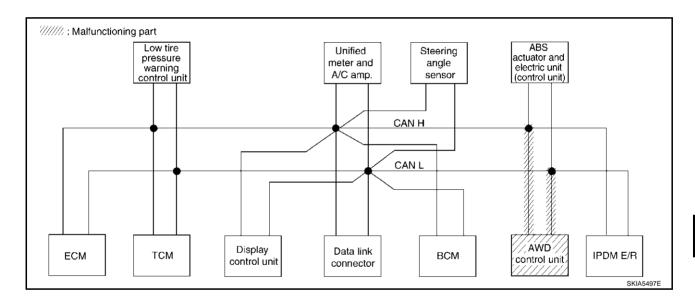
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Case 11
Check AWD control unit circuit. Refer to <u>LAN-1004</u>, "AWD Control Unit Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
OLLLOT GTOT		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	_	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNK WN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNK WN	UNK WN	_	-	_	_	UNK WN	-	_	Ω ΝΚ ,ΜΝ	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNK WN	_	_



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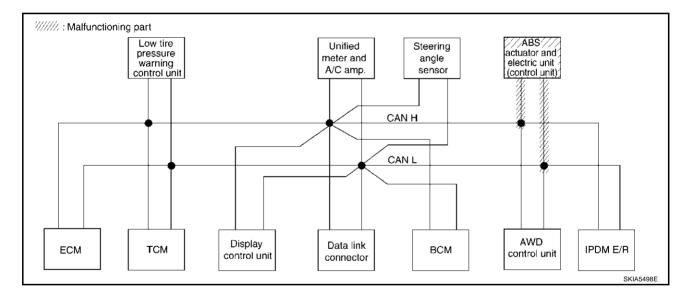
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Case 12

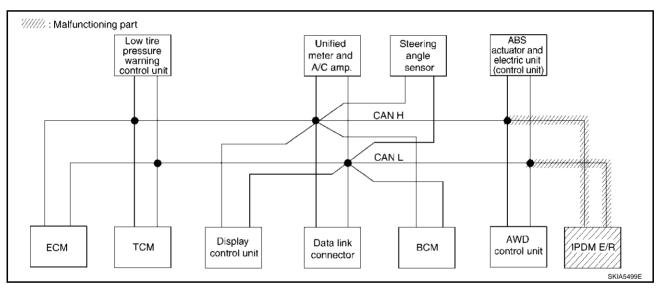
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-1005</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	ONK WN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	Π ΝΚ ΛΝ	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNK/WN	UNISWN	UNKWN	_	_	_	_	UNKWN	UNK WN	_	_



Case 13
Check IPDM E/R circuit. Refer to LAN-1005, "IPDM E/R Circuit Check".

						CAN	DIAG SU	PPORT N	INTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis										
022201 0101	LIVI SOLOCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	_	_	_	_		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANCAC		
BCM	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	-		
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_		



Case 14
Check CAN communication circuit. Refer to <u>LAN-1006, "CAN Communication Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	ΩN K WN	_	Π ΝΚ ΜΝ	_	_	UNK WN	n nk {\w}ν	_	UNK WN	UNK WN	UNK WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	-	_
Display control unit	_	CAN COMM	CAN CAC 1	CAN ORC 3	_	CANORC 6	_	CANORC 2	CAN CIRC 5	-	_	-	CANORC 7
BCM	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	_	_		UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNION	UNKWN	_	_	_	_	UNK/WN	UNK/WN	_	_

Revision; 2004 April LAN-997 2003 Murano

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Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-1009</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
322231 3131		diagnosis		ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UN A WN	_	_	UNKWN	UNKWN	-	UNKWN	ON WAN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC :
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K ₩N	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNK VN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-1009</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	Π ΝΚ ΑΝΙ	_	_	_	_	n νk {νν	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	-	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	-	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
BCM	1	NG	UNKWN	UNKWN	_	_	_	_	UNKWN		_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNIKWN	UNKWN	_	_	_	_	UNK WN	UNK/VN	_	_

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

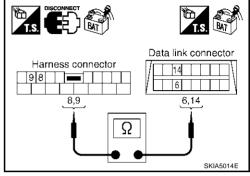
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-981, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (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 M9
- Harness connector B2
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

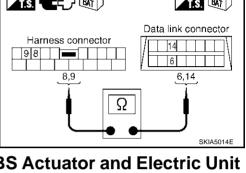
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



Data link connector Harness connector 14 - 6 6,14 1,10 Ω

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LAN-999 Revision; 2004 April 2003 Murano

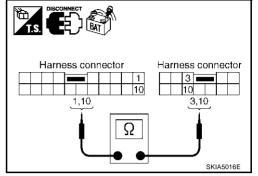
$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist. : Continuity should exist.

OK or NG

OK >> GO TO 4. NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

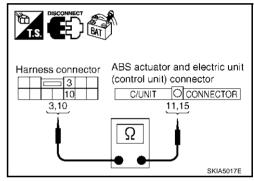
3 (L) - 11 (L) 10 (Y) - 15 (Y) : Continuity should exist.

- 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-981, "Work Flow".

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

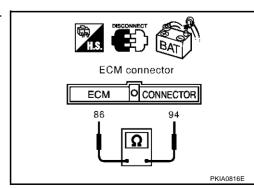
94 (L) - 86 (Y)

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



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TCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

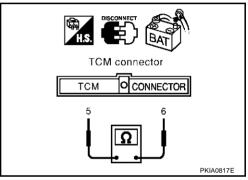
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harne:

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

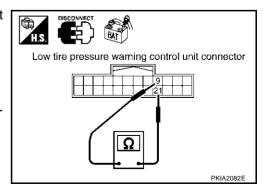
- 1. Disconnect low tire pressure warning control unit connector.
- 2. Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace low tire pressure warning control unit.

NG >> Repair harness between low tire pressure warning control unit and TCM.



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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.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

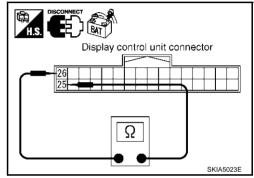
OK or NG

OK

>> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

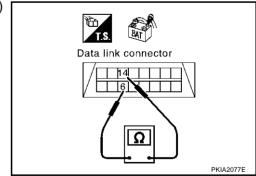
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. **54 - 66**
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OK or NG

OK >> Diagnose again. Refer to <u>LAN-981, "Work Flow"</u>.

NG >> Repair harness between data link connector and BCM.



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BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

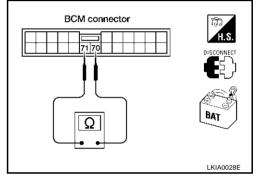
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS00770

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

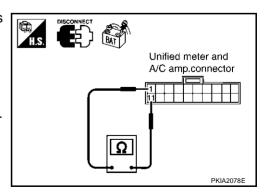
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.
NG >> Repair harness between unified me

>> Repair harness between unified meter and A/C amp. and data link connector.



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Revision; 2004 April

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

AKS00771

- 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

- Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

: Approx. 54 - 66 Ω

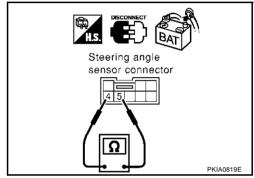
OK or NG

OK

>> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



AKS00772

AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect AWD control unit connector. 1.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

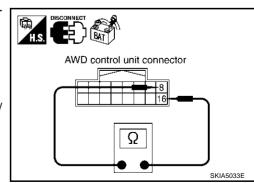
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG

>> Repair harness between AWD control unit and IPDM E/



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.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

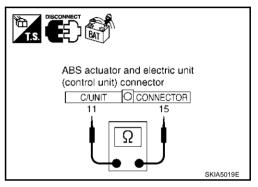
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit).

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



IPDM E/R Circuit Check

AKS00774

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

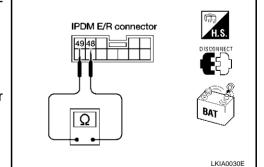
- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN SYSTEM (TYPE 29)

[CAN]

AKS00775

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

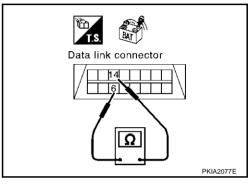
6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

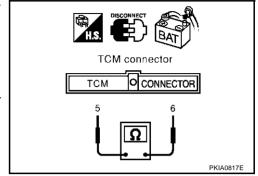
- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

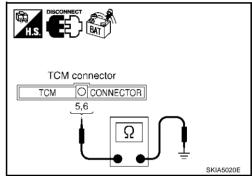
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

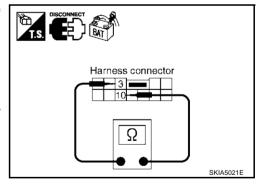
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 7.

>> Repair harness between harness connector B4 and harness connector B2.



7. CHECK HARNESS FOR SHORT CIRCUIT

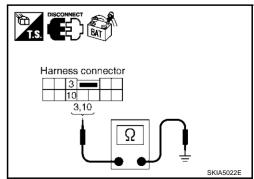
Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector B4 and harness connector B2.



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8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

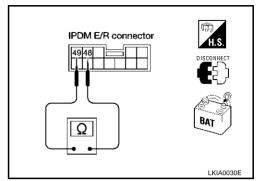
OK or NG

OK

>> GO TO 9.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist.
49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 49 48 48, 49 EAT LKIA0036E

10. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\sf LAN-1010}$, " $\underline{\sf ECM/IPDM}$ $\underline{\sf E/R}$ INTERNAL CIRCUIT INSPECTION" . $\underline{\sf OK}$ or $\underline{\sf NG}$

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-981, "Work Flow"</u>.

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"</u>.

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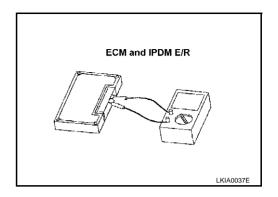
Revision; 2004 April LAN-1009 2003 Murano

AKS00777

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

CAN SYSTEM (TYPE 30)

PFP:23710

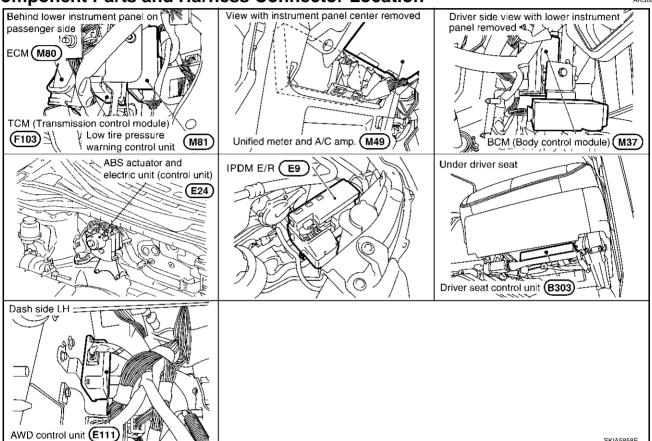
System Description

AKS00778

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

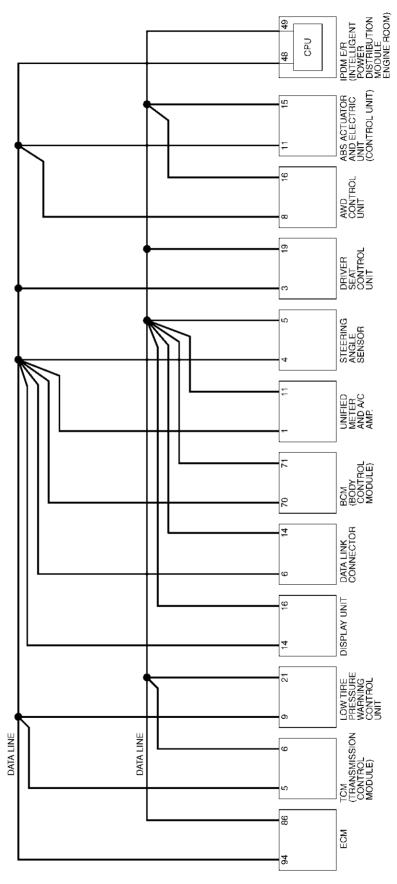
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Schematic AKS0077A



Wiring Diagram - CAN -

AKS0077B

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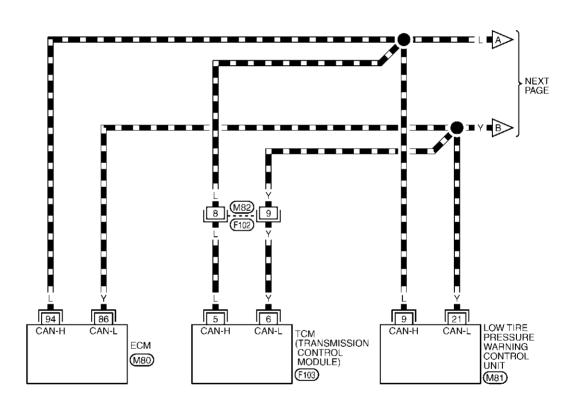
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LAN-CAN-88

: DATA LINE



12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

TKWA1040E

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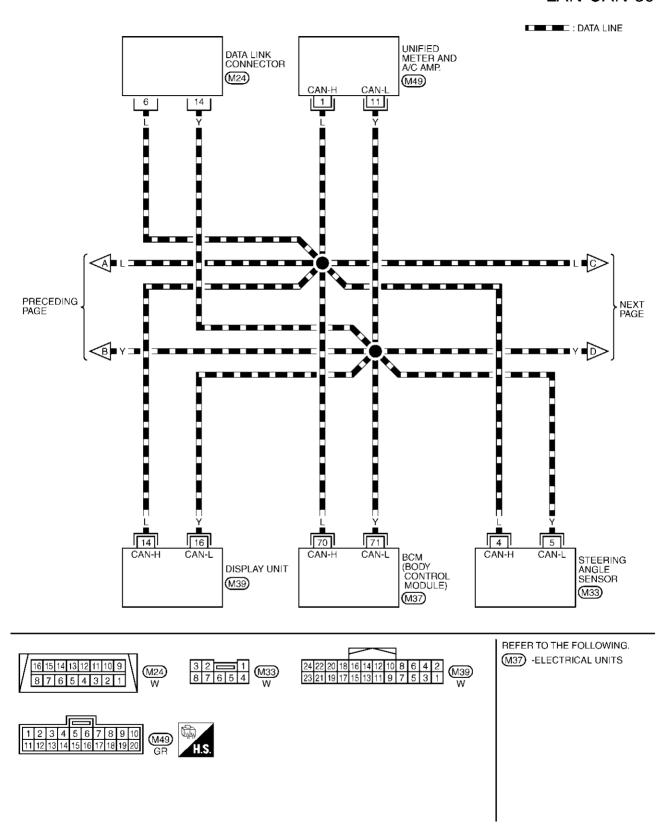
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LAN-CAN-89



TKWA1041E

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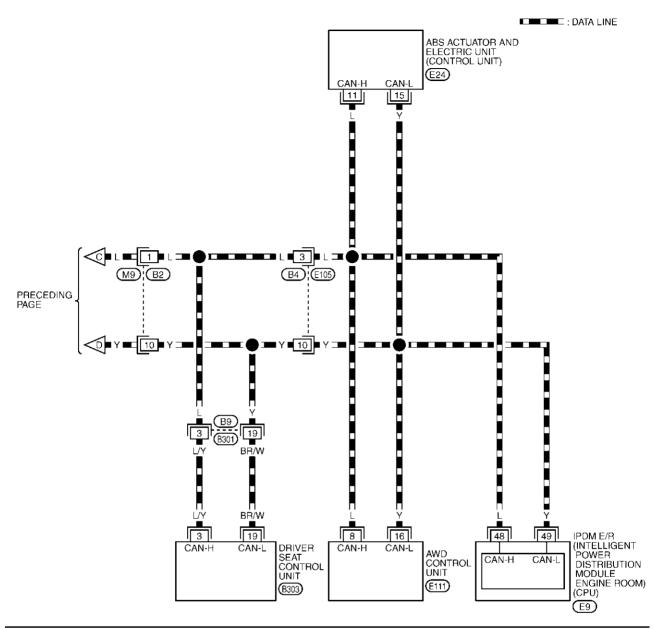
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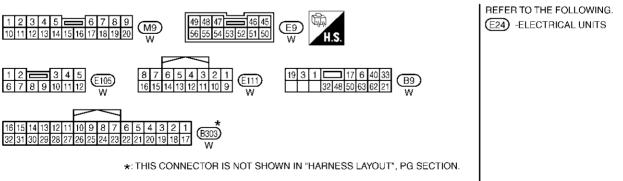
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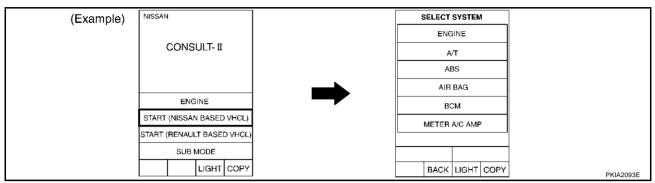




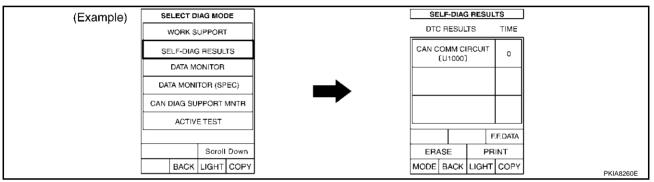
TKWA1042E

Work Flow

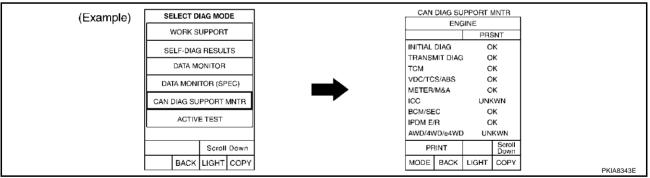
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-1018</u>, "CHECK SHEET".
- 5. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to LAN-1018, "CHECK SHEET".

NOTE

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the integrated display system. Refer to <u>AV-110, "CAN Communication Line Check"</u>.

CAN SYSTEM (TYPE 30)

[CAN]

- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-1018</u>, "CHECK SHEET".
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG MONITOR check sheet. Refer to <u>LAN-1018</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-110, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-1020, "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.

						CAN	DIAG SU			2			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	TIRE-P	DISPLAY	всм	diagnosi: METER		AWD	VDC/TCS	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	/SEC UNKWN	/M&A UNKWN	_	/4WD UNKWN	/ABS UNKWN	E/R UNKWI
FRANSMISSION	No indication	NG	UNKWN		_			—	UNKWN	_	- UNKWIN	UNKWN	
AIR PRESSURE MONITOR		NG	UNKWN	—	_		_	_	UNKWN	_	_	_	
Display unit		CAN COMM		CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
BCM	_	NG	UNKWN		_	_	_	_	UNKWN	_	_	_	UNKW
METER A/C AMP	No indication	_			UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_		UNKWN	_	_	_	_
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
		S	Attach c	opy of SYSTEM				Attach cop LECT SY					
				CAN		ch copy o play unit NITOR cl		et					

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR

Revision; 2004 April LAN-1019 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

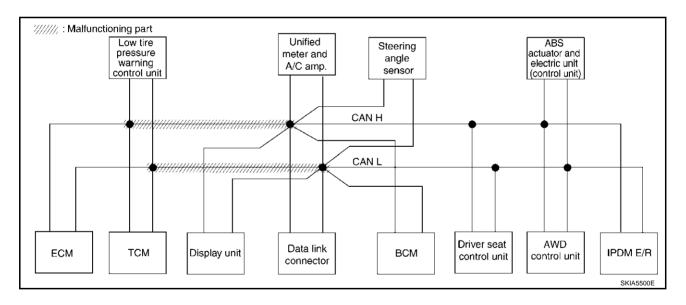
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-1036</u>, "Circuit Check Between TCM and Data Link Connector" .

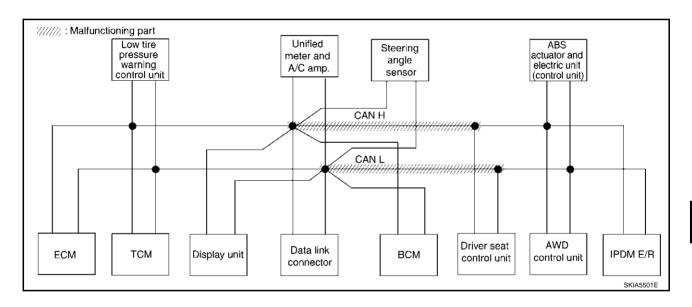
						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	5			
022201 0101	LIW GOIGGII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNK WN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
BCM	_	NG	UNKWN	NNR WN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	Π ΝΚ /ΝΝ	UNKWN	UN K WN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	_	UNKWN	UNKWN	_	_		_
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	_	_	_	UNKWN	UNKWN	_	_



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-1036</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101	LINI SOFOCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNK WN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	∩ νκ ⁄ων	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
BCM	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	Ω ΝΚ ΦΝ	Π ΝΚ ΛΝΙ	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-		UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	Π ΝΚ ΛΝΙ	_	_	_	_	UNK WN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNK/WN	UNK WN	_	_	_	_	UNK WN	UNKWN	_	_



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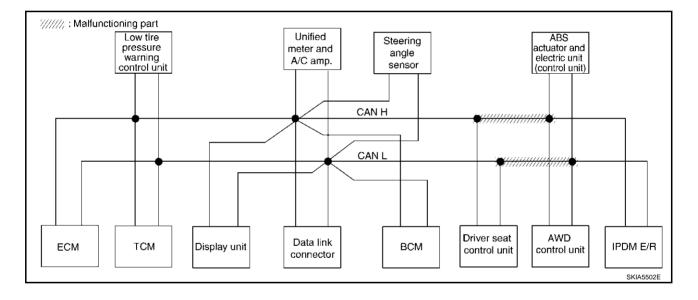
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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to LAN1037, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UN K ₩N	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	ΩN K WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	ı	_	_	
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	Ω ΝΚ ⁄ΝΝ	ΩN K WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	ı	_	UNKWN	ı
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	_	_	_	UNK WN	UNKWN	_	_



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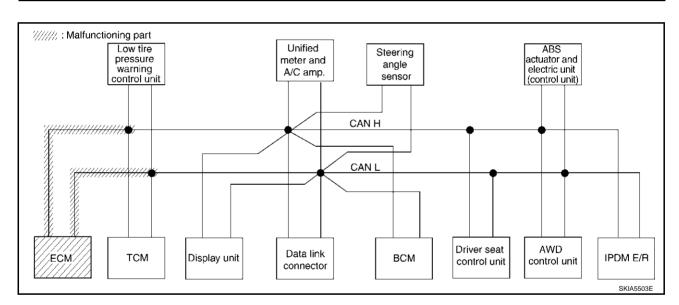
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Case 4
Check ECM circuit. Refer to <u>LAN-1038</u>, "ECM Circuit Check".

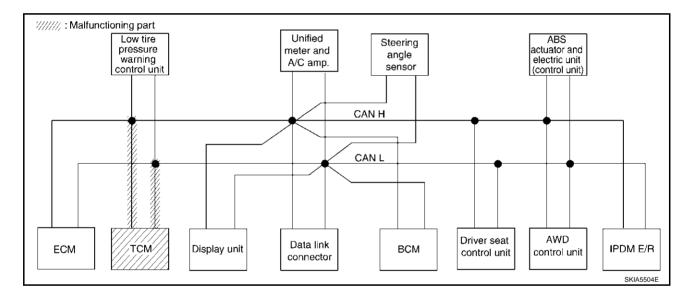
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	5			
022201 0101	LINI COI COII	diagnosis		ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNK WN	_	UNK WN	_	_	UNK WN	UNK WN	_	UNK WN	UNK VN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK W N	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	ı	_	_	_
Display unit	_	CAN COMM	CAN 1	C ₩ 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNI W N	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN K WN	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_
ALL MODE AWD/4WD		NG	UNKWN	UNK ∕ WN	_			_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK W N	UNKWN	_	_	_		UNKWN	UNKWN	_	-



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Case 5
Check TCM circuit. Refer to <u>LAN-1038</u>, "TCM Circuit Check".

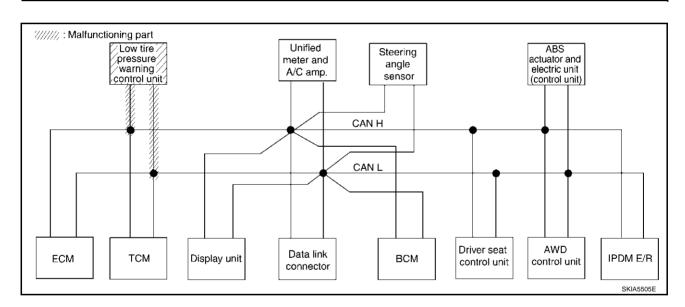
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
02220101011	LM COICON	diagnosis		ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNK WN	-	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	-	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN K ₩N	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK W N	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK/WN	_	_	_	_	UNKWN	UNKWN	_	_



Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-1039</u>, "Low Tire Pressure Warning Control <u>Unit Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	ı	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN		_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display unit	1	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5		_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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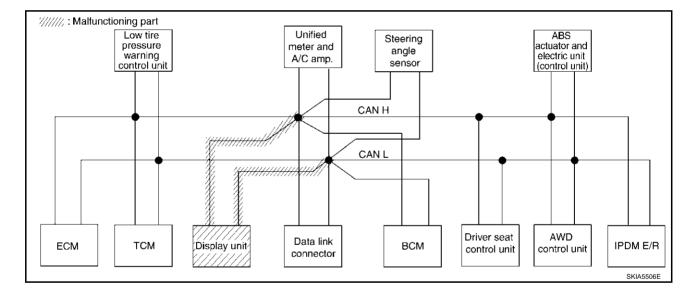
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Case 7
Check display unit circuit. Refer to <u>LAN-1039</u>, "<u>Display Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	8			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	_	_	_	UNKWN	_	_	_	_
Display unit	-	CAN COMM	CAN 1	CM/13	_	CAN 6	_	CAN 2	CM 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UN K ₩N	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_		UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
													PKIB1058E



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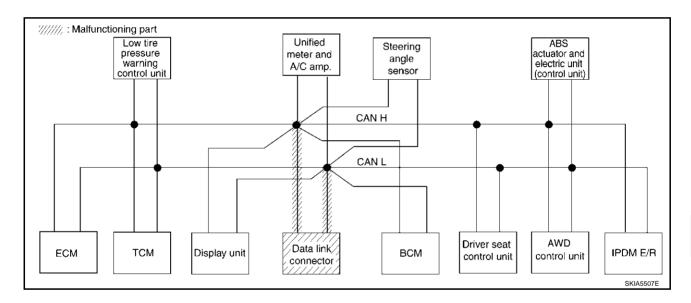
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Case 8
Check data link connector circuit. Refer to <u>LAN-1040</u>, "<u>Data Link Connector Circuit Check</u>".

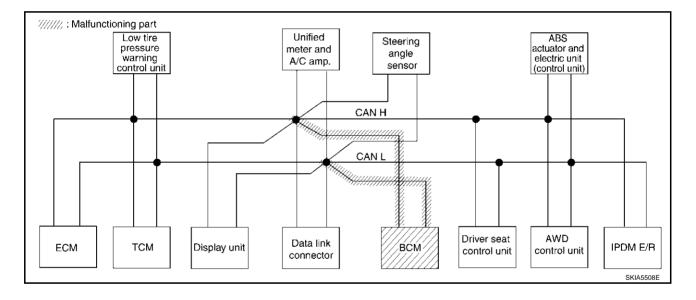
						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101	50.55	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	1	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_		UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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Case 9
Check BCM circuit. Refer to <u>LAN-1040</u>, "BCM Circuit Check" .

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYSTE	-M screen	Initial	Transmit					Receive	diagnosis	3			
02220101011		diagnosis		ЕСМ	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	-	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNI WN	UNK WN	_	_	_	_	ΩN K WN	_	_	_	UNK WN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UN K ₩N	-	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNK/WN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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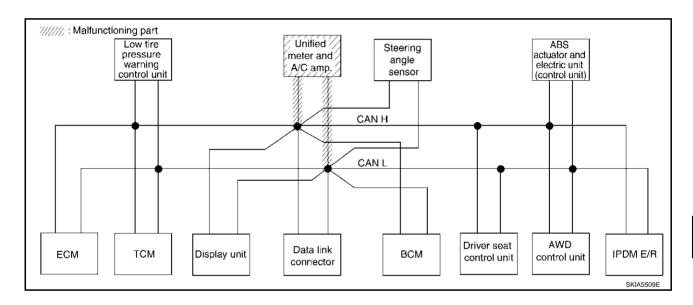
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Case 10

Check unified meter and A/C amp. circuit. Refer to LAN-1041, "Unified Meter and A/C Amp. Circuit Check" .

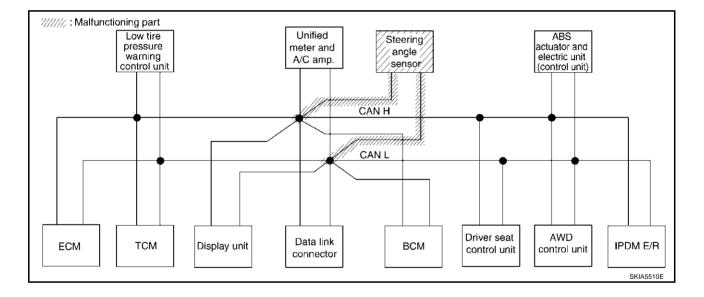
						CAN	DIAG SU	PPORT N	INTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis										
022201 0101	LINI GOLGGII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNK WN	_	_	_	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	-	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	n uk wu	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_	_		



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Case 11
Check steering angle sensor circuit. Refer to <u>LAN-1041</u>, "Steering Angle Sensor Circuit Check".

						CAN	DIAG SU	PPORT N	/INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	5			
022201 0101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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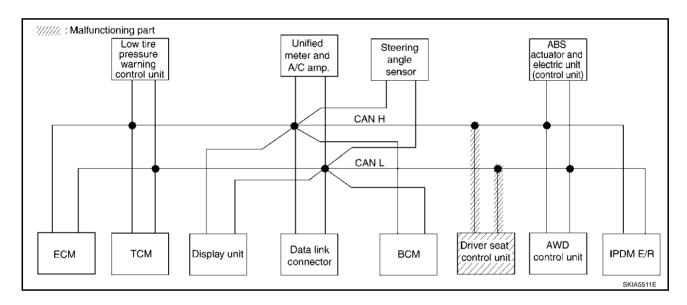
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Case 12
Check driver seat control unit circuit. Refer to <u>LAN-1042</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

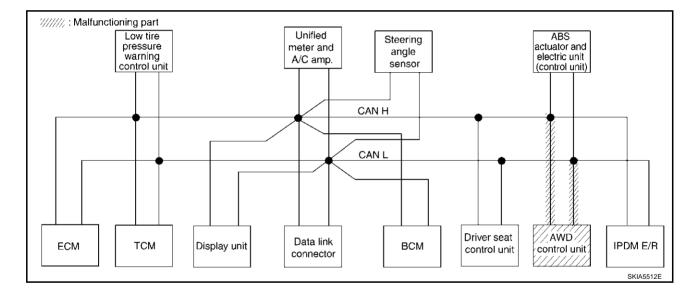
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101	50.55	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNKWN	ı	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	-	-	_	_	UNKWN	_	_	_	_
Display unit	ı	CAN COMM	CAN 1	CAN 3	ı	CAN 6	_	CAN 2	CAN 5	_	-	_	CAN 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	_	UNKWN	UNKWN	_	-	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	-	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	UNKWN	UNKWN	_	_



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Case 13
Check AWD control unit circuit. Refer to <u>LAN-1042</u>, "AWD Control Unit Circuit Check" .

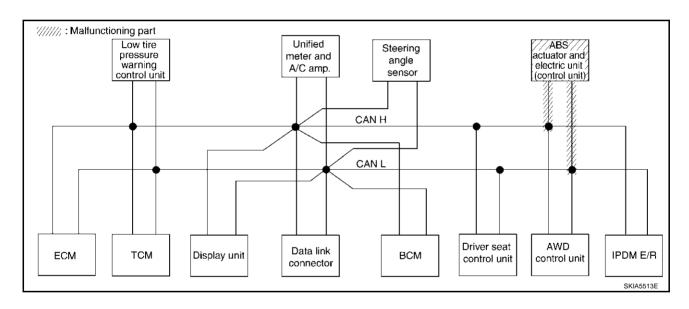
						CAN	DIAG SU	PPORT N	INTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis											
0222010101	50.55	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE		NG	UNKWN	1	UNKWN	-	_	UNKWN	UNKWN	-	UNK WN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	_	-	_	_	UNKWN	_	_	_	l		
Display unit	ı	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	∩ NR WN	UNKWN	J		
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	_	_	UNKWN	UNKWN	_	_	_	-		
ALL MODE AWD/4WD	_	NG	UN K WN	UN K WN	_	_	_	_	UNK WN	_	_	UN K WN	1		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_		



Case 14

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-1043</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101	LINI SOFOCII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKW
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UN A MN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	-	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
BCM		NG	UNKWN	UNKWN	1	ı	_	-	UNKWN	_	1	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UN A WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-		UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNK WN	UNK/WN	UNK WN	-	_	_	_	UNK WN	UNKWN	_	_



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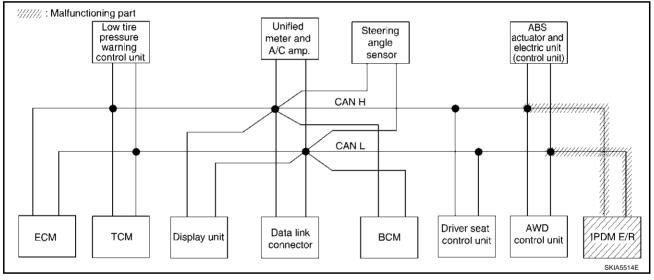
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Case 15
Check IPDM E/R circuit. Refer to <u>LAN-1043</u>, "IPDM E/R Circuit Check".

			CAN DIAG SUPPORT MNTR												
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	8					
02220101011	_m corcon		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	_	_	_	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAM 7		
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNK WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_		



Case 16
Check CAN communication circuit. Refer to <u>LAN-1044, "CAN Communication Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR												
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S					
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNK WN	-	_	UNKWN	UNKWN	ı	Ω ΝΚW Μ	UNKWN	UNK WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		_	_	UNKWN	ı	_	UNKWN	ı		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	UNKWN	-	_	_	_		
Display unit	_	CAN COMM	CAN 1	C 4√ 13	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	_	NG	UNK WN	UNKWN	_	_	_	_	NNK WN	_	_	_	UNKWN		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	_	_	_		
ALL MODE AWD/4WD	_	NG	UN K WN	UNKWN	_	_	_	_	UNK WN	ı	_	UNKWN	ı		
ABS	_	NG	UNK WN	Π ΝΚ (ΛΙΝ	UNK WN	_	_	_	_	UNK WN	UN K WN	_	_		

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Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-1048</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101	LINI SOFOCII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	-	_	UNKWN	UNKWN	_	UNKWN	UNK WN	UNKW
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_		_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	-	UNKWN	-	-	_	_
Display unit	-	CAN COMM	CAN 1	CAN 3	_	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7
всм	1	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	ΠΝΚ ΜΝ	UNKWN	UNKWN	UNKWN	-	_	UNKWN	n и₹ γνи	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	-		UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_		_	ı	UNKWN	_		UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_

Case 18

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to <u>LAN-1048</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

						CAN	DIAG SU	PPORT N	INTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis											
022201 0101	50.55		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UN K WN	_	_	_	_	UNK WN	_	_	UNKWN	_		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	1	_	_	ı	UNKWN	_	_	_	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	ı	CAN 6	_	CAN 2	CAN 5	_	_	_	CAN 7		
всм	Ī	NG	UNKWN	UNKWN	I	_	_	ı	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_		
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UM W WN	UNKWN	_	_		_	UNK WN	UNKWN	_	_		
													PKIB1069E		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

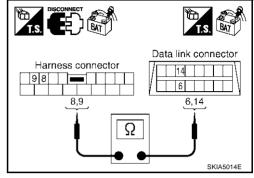
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1016, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

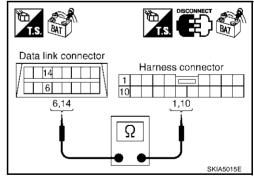
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



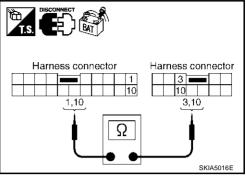
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-1016, "Work Flow"</u>.

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

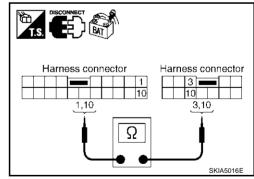
1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

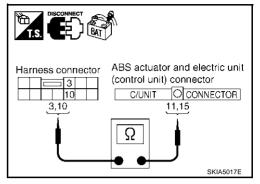
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1016, "Work Flow".

NG >> Repair harness.



AKS0077G

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

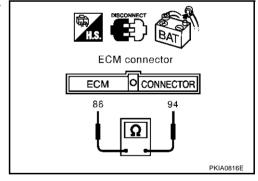
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS0077H

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector.
- 2 Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

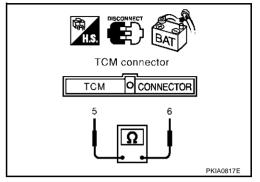
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG

>> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

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CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

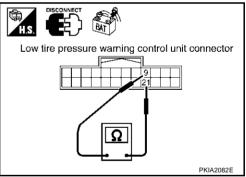
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace low tire pressure warning control unit.

>> Repair harness between low tire pressure warning con-NG trol unit and TCM.



Display Unit Circuit Check

AKS0077J

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of display unit for damage, bend and loose connection (unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

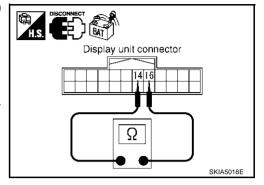
- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M39 terminals 14 (L) and 16 (Y).

14 (L) - 16 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and data link connector.



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AKS00771

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

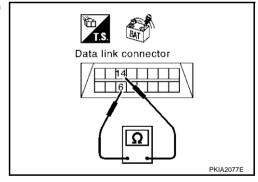
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

OK or NG

NG

OK >> Diagnose again. Refer to <u>LAN-1016</u>, "Work Flow".

>> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

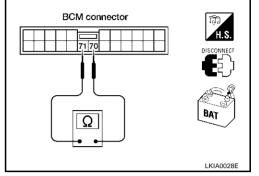
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM".

NG >> Repair harness between BCM and data link connector.



AKS0077M

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

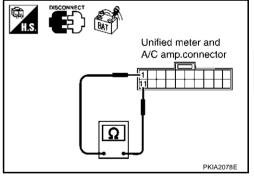
- 1. Disconnect unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace unified meter and A/C amp.

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS0077N

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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.

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- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

4 (L) - 5 (Y)

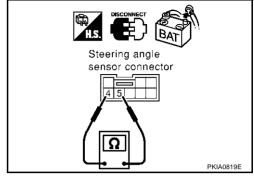
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



AKS00770

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

: Approx. 54 - 66 Ω

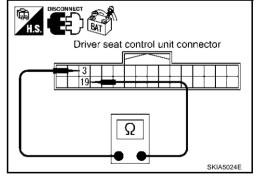
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



AKS0077P

AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

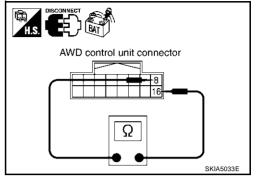
- 1. Disconnect AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/ R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS0077Q

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

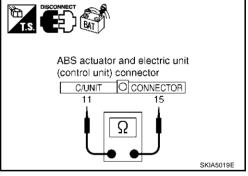
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace ABS actuator and electric unit (control unit).

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS0077R

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

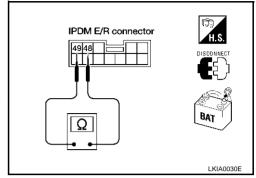
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



AKS0077S

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

Data link connector

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Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

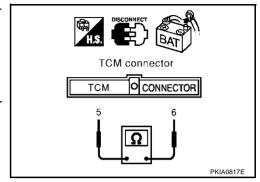
- Disconnect TCM connector. 1.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

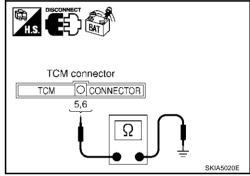
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

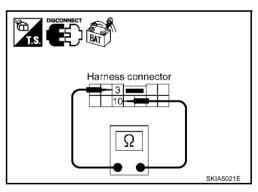
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist.10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

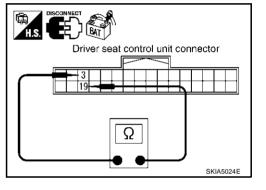
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

10 3,10

9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

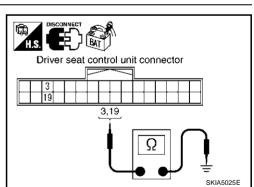
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

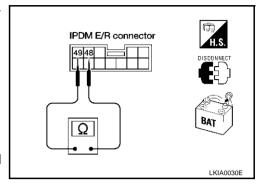
OK or NG

OK

>> GO TO 11.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 12.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 49/48 48, 49 ELKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-1049}}$, " $\underline{\mathsf{ECM/IPDM}}$ $\underline{\mathsf{E/R}}$ INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-1016</u>, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

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Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

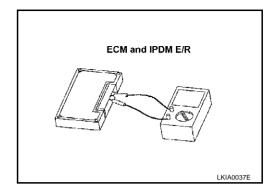
CAN SYSTEM (TYPE 30)

[CAN]

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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[CAN]

CAN SYSTEM (TYPE 31)

PFP:23710

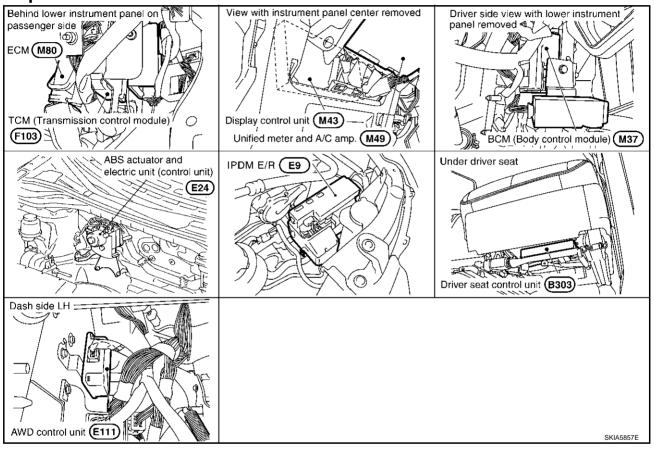
System Description

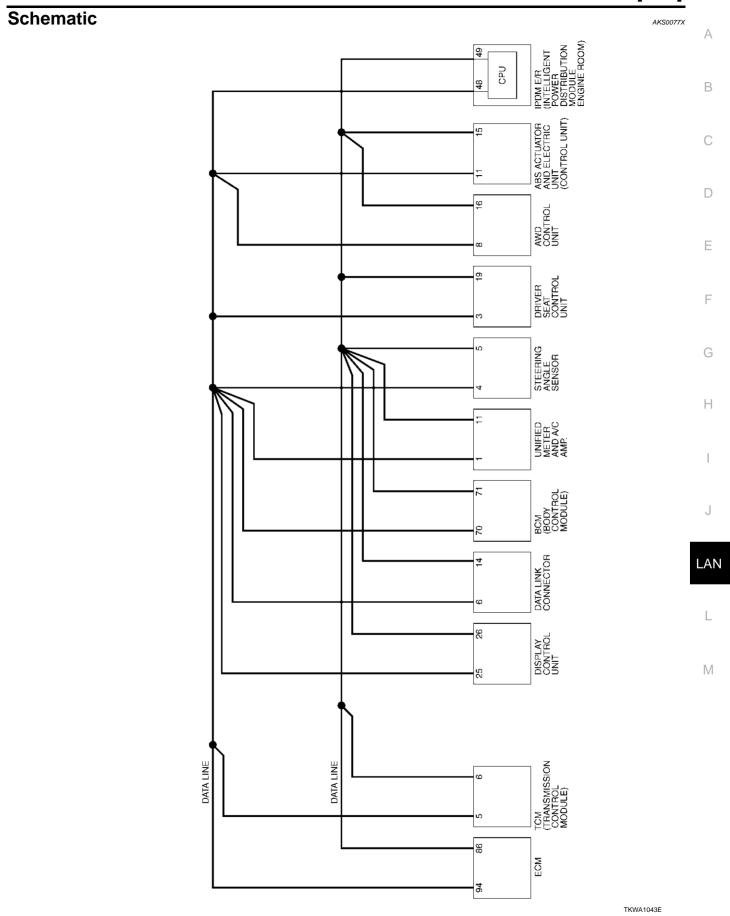
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CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped 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.

Component Parts and Harness Connector Location

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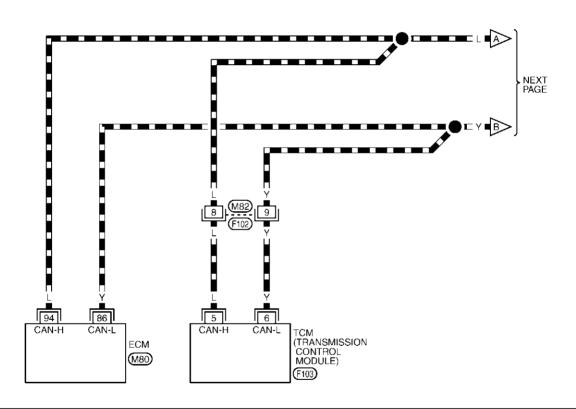


Wiring Diagram - CAN -

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LAN-CAN-91

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 W REFER TO THE FOLLOWING.
(M80), (F103) -ELECTRICAL
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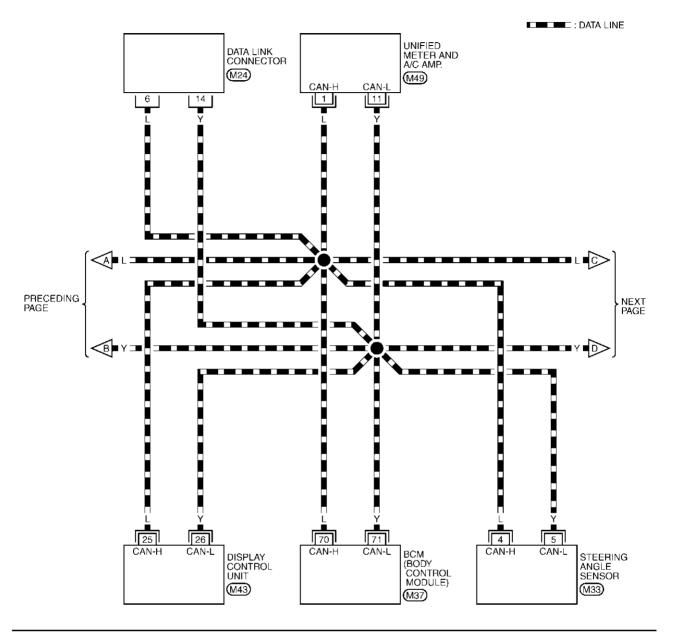
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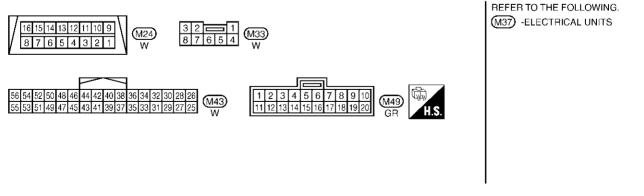
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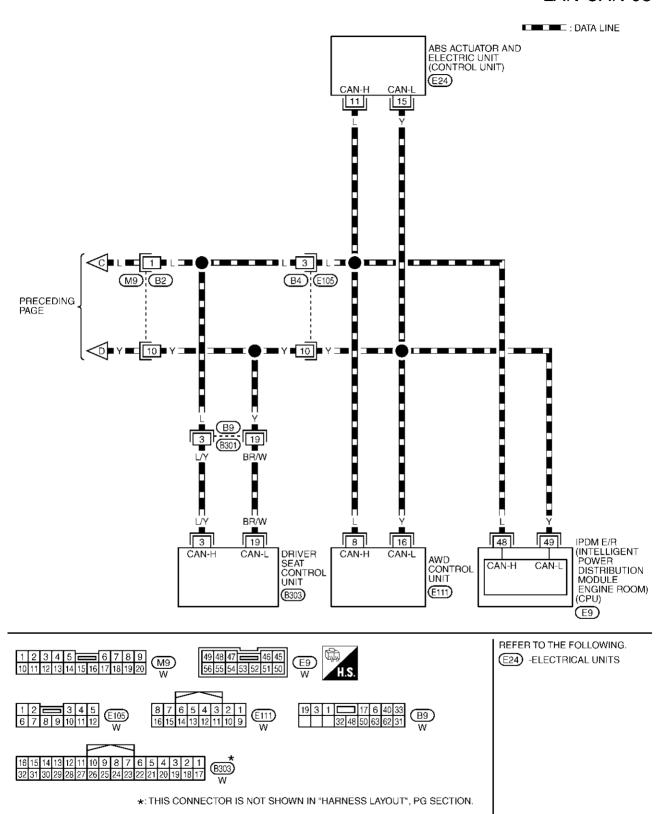
LAN-CAN-92





TKWA1045E

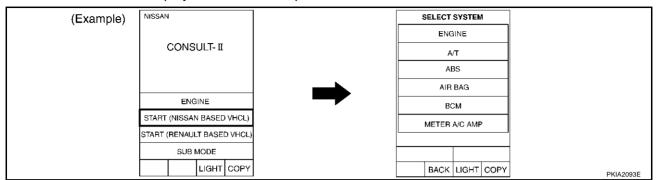
LAN-CAN-93



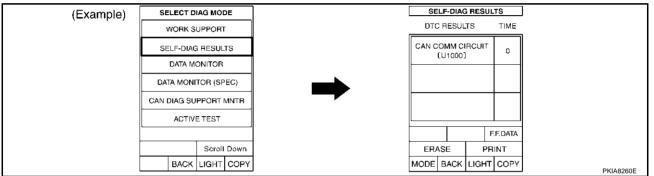
TKWA1046E

Work Flow

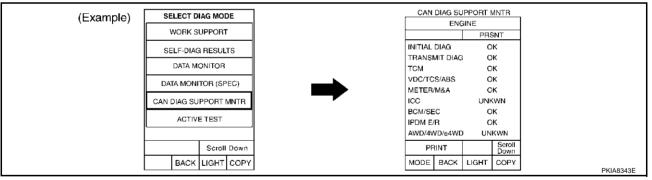
1. When there are no indications of "TRANSMISSION", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-1057</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-1057</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- Check CAN communication line of the navigation system. Refer to <u>AV-203</u>, "CAN Communication Line Check".
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-1057</u>, <u>"CHECK SHEET"</u>.

Revision; 2004 April LAN-1055 2003 Murano

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CAN SYSTEM (TYPE 31)

[CAN]

 Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to <u>LAN-1057</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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-1059</u>, "CHECK SHEET <u>RESULTS</u> (EXAMPLE)".

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

SELECT SYSTEM screen	Check sheet table	-					CAN DIA	G SUPPO	RT MNTR				
diagnosis diagnosis diagnosis ECM TCM DISPLAY /5EC MTER STRG AWD VOCTOS PDM AWD SELECT SYST	EM screen	Initial	Transmit				Red	eive diagn	osis				
Attach copy of display control unit No indication NG UNKWN UNKWN NO NO indication NG UNKWN UNKWN NO NO indication NG UNKWN UNKWN NO UNKWN UNKWN NO				ECM	тсм	DISPLAY			STRG			IPDM E/R	
Attach copy of display control unit	ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
Attach copy of SELECT SYSTEM Attach copy of display control unit FRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	ı	
Attach copy of display control unit AETER A/C AMP No indication — UNKWN UNKWN UNKWN UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — — — — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — UNKWN — — — UNKWN — UNKWN — ABS — NG UNKWN UNKWN UNKWN — — — UNKWN — UNKWN — — — UNKWN — — — Symptoms:	Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
Attach copy of display control unit	BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN
Attach copy of SELECT SYSTEM Attach copy of display control unit	METER A/C AMP			UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_
Attach copy of SELECT SYSTEM Attach copy of display control unit	AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM	ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Attach copy of SELECT SYSTEM Attach copy of SELECT SYSTEM Attach copy of display control unit	ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_
Attach copy of display control unit	Symptoms :												
Attach copy of display control unit													
Attach copy of display control unit													
Attach copy of display control unit													
Attach copy of display control unit													
Attach copy of display control unit			SI	Attach cop ELECT SY	oy of 'STEM			Attacl SELEC	n copy of FSYSTEM	1			
display control unit													
display control unit													
display control unit													
display control unit													
display control unit													
						Attach o	opy of						
				CA				check she	et				

Attach copy of ENGINE SELF-DIAG RESULTS Attach copy of TRANSMISSION SELF-DIAG RESULTS Attach copy of BCM SELF-DIAG RESULTS

Attach copy of METER A/C AMP SELF-DIAG RESULTS

Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS Attach copy of ABS SELF-DIAG RESULTS

Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR Attach copy of BCM CAN DIAG SUPPORT MNTR Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR

Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR

Attach copy of ABS CAN DIAG SUPPORT MNTR

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CHECK SHEET RESULTS (EXAMPLE)

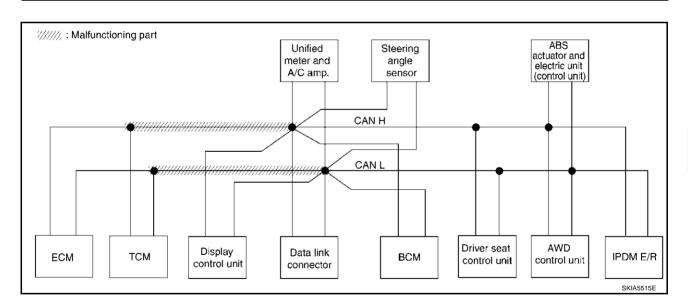
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-1074</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

						CAN DIA	3 SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOTOGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNK WN	UNK WN	_	UNK WN	UNK A VN	UNK WI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	-	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANCAC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	Π ΝΚΩ Ν	_	_	ı	UNKWN	_	ı	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	Ω ΝΚ ΜΝ	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	=	∩ иК \\	_	UNKWN	UNKWN	-	_		_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UN K ₩N	_		_	UNKWN	UNKWN	_	_



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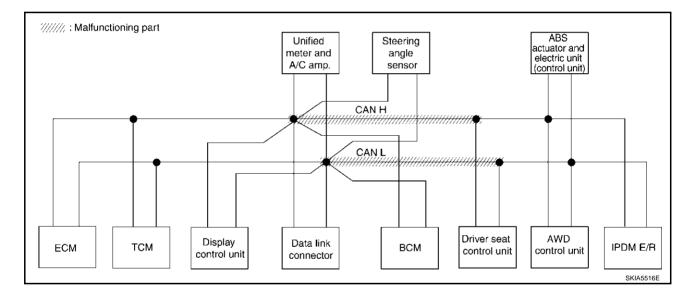
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Case 2
Check harness between data link connector and driver seat control unit. Refer to <u>LAN-1074</u>, "Circuit Check Between Data Link Connector and Driver Seat Control Unit".

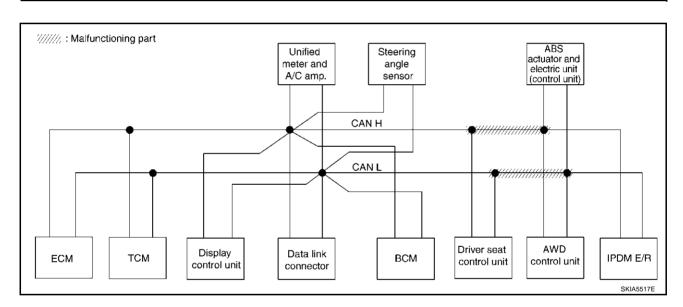
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLOGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	Π ИΚ WΝ	Ω ΝΚγ ΛΝ	Π ИΚW I
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	Π ИΚ ΑΝ	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANCAC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNK WI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNK ∕ WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN		_	1	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	ΠΝΚ₩Ν	_	_	_	UNKWN	UNKWN	_	=



Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-1075</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131			diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	Π Μ ΜΝ	UN K ₩N	Π ИΚW I
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UN K ₩N	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANCAC
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNK W
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	UN K ₩N	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	υ νκ ⁄νν	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNK W N	_	-	_	UNK WN	UNKWN	_	-



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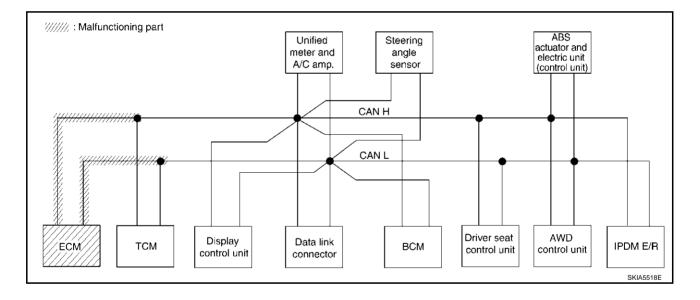
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Case 4
Check ECM circuit. Refer to <u>LAN-1076</u>, "ECM Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131	ZW GOLOGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Π ИΚ ΜИ	_	UNK WN	UNKWN	-	NNKWN	UNK A N	NNK WN
TRANSMISSION	No indication	NG	UNKWN	η νίζ γνν	_	_	-	UNKWN	_	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CANC/RC3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNR WN	_	_	_	UNKWN	-	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	Π ΝΚ ΛΝ	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	UNKWN	UNKWN	-	_



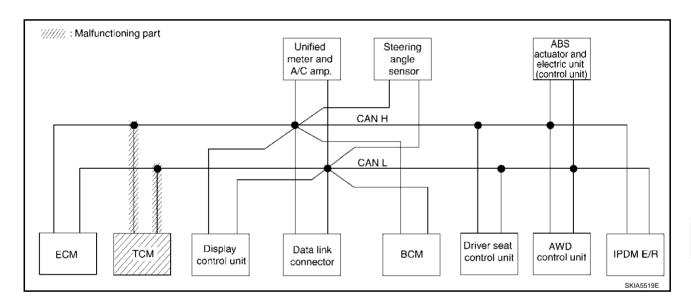
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Case 5
Check TCM circuit. Refer to <u>LAN-1076</u>, "TCM Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOFCCIT	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	NNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	=	UNKWN	_	-	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
BCM	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	-	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	Ω ΝΚ ⁄ΛΝ	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UN K ₩N	_	=	_	UNKWN	UNKWN	_	_



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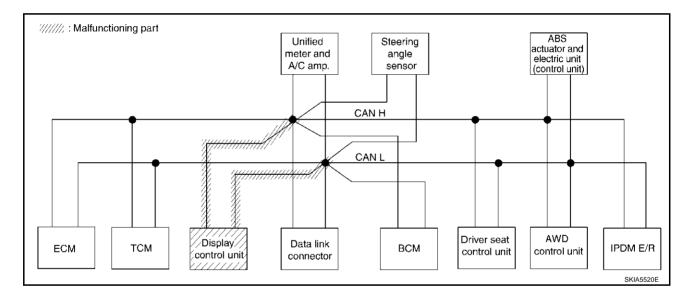
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Case 6
Check display control unit circuit. Refer to <u>LAN-1077</u>, "<u>Display Control Unit Circuit Check</u>".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display control unit	_	CAN COMM	CANCERC 1	CANCAC 3	-	_	CANCIRC 2	CAN CIRC 5	_	_	_	CANCAC
всм	_	NG	UNKWN	UNKWN	-	_	ı	UNKWN	_	_	-	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	η νκ ⁄νν	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	1	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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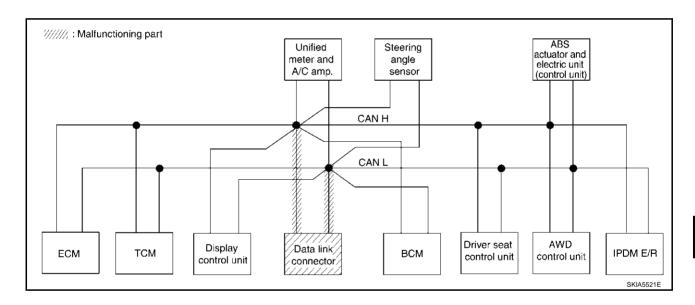
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Case 7
Check data link connector circuit. Refer to <u>LAN-1077</u>, "<u>Data Link Connector Circuit Check</u>".

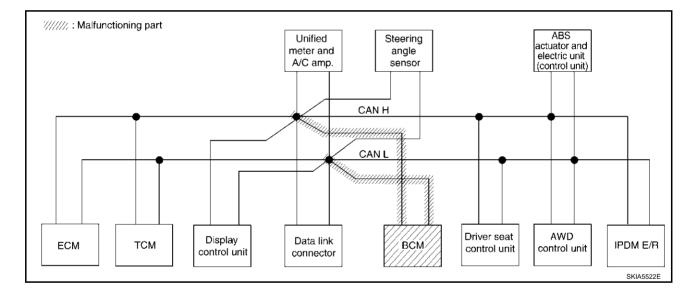
						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOLOGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	-	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_



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Case 8
Check BCM circuit. Refer to <u>LAN-1078</u>, "BCM Circuit Check" .

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	NNK MN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CRC 2	CAN CIRC 5	-	_	-	CAN CIRC
всм	_	NG	NNR WN	UNK W N	_	_	ı	Ω ΝΚ ΑΝ	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	1	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	UNKWN	1	_



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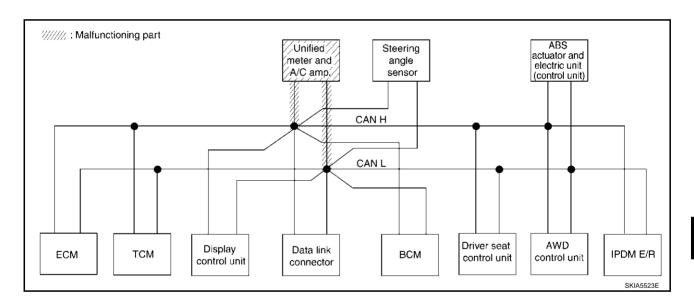
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Case 9

Check unified meter and A/C amp. circuit. Refer to LAN-1078, "Unified Meter and A/C Amp. Circuit Check" .

						CAN DIA	3 SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOTGOTT		diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	UNIVAN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UN K WN	_	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN ORC 5	_	_	_	CAN CIRC
всм	_	NG	UNKWN	UNKWN	_	_	_	NMANN	-	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	Ω ΝΙΆ (ΜΝ	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_

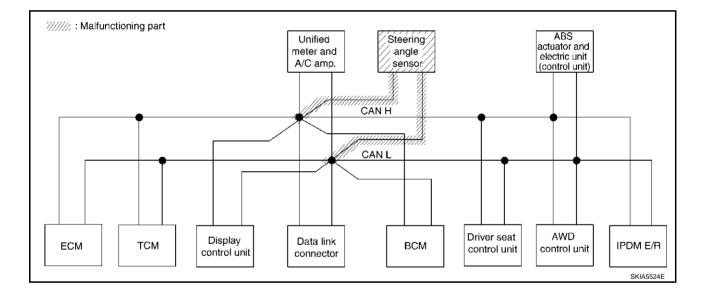


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Case 10
Check steering angle sensor circuit. Refer to <u>LAN-1079</u>, "Steering Angle Sensor Circuit Check".

						CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131	2.11 0010011	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	_	_	-	CAN CIRC
всм	_	NG	UNKWN	UNKWN	-	_	ı	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	1	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNK WN	UNKWN	-	_



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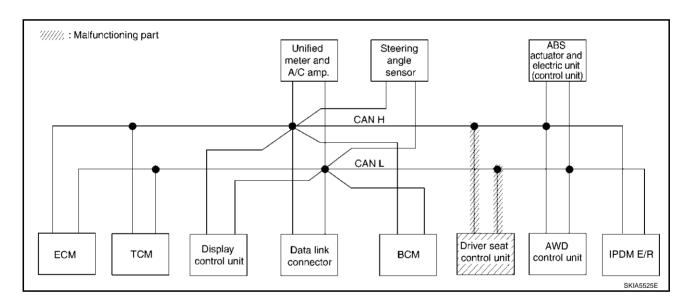
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Case 11
Check driver seat control unit circuit. Refer to <u>LAN-1079</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

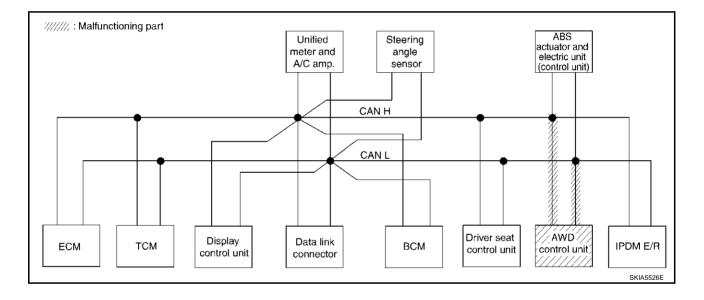
						CAN DIA	3 SUPPOI	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
022201 0101	LIVI GOLOGII			ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN		UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	1	UNKWN	_	_	UNKWN	-		
Display control unit	1	CAN COMM	GAN CIRC 1	CAN CIRC 3	-	_	CAN CIRC 2	CAN CIRC 5	-	_	_	CAN CIRC 7		
всм	_	NG	UNKWN	UNKWN	_	_	1	UNKWN	-	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	-	_	_	-		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNKWN	_	_		



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Case 12
Check AWD control unit circuit. Refer to <u>LAN-1080</u>, "AWD Control Unit Circuit Check" .

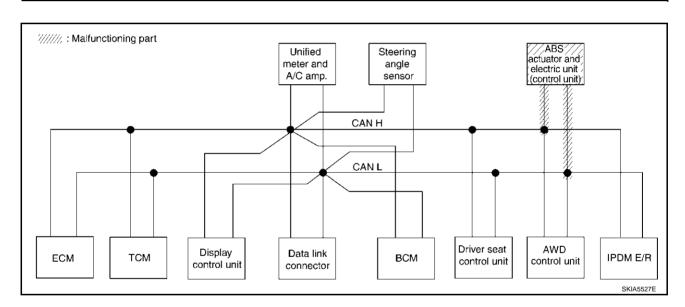
						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	T	Receive diagnosis										
c			Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC		
всм	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	_	_	UNKWI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UN K ₩N	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	_	_	_	υ νκ⁄ ΜΝ	_	_	UN K ₩N	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	UNIX/WN	_	_		



Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-1080</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

				CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial diagnosis	Transmit diagnosis	Receive diagnosis										
022201 0101	EN COLOCIT			ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	∩ NR MN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UN W WN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC		
BCM	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	1	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	Π ИΚ ΜИ	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	_		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNK WN	_		
ABS	_	NG	UNK WN	UNK WN	UN K ₩N	_	_	_	UNKWN	Ω ΝΚ ⁄ΜΝ	_	_		



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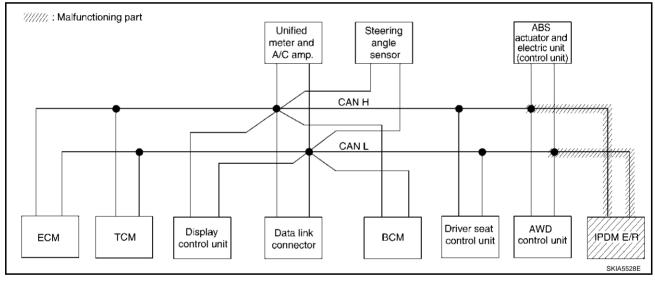
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Case 14
Check IPDM E/R circuit. Refer to <u>LAN-1081</u>, "IPDM E/R Circuit Check" .

				CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
3222313131		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	1	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	-	_	UNKWN	-		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	-	_	-	CANCAC		
BCM	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	-	1	ı	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	-	1	_		
ALL MODE AWD/4WD	1	NG	UNKWN	UNKWN	_	_	1	UNKWN	1	1	UNKWN	ı		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	UNKWN	1	_		



Case 15
Check CAN communication circuit. Refer to <u>LAN-1082, "CAN Communication Circuit Check"</u>.

			CAN DIAG SUPPORT MNTR											
SELECT SYST	EM screen	Initial	Transmit	Receive diagnosis										
		diagnosis	1 ' '	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNK WN	_	Π ΛΚW M	_	UN K WN	Π ΜΑ ΜΝ	_	UN ™ WN	UNK WN	UN ∳ WN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CAC 3	_	_	CANCEC 2	CANCIRC 5	_	_	_	CANCAC 7		
всм	_	NG	UN K ₩N	nukwu	_	_	-	η νικ ⁄νν	_	_	_	UNK/WN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	_	_	=		
ALL MODE AWD/4WD	_	NG	UNKWN	UNIOWN	_	_	-	υ νκ ⁄νν	_	_	UNKWN	_		
ABS	_	NG	UNK WN	UNK WN	UN K ₩N	_	_	_	UN K ∕WN	UN K ₩N	_	_		

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-1086, "IPDM E/R Ignition Relay Circuit Check"</u>.

						CAN DIA	G SUPPO	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit diagnosis	Receive diagnosis										
022201 0101	ZIVI GOTOGIT			ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	Π ΝΚ ΜΝ	_	UNKWN	UNKWN	_	UNKWN	Ω ΝΚ ΑΝ	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	UNKWN	_		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC		
всм	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	NNR WN	UNKWN	UNKWN	-	_	UNKWN	UNK WN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN K ∕WN	_	UNKWN	UNKWN	_	_	_	=		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_		_	UNKWN	UNKWN	_	_		

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to $\underline{\text{LAN-1086}}$, "IPDM E/R Ignition Relay $\underline{\text{Circuit Check"}}$.

				CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	T	Receive diagnosis										
022201 0101	LIVI SOFCOTI	diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UN K WN	_	_	-	Π ΝΚ ΛΝ	_	_	UNKWN	-		
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 2	CAN CIRC 5	_	-	-	CAN CIRC 7		
BCM	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	-	ı	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	UNKWN	_	-	1	1		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	UNKWN	-		
ABS	-	NG	UNKWN	UNK/WN	UNKWN	_	_	_	UNK W N	UN K ₩N	_	_		

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

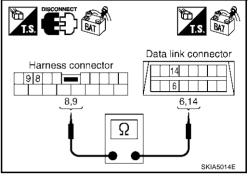
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1055, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

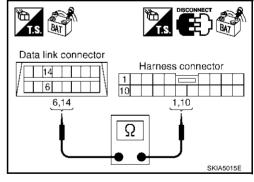
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

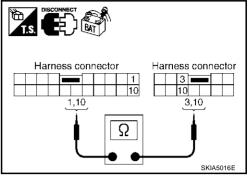
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK \rightarrow Connect all the connectors and diagnose again. Refer to LAN-1055, "Work Flow" .

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L)

: Continuity should exist.

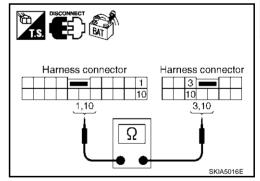
10 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

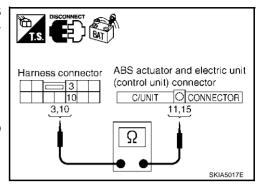
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1055, "Work Flow" .

NG >> Repair harness.



AKS00783

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

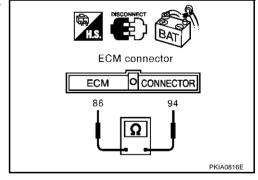
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS00784

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

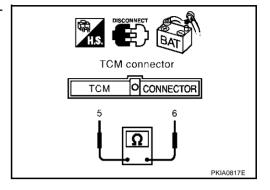
- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

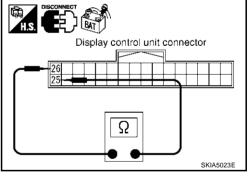
- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace display control unit.

>> Repair harness between display control unit and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. Check harness for open circuit

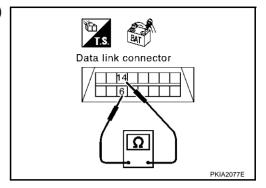
Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y) : Approx. 54 - 66
$$\Omega$$

OK or NG

OK >> Diagnose again. Refer to LAN-1055, "Work Flow".

NG >> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF. 1.

- 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

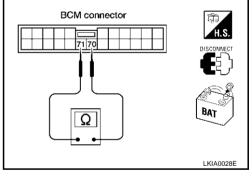
- Disconnect BCM connector.
- Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

70 (L) - **71** (Y) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM"

NG >> Repair harness between BCM and data link connector.



Unified Meter and A/C Amp. Circuit Check

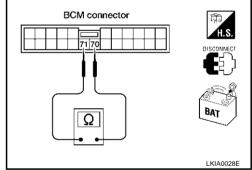
1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of unified meter and A/C amp, for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.



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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

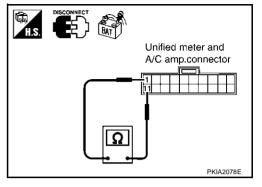
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace unified meter and A/C amp.

NG

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS00789

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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 M33 terminals 4 (L) and 5 (Y).

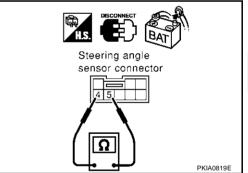
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace steering angle sensor.

NG >> Repair harness between steering angle sensor and data link connector.



AKS0078A

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).

LAN-1079

- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

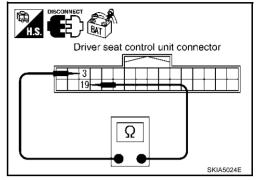
- 1. Disconnect driver seat control unit connector.
- 2. Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W) : Approx. 54 - 66Ω

OK or NG

OK >> Replace driver seat control unit.

NG >> Repair harness between driver seat control unit and harness connector B4.



AKS0078B

AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- 2. Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

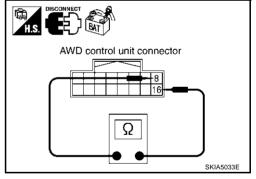
8 (L) - 16 (Y) : Approx. 54 - 66Ω

OK or NG

NG

OK >> Replace AWD control unit.

>> Repair harness between AWD control unit and IPDM E/R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS0078C

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

- Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

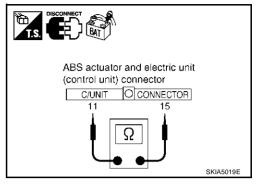
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



AKS0078D

IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

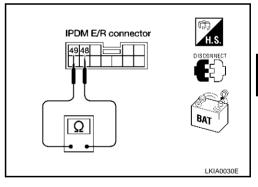
: Approx. 108 - 132 Ω

OK or NG

OK

>> Replace IPDM E/R. NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side, and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

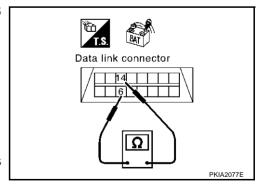
OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect TCM connector.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

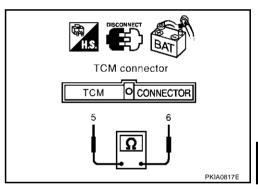
5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair ha

>> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

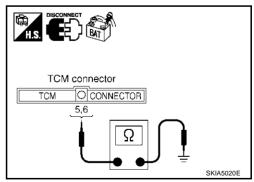
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

5 (L) - Ground : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



Data link connector

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6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- 2. Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

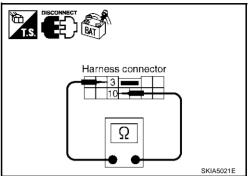
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

> : Continuity should not exist. 3 (L) - Ground 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector. 1.
- Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

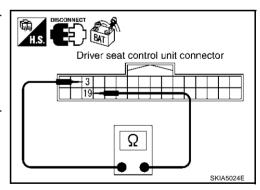
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector 3

> 10 3,10

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9. CHECK HARNESS FOR SHORT CIRCUIT

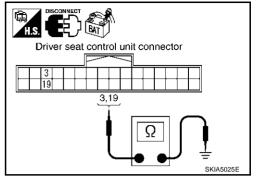
Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

> 3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair harness between driver seat control unit and harness connector B301.



10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y) : Continuity should not exist.

OK or NG

NG

OK >> GO TO 11.

> >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.

11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 12.

> >> Check the following harnesses. If any harness is damaged, repair the harness.

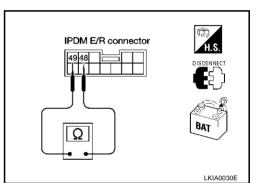
- Harness between IPDM E/R and AWD control unit.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit).
- Harness between IPDM E/R and harness connector E105.

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-1086, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1055, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.



IPDM E/R connector

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IPDM E/R Ignition Relay Circuit Check

AKS0078F

Check the following. If no malfunction is found, replace the IPDM E/R.

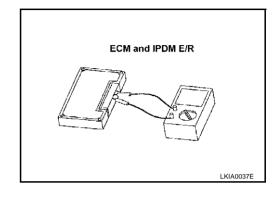
- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START""</u>.

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS0078G

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



[CAN]

CAN SYSTEM (TYPE 32)

PFP:23710

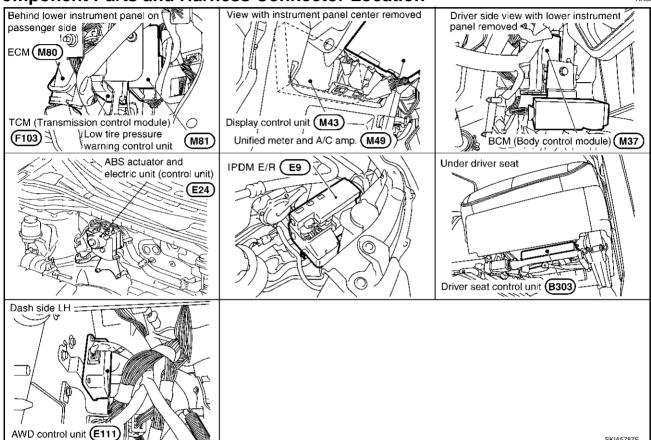
System Description

AKS0078H

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

AKS00781



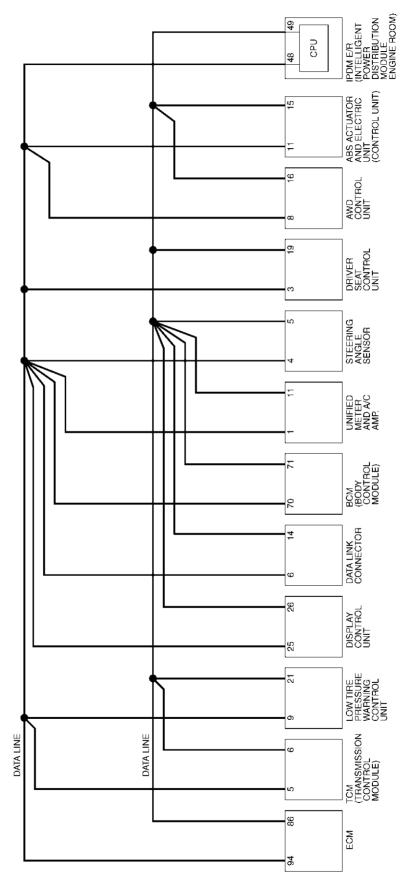
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Schematic AKS0078J



TKWA1047E

Wiring Diagram - CAN -

AKS0078K

LAN-CAN-94

: DATA LINE

NEXT PAGE

NEXT PAGE

NEXT PAGE

NEXT PAGE

NEXT PAGE

NEXT PAGE

OTHER PRESSURE WARNING CONTROL UNIT (M81)

12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13 W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 REFER TO THE FOLLOWING.

(M80), (F103) -ELECTRICAL

UNITS

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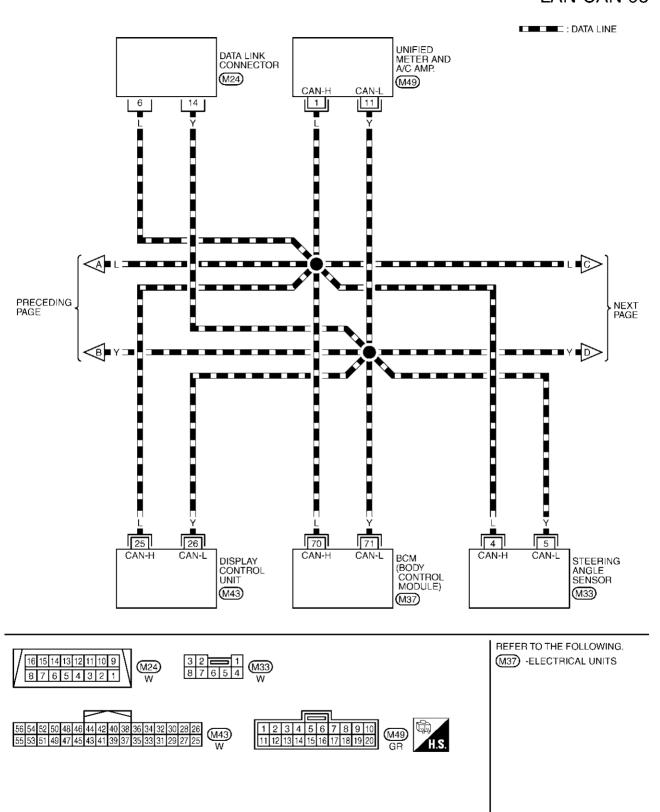
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LAN-CAN-95



TKWA1049E

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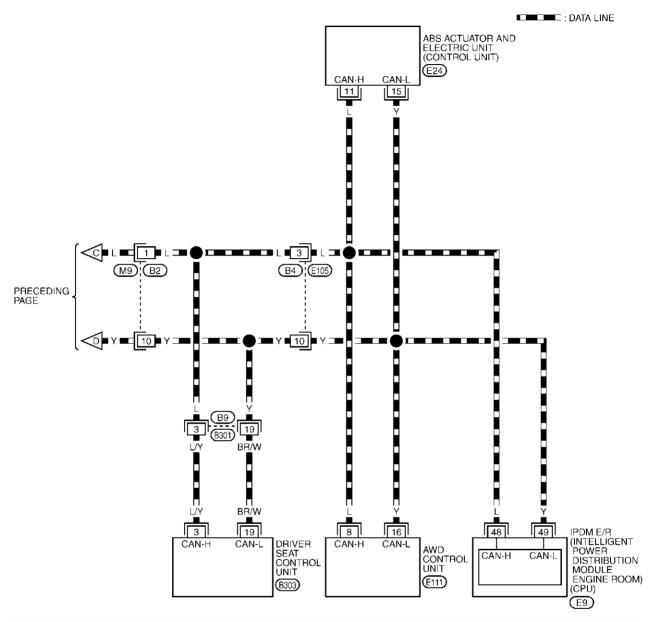
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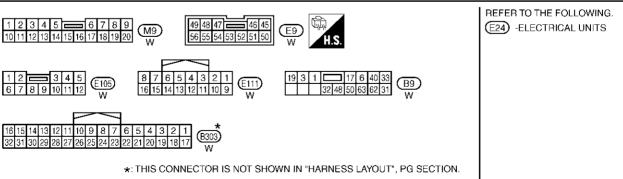
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LAN-CAN-96

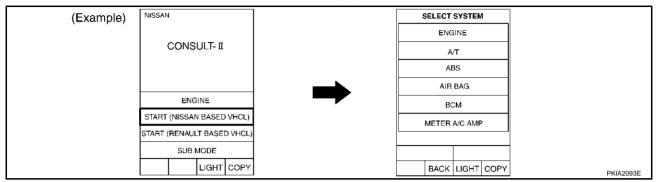




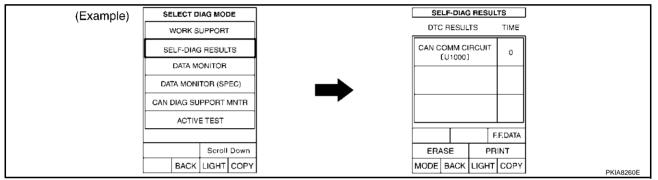
TKWA1050E

Work Flow

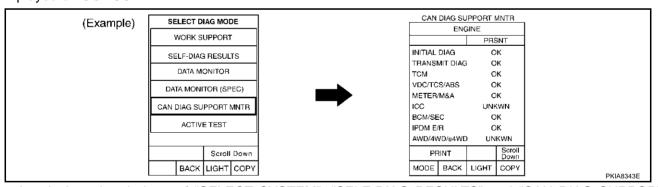
1. When there are no indications of "TRANSMISSION", "AIR PRESSURE MONITOR", "METER A/C AMP" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONI-TOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "AIR PRESSURE MONITOR", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "ALL MODE AWD/4WD" and "ABS" displayed on CONSULT-II.



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-1094</u>, "CHECK SHEET".
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to <u>LAN-1094</u>, "CHECK SHEET".

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
 So it is not necessary to check the status of "CAN DIAG SUPPORT MNTR" items which are not indicated in check sheet table.
- 6. Check CAN communication line of the navigation system. Refer to <u>AV-203, "CAN Communication Line Check"</u>.

CAN SYSTEM (TYPE 32)

[CAN]

- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-1094</u>, "CHECK SHEET".
- 8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to LAN-1094, "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-203, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-1096, "CHECK SHEET RESULTS</u> (EXAMPLE)".

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CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

SELECT SYSTI		Initial	Transmit			0,111	DIAG SU						
ENGINE								neceive	diagnosis	5			
		diagnosis	diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
RANSMISSION	_	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWI
	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	
IR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	-	_	_	CAN CIRC
ЗСМ	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
LL MODE AWD/4WD		NG	UNKWN	UNKWN	_	_	-	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	_	UNKWN	UNKWN	_	_
		s	Attach c	opy of YSTEM				Attach cop LECT SY					
			C	AN DIAG	display	ch copy o control u RT MONIT	nit	k sheet					

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of	Attach copy of	Attach copy of	Attach copy of
METER A/C AMP	AUTO DRIVE POS.	ALL MODE AWD/4WD	ABS
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR

Revision; 2004 April LAN-1095 2003 Murano

CHECK SHEET RESULTS (EXAMPLE)

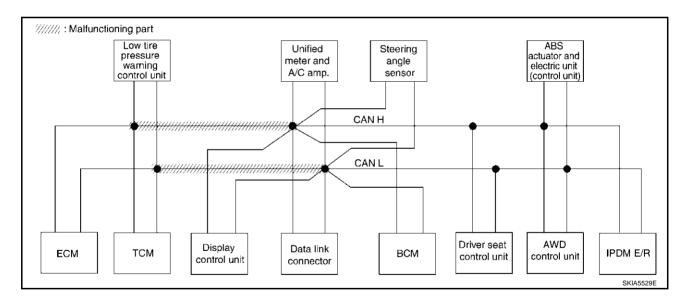
NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-1112</u>, "Circuit Check Between TCM and Data Link Connector" .

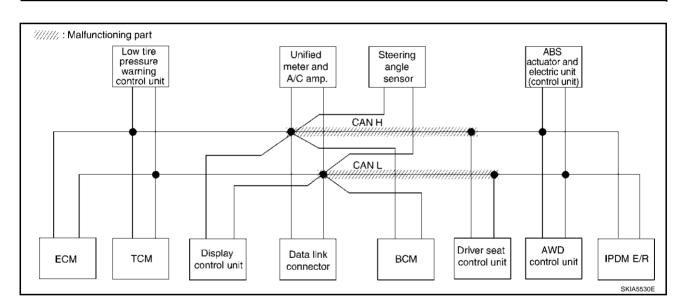
						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
JEEEOT GTGT		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	ı	NG	UNKWN	_	UNKWN	_	_	UNK W N	UNKWN	_	UNK∰NN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANCAC 3	_	CANORC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	1	NG	UNKWN	UNRWN	_	_	-	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNIVAN	UNR WN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN K WN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UN W WN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UM W MN	_	_	_	_	UNKWN	UNKWN	_	_
			PKIB1089E										



Case 2

Check harness between data link connector and driver seat control unit. Refer to <u>LAN-1112</u>, "Circuit Check <u>Between Data Link Connector and Driver Seat Control Unit"</u>.

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	}			
0222010101	LIVI SOLOGII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UN K WN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	-	UNKWN	_	-	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANORC:
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	n nk {\\	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNIMWN	_	_	_	-	UNKWN	UNKWN	_	_



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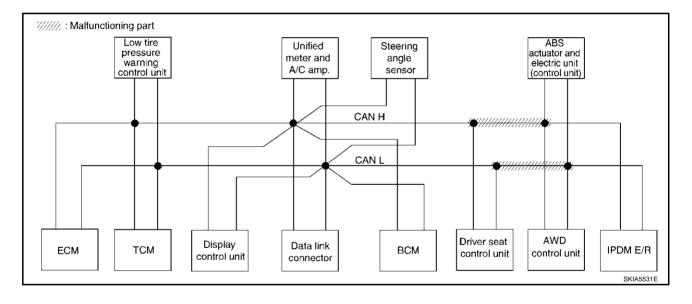
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Case 3

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-1113</u>, "Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101	LINI SOLOGII	diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNK∰WN	UNKWN	UNRWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	NN NN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	1	_	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANORC
всм	1	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	_	UNK WI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	ı	ΩN K WN	UNK WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	ı	_	ı	_
ALL MODE AWD/4WD	-	NG	UNKWN	UN W WN	_	_	_	_	UN K WN	ı	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNION	_	_	_	_	UNK WN	UNKWN	_	_



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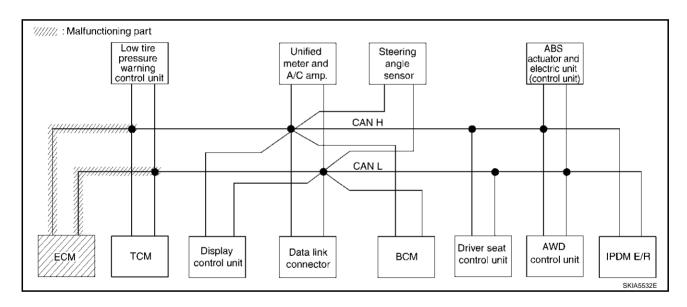
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Case 4
Check ECM circuit. Refer to <u>LAN-1114</u>, "ECM Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	;			
	50.00		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNK WN	_	UNK WN	_	_	UNK WN	UNKWN	-	UN K WN	UNKWN	UM W WN
TRANSMISSION	No indication	NG	UNKWN	Π ΝΚ ΜΝ	_	_	_	_	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ORC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
BCM	_	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UN K WN	UNKWN	UNKWN	UNKWN	UNKWN	1	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UN W WN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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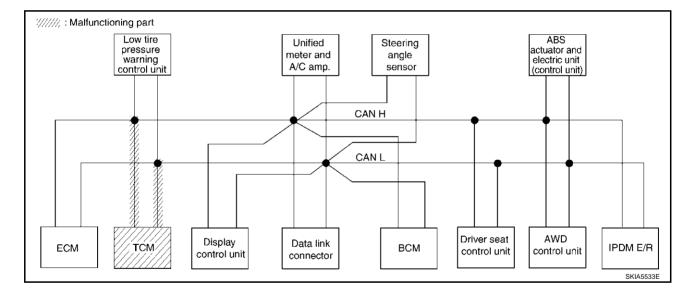
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Case 5
Check TCM circuit. Refer to <u>LAN-1114</u>, "TCM Circuit Check".

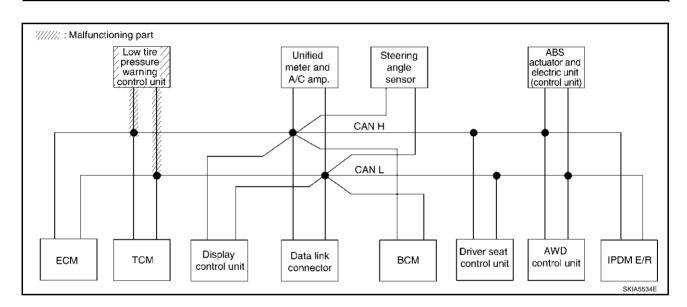
						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	S			
0222010101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	nuk ∕ Mu	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	1	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNI W WN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN K ₩N	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UN K WN	_	_	_	_	UNKWN	UNKWN	_	_
													PKIB1093E



Case 6

Check low tire pressure warning control unit circuit. Refer to <u>LAN-1115</u>, "Low Tire Pressure Warning Control Unit Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	\$			
022201 0101		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	1	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	1	UNKWN	_	_	-	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CANCAC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	-	CAN CIRC
всм	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	-	ı	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	ı	ı	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



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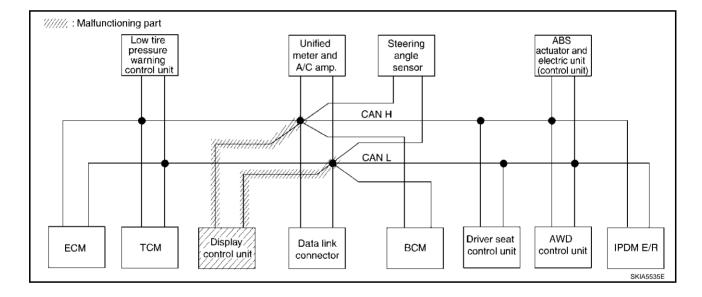
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Case 7
Check display control unit circuit. Refer to <u>LAN-1115</u>, "<u>Display Control Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	S			
		diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	1	CAN COMM	CAN ORC 1	CAN CRC 3	_	CAN CAC 6	_	CAN CARC 2	CAN CARC 5	_	_	_	CAN CIÁC 7
всм	ı	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	∩N K WN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
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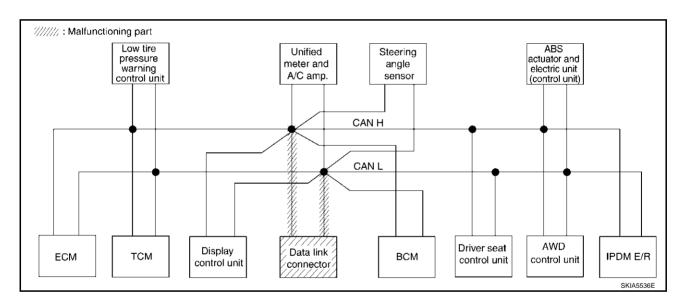
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Case 8
Check data link connector circuit. Refer to <u>LAN-1116</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
OLLEGI GIGI	LIVI SCIEGII		diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	-	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	-

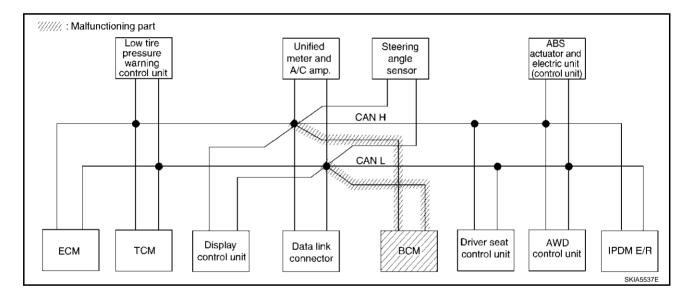


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Case 9
Check BCM circuit. Refer to <u>LAN-1116</u>, "BCM Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
			diagnosis	ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	_	_	UNK WN	UNKWN	1	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	ı	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	ı	_	_	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CANORC 2	CAN CIRC 5	-	_	_	CAN CIRC 7
всм	ı	NG	UNK WN	UNK WN	ı	_	_	_	NMA MN	ı	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNIWN	-	ı	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	_	_	NNKWN	UNKWN	ı	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
			PKIB1097E										PKIB1097E



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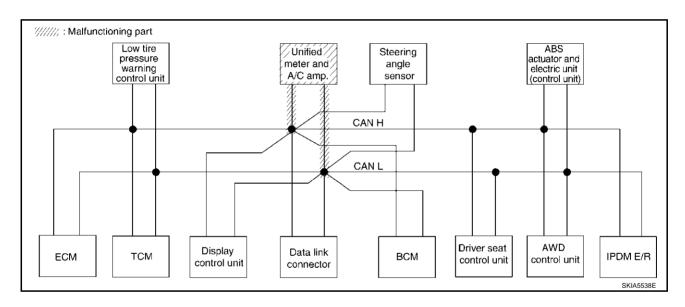
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Case 10

Check unified meter and A/C amp. circuit. Refer to LAN-1117, "Unified Meter and A/C Amp. Circuit Check" .

						CAN	DIAG SU						
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
			liagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNKWN	_	_	UNKWN	UN K WN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	ı	_	_	_	UN W WN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CANOTEC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	NNAM M	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	ı	_			UN K WN		_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
													PKIB1098E



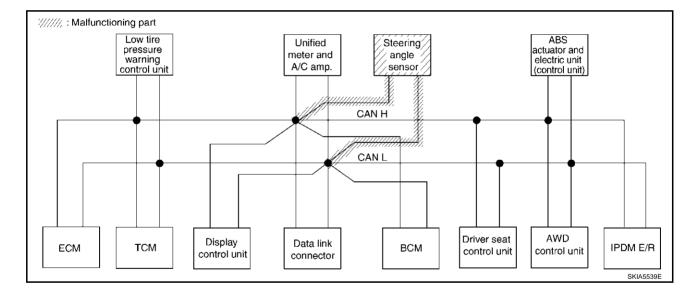
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Case 11
Check steering angle sensor circuit. Refer to <u>LAN-1117</u>, "Steering Angle Sensor Circuit Check".

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						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
			diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	UNKWN	_	_	_	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	ı	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UN K ₩N	UNKWN	_	_
		<u> </u>								. •	1		PKIB1099E



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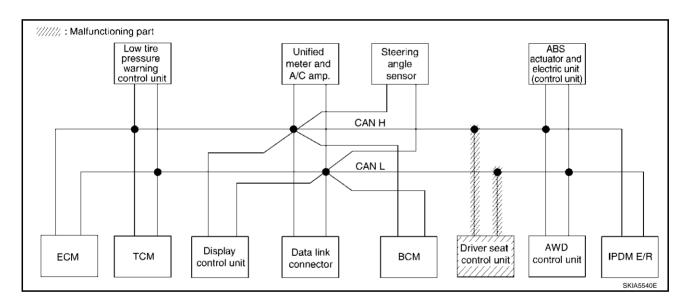
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Case 12
Check driver seat control unit circuit. Refer to <u>LAN-1118</u>, "<u>Driver Seat Control Unit Circuit Check</u>".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	;			
32223.3.3.	50.00		diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE		NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_	_



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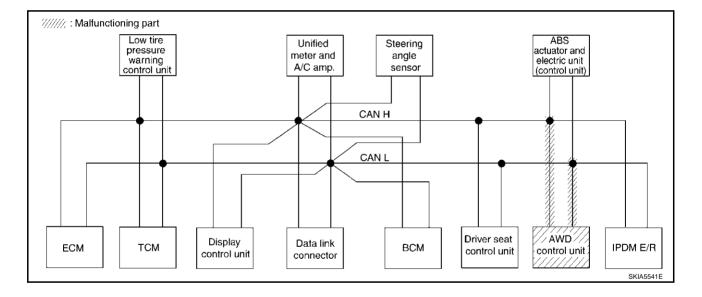
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Case 13
Check AWD control unit circuit. Refer to <u>LAN-1118</u>, "AWD Control Unit Circuit Check" .

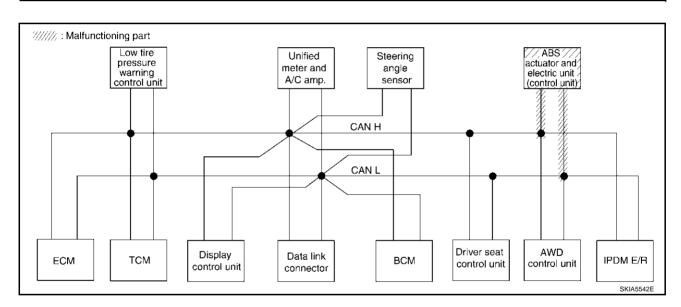
						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	;			
0222010101	50.00		diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNK WN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	g	UNKWN	_	_	-	_	_	UNKWN	_	_		ı
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC
всм	1	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	n nk {\w}ν	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	UNKWN	_	_		-
ALL MODE AWD/4WD	-	NG	UN WN	UN K WN	_	_	_	_	UNWWN	_	_	UN K WN	1
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_



Case 14

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-1119</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
0222010101			diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	ΩN A (MN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNI S WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UMMAN	UNK WN	UNAWN	_	_	_	_	UM W N	UNI W WN	_	_
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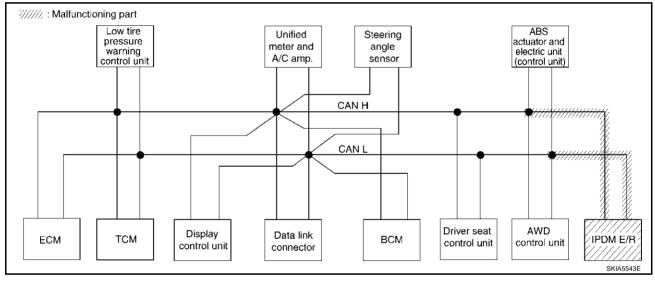
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Case 15
Check IPDM E/R circuit. Refer to <u>LAN-1119</u>, "IPDM E/R Circuit Check".

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
			diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UN K ₩N
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	1	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CANORC 7
всм	_	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	_	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_	_
													PKIB1103E



Case 16
Check CAN communication circuit. Refer to <u>LAN-1120</u>, "CAN Communication Circuit Check" .

						CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosis	3			
022201 0101	EIVI SOLOOII		diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNI W N	_	UNKWN	_	_	UNK WN	UNKWN	-	UNI W N	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	1	_	_	_
Display control unit	_	CAN COMM	CANOTRO 1	CANORC 3	_	CAN CIÁC 6	_	CANCIRC 2	CANORC 5	_	_	_	CANORC 7
всм	_	NG	UNKWN	UNI S WN	_	_	_	_	∩N K WN	-	_	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	1	_	_	1
ALL MODE AWD/4WD	_	NG	UM A WN	υν κ ⁄νν	_	_	_	_	UN W WN	_	_	UNKWN	_
ABS	_	NG	UNK W N	UNK WN	UNI WN	_	_	_	_	NKWN	UNK/WN	_	_

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Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-1124, "IPDM E/R Ignition Relay Circuit Check"</u>.

				,		CAN	DIAG SU						
SELECT SYST	EM screen	Initial	Transmit					Receive	diagnosis	3			
			diagnosis diagnosis		тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNR WN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN A MN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNI S WN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UN W WN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNK WN	_
ABS		NG	UNKWN	UNKWN	UNKWN	_			_	UNKWN	UNKWN	_	_
													PKIB1105E

Case 18

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-1124, "IPDM E/R Ignition Relay Circuit Check" .

						CAN	DIAG SU	PPORT N	/NTR				
SELECT SYST	FM screen	Initial	Transmit					Receive	diagnosi	s			
		diagnosis diagnosis		ECM	тсм	TIRE-P	DISPLAY	BCM /SEC	METER /M&A	STRG	AWD /4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK WN	_	_	_	_	NMANN	_	_	UNKWN	_
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	CAN CIRC 6	_	CAN CIRC 2	CAN CIRC 5	_	_	_	CAN CIRC 7
всм	ı	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	UNKWN	_	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_
ABS		NG	UNKWN	UNK ∕ WN	UNKWN	_	_	_	_	UNK WN	UNK/WN	_	_
·													PKIB1106E

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Circuit Check Between TCM and Data Link Connector

1. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 8 (L), 9 (Y) and data link connector M24 terminals 6 (L), 14 (Y).

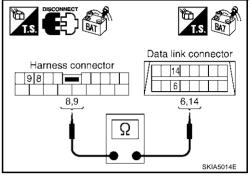
8 (L) - 6 (L) 9 (Y) - 14 (Y) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1092, "Work Flow".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Driver Seat Control Unit

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M9
- Harness connector B2

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M9.
- Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and harness connector M9 terminals 1 (L), 10 (Y).

6 (L) - 1 (L)

: Continuity should exist.

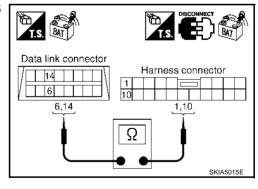
14 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



$\overline{3}$. CHECK HARNESS FOR OPEN CIRCUIT

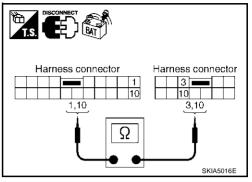
- 1. Disconnect harness connector B4.
- 2. Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L) 10 (Y) - 10 (Y) : Continuity should exist.: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-1092</u>, "Work Flow".

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B4
- Harness connector E105

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector B2 and harness connector B4.
- Check continuity between harness connector B2 terminals 1 (L), 10 (Y) and harness connector B4 terminals 3 (L), 10 (Y).

1 (L) - 3 (L)

: Continuity should exist.

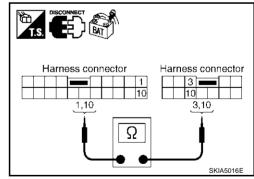
10 (Y) - 10 (Y)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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$\overline{3}$. Check harness for open circuit

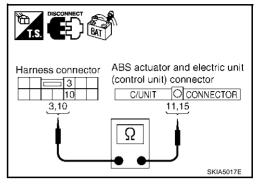
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E105 terminals 3 (L), 10 (Y) and ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L), 15 (Y).

3 (L) - 11 (L) : Continuity should exist. 10 (Y) - 15 (Y) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-1092, "Work Flow" .

NG >> Repair harness.



AKS0078P

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

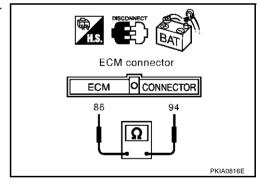
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M80 terminals 94 (L) and 86 (Y).

94 (L) - 86 (Y) : Approx. $108 - 132\Omega$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and TCM.



AKS0078Q

TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- TCM connector
- Harness connector F102
- Harness connector M82

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

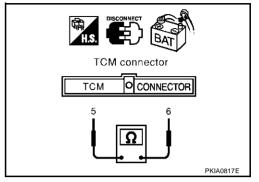
- 1. Disconnect TCM connector.
- 2 Check resistance between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and low tire pressure warning control unit.



Low Tire Pressure Warning Control Unit Circuit Check

CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of low tire pressure warning control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect low tire pressure warning control unit connector.
- Check resistance between low tire pressure warning control unit harness connector M81 terminals 9 (L) and 21 (Y).

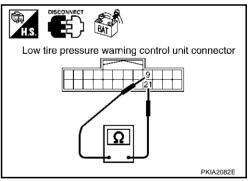
9 (L) - 21 (Y) : Approx. 54 - 66 Ω

OK or NG

NG

OK >> Replace low tire pressure warning control unit.

>> Repair harness between low tire pressure warning control unit and TCM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M43 terminals 25 (L) and 26 (Y).

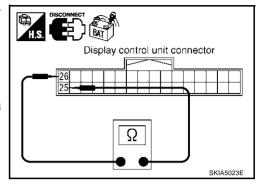
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.

NG

>> Repair harness between display control unit and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- Disconnect the negative battery terminal.
- Check data link connector and terminals for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M24 terminals 6 (L) and 14 (Y).

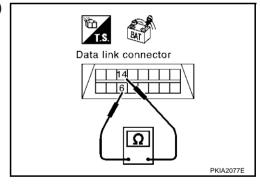
6 (L) - 14 (Y) : Approx. 54 -
$$66\Omega$$

OK or NG

NG

>> Diagnose again. Refer to LAN-1092, "Work Flow" . OK

>> Repair harness between data link connector and BCM.



BCM Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF. 1.

- 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.

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$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

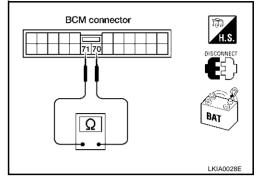
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M37 terminals 70 (L) and 71 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM. Refer to BCS-36, "Removal and Installation of BCM" .

NG >> Repair harness between BCM and data link connector.



AKS0078V

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of unified meter and A/C amp. for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

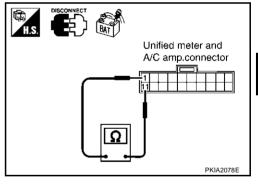
- 1. Disconnect unified meter and A/C amp. connector.
- 2. Check resistance between unified meter and A/C amp. harness connector M49 terminals 1 (L) and 11 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace unified meter and A/C amp.

>> Repair harness between unified meter and A/C amp. and data link connector.



AKS0078W

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check terminals and connector of steering angle sensor for damage, bend and loose connection (sensor side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M33 terminals 4 (L) and 5 (Y).

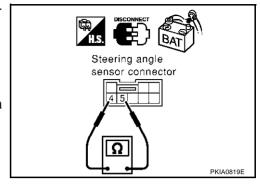
4 (L) - 5 (Y) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.

NG

>> Repair harness between steering angle sensor and data link connector.



AKS0078X

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control unit side and harness side).
- Driver seat control unit connector
- Harness connector B301
- Harness connector B9

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect driver seat control unit connector. 1.
- 2. Check resistance between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

3 (L/Y) - 19 (BR/W)

: Approx. 54 - 66 Ω

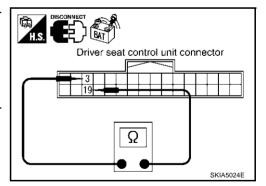
OK or NG

OK

>> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B4.



AKS0078Y

AWD Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check terminals and connector of AWD control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

$\overline{2}$. CHECK HARNESS FOR OPEN CIRCUIT

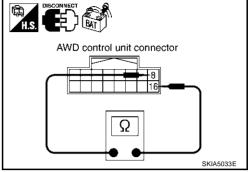
- 1. Disconnect AWD control unit connector.
- Check resistance between AWD control unit harness connector E111 terminals 8 (L) and 16 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace AWD control unit.

NG >> Repair harness between AWD control unit and IPDM E/ R.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS0078Z

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 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

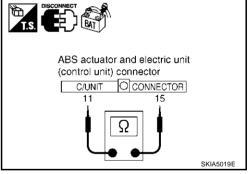
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E24 terminals 11 (L) and 15 (Y).

: Approx. 54 - 66 Ω

OK or NG

OK NG >> Replace ABS actuator and electric unit (control unit).

>> Repair harness between ABS actuator and electric unit (control unit) and IPDM E/R.



IPDM E/R Circuit Check

AKS00790

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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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 E9 terminals 48 (L) and 49 (Y).

48 (L) - 49 (Y)

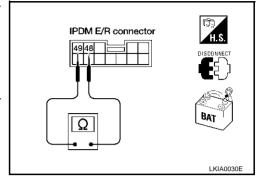
: **Approx.** 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and ABS actuator and electric unit (control unit).



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, sensor side and harness side).
- ECM
- TCM
- Low tire pressure warning control unit
- Display control unit
- BCM
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- AWD control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and TCM
- Between ECM and driver seat control unit

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

$\overline{2}$. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Low tire pressure warning control unit connector
- Harness connector M82
- Display control unit connector
- BCM connector
- Unified meter and A/C amp. connector
- Steering angle sensor connector
- Harness connector M9
- Check continuity between data link connector M24 terminals 6 (L) and 14 (Y).

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M24 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground : Continuity should not exist. 14 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and ECM.
 - Harness between data link connector and low tire pressure warning control unit.
 - Harness between data link connector and harness connector M82.
 - Harness between data link connector and display control unit.
 - Harness between data link connector and BCM.
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and steering angle sensor.
 - Harness between data link connector and harness connector M9.

Data link connector

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4. CHECK HARNESS FOR SHORT CIRCUIT

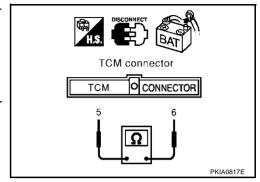
- Disconnect TCM connector. 1.
- 2. Check continuity between TCM harness connector F103 terminals 5 (L) and 6 (Y).

5 (L) - 6 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between TCM and harness connector F102.



5. CHECK HARNESS FOR SHORT CIRCUIT

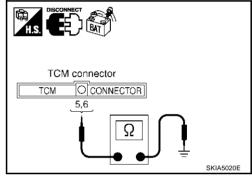
Check continuity between TCM harness connector F103 terminals 5 (L), 6 (Y) and ground.

> **5 (L) - Ground** : Continuity should not exist. 6 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between TCM and harness connector F102.



6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B4 and harness connector B9.
- Check continuity between harness connector B4 terminals 3 (L) and 10 (Y).

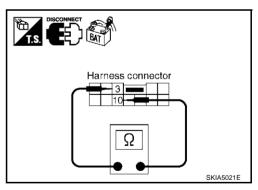
3 (L) - 10 (Y) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.



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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B4 terminals 3 (L), 10 (Y) and ground.

3 (L) - Ground : Continuity should not exist. 10 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Repair harness between harness connector B4 and harness connector B2.
 - Repair harness between harness connector B4 and harness connector B9.

8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect driver seat control unit connector.
- 2. Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y) and 19 (BR/W).

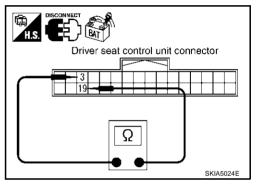
3 (L/Y) - 19 (BR/W) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG

>> Repair harness between driver seat control unit and harness connector B301.



Harness connector

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9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B303 terminals 3 (L/Y), 19 (BR/W) and ground.

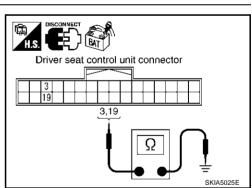
3 (L/Y) - Ground : Continuity should not exist. 19 (BR/W) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair ha

>> Repair harness between driver seat control unit and harness connector B301.



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10. CHECK HARNESS FOR SHORT CIRCUIT

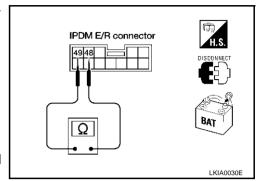
- Disconnect AWD control unit connector, ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (Y).

: Continuity should not exist.

OK or NG

OK NG >> GO TO 11.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (Y) and ground.

48 (L) - Ground : Continuity should not exist. 49 (Y) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 12.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and AWD control unit.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit).
 - Harness between IPDM E/R and harness connector E105.

IPDM E/R connector 4948 48, 49 BAT LKIA0036E

12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to $\underline{\mathsf{LAN-1125}}$, " $\underline{\mathsf{ECM/IPDM}}$ $\underline{\mathsf{E/R}}$ INTERNAL CIRCUIT INSPECTION" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-1092</u>, "Work Flow".

NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

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Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-45, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-10, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"</u>.

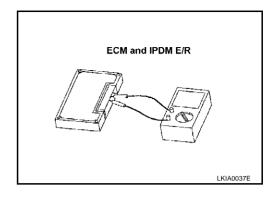
CAN SYSTEM (TYPE 32)

[CAN]

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



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