

D

LAN

M

# **CONTENTS**

CAN	IPDM E/R Circuit Check	46
	CAN Communication Circuit Check	47
PRECAUTIONS4	IPDM E/R Ignition Relay Circuit Check	51
Precautions for Supplemental Restraint System	Component Inspection	
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-	ECM/IPDM E/R INTERNAL CIRCUIT INSPEC-	
SIONER" 4	TION	51
Precautions When Using CONSULT-II 4	CAN SYSTEM (TYPE 2)	52
CHECK POINTS FOR USING CONSULT-II 4	System Description	52
Precautions For Trouble Diagnosis 4	Component Parts and Harness Connector Location	52
CAN SYSTEM 4	Wiring Diagram - CAN	53
Precautions For Harness Repair 5	Work Flow	
CAN SYSTEM 5	CHECK SHEET	57
CAN COMMUNICATION6	CHECK SHEET RESULTS (EXAMPLE)	
System Description 6	Circuit Check Between TCM and Data Link Con-	
CAN Communication Unit 6	nector	74
TYPE 1/TYPE2 6	Circuit Check Between Data Link Connector and	
TYPE 3 9	Unified Meter and A/C Amp	74
TYPE 4/TYPE513	Circuit Check Between Unified Meter and A/C Amp.	
TYPE 6 16	and ABS Actuator and Electric Unit (Control Unit)	
CAN SYSTEM (TYPE 1)21	Circuit Check Between ABS Actuator and Electric	
System Description21	Unit (Control Unit) and Driver Seat Control Unit	76
Component Parts and Harness Connector Location. 21	ECM Circuit Check	
Wiring Diagram - CAN22	TCM Circuit Check	
Work Flow24	Display Unit Circuit Check	77
CHECK SHEET 26	Data Link Connector Circuit Check	
CHECK SHEET RESULTS (EXAMPLE) 28	BCM Circuit Check	
Circuit Check Between TCM and Data Link Con-	Steering Angle Sensor Circuit Check	
nector 41	Unified Meter and A/C Amp. Circuit Check	
Circuit Check Between Data Link Connector and	ABS Actuator and Electric Unit (Control Unit) Circuit	
Unified Meter and A/C Amp41	Check	
Circuit Check Between Unified Meter and A/C Amp.	Driver Seat Control Unit Circuit Check	
and ABS Actuator and Electric Unit (Control Unit) 42	IPDM E/R Circuit Check	
ECM Circuit Check42	CAN Communication Circuit Check	
TCM Circuit Check43	IPDM E/R Ignition Relay Circuit Check	
Display Unit Circuit Check43	Component Inspection	
Data Link Connector Circuit Check 44	ECM/IPDM E/R INTERNAL CIRCUIT INSPEC-	
BCM Circuit Check44	TION	
Steering Angle Sensor Circuit Check	CAN SYSTEM (TYPE 3)	
Unified Meter and A/C Amp. Circuit Check 45	System Description	
ABS Actuator and Electric Unit (Control Unit) Circuit	Component Parts and Harness Connector Location	

Schematic	. 88	CAN Communication Circuit Check	163
Wiring Diagram - CAN	. 89	IPDM E/R Ignition Relay Circuit Check	166
Work Flow	. 92	Component Inspection	166
CHECK SHEET	. 94	ECM/IPDM E/R INTERNAL CIRCUIT INSPEC-	
CHECK SHEET RESULTS (EXAMPLE)	. 97	TION	166
Circuit Check Between TCM and Data Link Con-		CAN SYSTEM (TYPE 5)	167
nector	116	System Description	167
Circuit Check Between Data Link Connector and		Component Parts and Harness Connector Location	167
Unified Meter and A/C Amp	117	Schematic	168
Circuit Check Between Unified Meter and A/C Amp.		Wiring Diagram - CAN	
and ABS Actuator and Electric Unit (Control Unit).	117	Work Flow	
Circuit Check Between ABS Actuator and Electric		CHECK SHEET	
Unit (Control Unit) and Driver Seat Control Unit		CHECK SHEET RESULTS (EXAMPLE)	176
ECM Circuit Check		Circuit Check Between TCM and Data Link Con-	
TCM Circuit Check		nector	192
Display Control Unit Circuit Check	120	Circuit Check Between Data Link Connector and	
Low Tire Pressure Warning Control Unit Circuit		Unified Meter and A/C Amp	
Check		Circuit Check Between Unified Meter and A/C Amp.	
ICC Unit Circuit Check		and ABS Actuator and Electric Unit (Control Unit).	
Intelligent Key Unit Circuit Check		Circuit Check Between ABS Actuator and Electric	
Data Link Connector Circuit Check		Unit (Control Unit) and Driver Seat Control Unit	
BCM Circuit Check		ECM Circuit Check	
Steering Angle Sensor Circuit Check		TCM Circuit Check	
Unified Meter and A/C Amp. Circuit Check		Display Unit Circuit Check	
ICC Sensor Circuit Check	124	AWD Control Unit Circuit Check	
ABS Actuator and Electric Unit (Control Unit) Circuit	404	Data Link Connector Circuit Check	
Check		BCM Circuit Check	
Driver Seat Control Unit Circuit Check		Steering Angle Sensor Circuit Check	
IPDM E/R Circuit Check		Unified Meter and A/C Amp. Circuit Check	
CAN Communication Circuit Check		ABS Actuator and Electric Unit (Control Unit) Circuit	
IPDM E/R Ignition Relay Circuit Check		Check  Driver Seat Control Unit Circuit Check	
Component Inspection  ECM/IPDM E/R INTERNAL CIRCUIT INSPEC-	132	IPDM E/R Circuit Check	
TION	122	CAN Communication Circuit Check	
CAN SYSTEM (TYPE 4)		IPDM E/R Ignition Relay Circuit Check	
System Description		Component Inspection	
Component Parts and Harness Connector Location		ECM/IPDM E/R INTERNAL CIRCUIT INSPEC-	
Schematic		TION	
Wiring Diagram - CAN -		CAN SYSTEM (TYPE 6)	
Work Flow		System Description	
CHECK SHEET		Component Parts and Harness Connector Location	
CHECK SHEET RESULTS (EXAMPLE)		Schematic	
Circuit Check Between TCM and Data Link Con-		Wiring Diagram - CAN	
nector	156	Work Flow	
Circuit Check Between Data Link Connector and		CHECK SHEET	
Unified Meter and A/C Amp	156	CHECK SHEET RESULTS (EXAMPLE)	
Circuit Check Between Unified Meter and A/C Amp.		Circuit Check Between TCM and Data Link Con-	
and ABS Actuator and Electric Unit (Control Unit).	157	nector	237
ECM Circuit Check		Circuit Check Between Data Link Connector and	
TCM Circuit Check	158	Unified Meter and A/C Amp	238
Display Unit Circuit Check	158	Circuit Check Between Unified Meter and A/C Amp.	
AWD Control Unit Circuit Check		and ABS Actuator and Electric Unit (Control Unit).	238
Data Link Connector Circuit Check	159	Circuit Check Between ABS Actuator and Electric	
BCM Circuit Check	160	Unit (Control Unit) and Driver Seat Control Unit	239
Steering Angle Sensor Circuit Check	160	ECM Circuit Check	240
Unified Meter and A/C Amp. Circuit Check	161	TCM Circuit Check	
ABS Actuator and Electric Unit (Control Unit) Circuit		Display Control Unit Circuit Check	241
Check		Low Tire Pressure Warning Control Unit Circuit	
IPDM E/R Circuit Check	162	Check	241

AWD Control Unit Circuit Check	242	Check	246
ICC Unit Circuit Check	242	Driver Seat Control Unit Circuit Check	246
Intelligent Key Unit Circuit Check	243	IPDM E/R Circuit Check	247
Data Link Connector Circuit Check	243	CAN Communication Circuit Check	248
BCM Circuit Check	244	IPDM E/R Ignition Relay Circuit Check	253
Steering Angle Sensor Circuit Check	244	Component Inspection	253
Unified Meter and A/C Amp. Circuit Check	245	ECM/IPDM E/R INTERNAL CIRCUIT INSPEC	)-
ICC Sensor Circuit Check	245	TION	253
ABS Actuator and Electric Unit (Control Unit) C	ircuit		

LAN

Α

В

С

D

Е

F

G

Н

PRECAUTIONS PFP:00001

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

KS007WV

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**

AKS0058H

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-6, "CAN Communication Unit"</u>.

# Precautions For Trouble Diagnosis CAN SYSTEM

AKS00581

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

### **PRECAUTIONS**

## [CAN]

Precautions For Harness Repair CAN SYSTEM

AKS0058J

Α

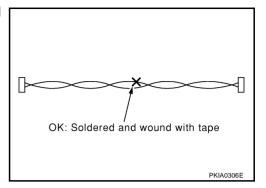
В

D

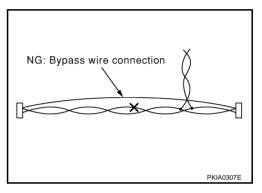
Е

Н

 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.)



LAN

L

## **System Description**

PFP:23710

AKS007GA

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**

AKS007Z4

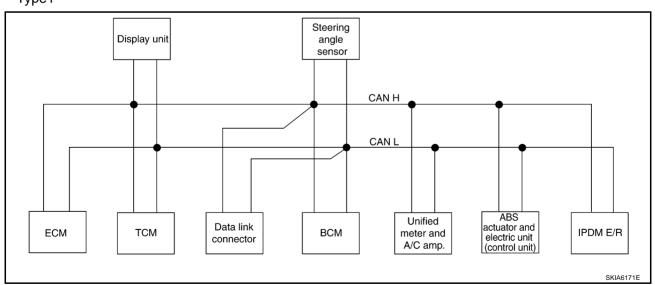
Go to CAN system, when selecting your CAN system type from the following table.

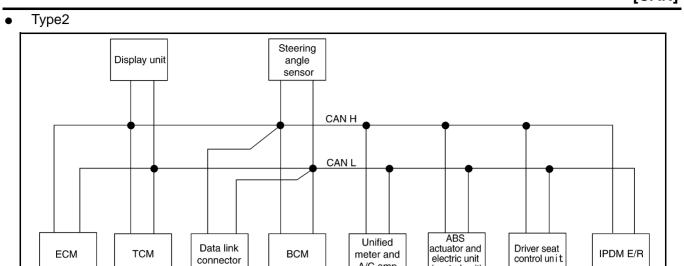
Body type			Wa	igon								
Axle		2WD			AWD							
Engine		VQ35DE		V	Q35DE/VK45[	DE						
Transmission			Д	/T								
Brake control	VDC											
Navigation system			×			×						
Low tire pressure warning system			×			×						
ICC system			×			×						
Intelligent Key system			×			×						
Automatic drive positioner		×	×		×	×						
CAN system type	1	2	3	4	5	6						
CAN system trouble diagnosis	LAN-21	LAN-52	LAN-87	LAN-133	LAN-167	LAN-206						

x: Applicable

# TYPE 1/TYPE2 System diagram

Type1





meter and

A/C amp.

electric unit (control unit)

всм

## Input/output signal chart

TCM

connector

ECM

SKIA6172E

IPDM E/R

							T: T	ransmit R	R: Receive
Signals	ECM	TCM	Dis- play unit	ВСМ	Steer- ing angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	Т	R	R			R	R		
Engine status signal	Т			R					
Engine coolant temperature signal	Т					R			
A/T self-diagnosis signal	R	Т							
Accelerator pedal position signal	Т	R					R		
Closed throttle position signal	Т	R							
Wide open throttle position signal	Т	R							
Battery voltage signal	Т	R							
Key switch signal				Т				R	
Ignition switch signal				Т				R	R
P range signal		Т					R	R	
Stop lamp switch signal		R				Т			
Fuel consumption monitor signal	Т		R			R T			
Turbine revolution signal	R	Т							
Output shaft revolution signal	R	Т							
A/C switch signal	R			Т					
A/C compressor request signal	Т								R
A/C compressor feedback signal	Т					R			
Blower fan motor switch signal	R			Т					
A/C switch/indicator signal			T R			R T			
Cooling fan speed request signal	Т		11			•			R

LAN-7 Revision: 2004 November 2004.5 FX35/FX45

Α

В

D Е

G

Н

LAN

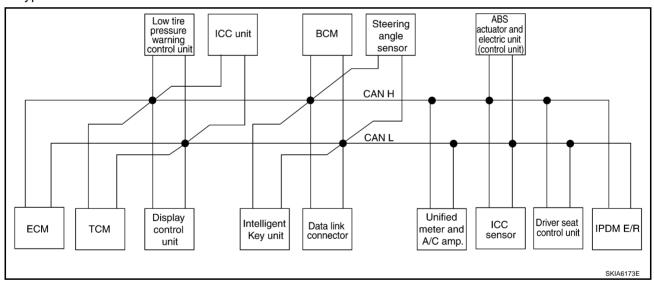
									[CAN]
Signals	ECM	ТСМ	Dis- play unit	ВСМ	Steer- ing angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Position light request signal			R	Т		R			R
Low beam request signal				Т					R
Low beam status signal	R								Т
High beam request signal				Т		R			R
High beam status signal	R								Т
Front fog light request signal				Т					R
Day time running light request signal				Т		R			
Turn LED burnout status signal				R		Т			
						R	Т		
Vehicle speed signal	R	R	R	R		Т		R	
Sleep wake up signal				Т		R			R
Door switch signal			R	Т		R		R	R
Turn indicator signal				Т		R			
Key fob ID signal				Т				R	
Key fob door unlock signal				Т				R	
, ,				R					Т
Oil pressure switch signal				Т		R			
Buzzer output signal				Т		R			
Fuel level sensor signal	R					Т			
Fuel level low warning signal			R			Т			
ASCD SET lamp signal	Т					R			
ASCD CRUISE lamp signal	Т					R			
Malfunction indicator lamp signal	т ·					R			
ASCD operation signal	т ·	R							
ASCD OD cancel request signal	т	R							
Front wiper request signal	'	IX		Т					R
Front wiper request signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
	IX		IX						T
Hood switch signal				R T					
Theft warning horn request signal									R
Horn chirp signal				Т	-		<u> </u>		R
Steering angle sensor signal					Т	-	R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal	1					R	T		
Brake warning lamp signal			_	_		R	T		
System setting signal			T R	R T				R T	
A/T CHECK indicator lamp signal		Т				R			

# [CAN]

Signals	ECM	TCM	Dis- play unit	всм	Steer- ing angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T position indicator lamp signal		Т				R			
A/T shift schedule change demand signal		R					Т		
Manual mode signal		R				Т			
Not manual mode signal		R				Т			
Manual mode shift up signal		R				Т			
Manual mode shift down signal		R				Т			
Manual mode indicator signal		Т				R			
Distance to empty signal			R			Т			
Parking brake switch signal				R		Т			
Snow mode switch signal	R					Т			

# TYPE 3 System diagram

#### • Type3



## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ТСМ	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	ICC unit	Intelli- gent Key unit	ВСМ	Steer- ing angle sen- sor	Unified meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
Engine speed signal	Т	R	R		R				R		R		
Engine status signal	Т						R						
Engine coolant tempera- ture signal	Т				R				R				

Revision: 2004 November LAN-9 2004.5 FX35/FX45

Α

С

В

D

Е

F

G

Н

LAN

												L	CAN
Signals	ECM	тсм	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	ICC unit	Intelli- gent Key unit	всм	Steer- ing angle sen- sor	Unified meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
A/T self-diagnosis signal	R	Т											
Accelerator pedal position signal	Т	R			R						R		
Closed throttle position signal	Т	R			R								
Wide open throttle position signal	Т	R											
Battery voltage signal	Т	R											
Key switch signal							Т					R	
Ignition switch signal							Т					R	R
P range signal		Т			R						R	R	
Stop lamp switch signal		R							Т				
ABS operation signal					R						Т		
TCS operation signal					R						Т		
VDC operation signal					R						Т		
Fuel consumption monitor signal	Т		R						R T				
Turbine revolution signal	R	Т			R				•				
Output shaft revolution signal	R	Т			R								
A/C switch signal	R						Т						
A/C compressor request signal	Т						-						R
A/C compressor feed- back signal	Т								R				
Blower fan motor switch signal	R						Т						
A/C switch/indicator signal			T R						R T				
Cooling fan speed request signal	Т												R
Position light request signal							Т		R				R
Low beam request signal							Т						R
Low beam status signal	R												Т
High beam request sig- nal							Т		R				R
High beam status signal	R												Т
Front fog light request signal							Т						R
Day time running light request signal							Т		R				

[CAN]

ECM	тсм	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	ICC unit	Intelli- gent Key unit	всм	Steer- ing angle sen- sor	Uni- fied meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R	
						R		Т					
R	R	R	R	R	R	R		R T	R	Т	R		
					Т	T R		R				R	
		R			R	Т		R			R	R	
						Т		R					
						Т					R		
						Т					R		
						R T		R				Т	
				Т	Т	T		R R R					
R								Т					
		R						Т					
Т								R					
Т								R					L
Т								R					
R				T									
				R		Т						R	
						R						Т	
						Т						R	
R		R				R						Т	
						R						T	
						T						R	
		<u>-</u>		-		Т				<u>-</u>		R	
							Т			R			
			Т					R					
		R	Т	R				R		Т			
	R R T T T R	R R T T T R	ECM         TCM         play control unit with control unit w	ECM TCM Display control unit   R R R   R R R   A A A <td>ECM         TCM         Display control unit volunit volunit volunit         tire pressure varming control unit volunit           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         &lt;</td> <td>ECM         TCM         Display play control unit unit unit unit unit unit unit unit</td> <td>ECM       TCM       Disposor sour warm for rol unit ing warm</td> <td>ECM       TCM       Display control unit       tire pressure warning on trol unit       LCC unit       Intelligent key unit       BCM       Steering angle seen sor         M       Image of the pressure warning unit of the pressure warning of the pressure warning and the pressure warning and</td> <td>ECM         TCM         Dis-play control play control unit         tire pression warm, warm, and proton the unit of unit         Intelligent Mey unit         BCM         Steer ling mand warm, and passes.         Intelligent Mey and warm, and passes.         Intelligent Mey and passes.&lt;</td> <td>ECM         TCM         Display or sure years or tool unit of tool unit of tool unit of the play of the play</td> <td>                                     </td> <td>  Name</td> <td>                                     </td>	ECM         TCM         Display control unit volunit volunit volunit         tire pressure varming control unit volunit           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         R         R           R         R         <	ECM         TCM         Display play control unit unit unit unit unit unit unit unit	ECM       TCM       Disposor sour warm for rol unit ing warm	ECM       TCM       Display control unit       tire pressure warning on trol unit       LCC unit       Intelligent key unit       BCM       Steering angle seen sor         M       Image of the pressure warning unit of the pressure warning of the pressure warning and	ECM         TCM         Dis-play control play control unit         tire pression warm, warm, and proton the unit of unit         Intelligent Mey unit         BCM         Steer ling mand warm, and passes.         Intelligent Mey and warm, and passes.         Intelligent Mey and passes.<	ECM         TCM         Display or sure years or tool unit of tool unit of tool unit of the play		Name	

Revision: 2004 November **LAN-11** 2004.5 FX35/FX45

Α

С

В

D

Е

F

G

Н

L

												L	CAN
Signals	ECM	ТСМ	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	ICC unit	Intelli- gent Key unit	всм	Steer- ing angle sen- sor	Unified meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
VDC OFF indicator lamp signal					R				R		Т		
SLIP indicator lamp signal									R		Т		
Brake warning lamp signal									R		Т		
System setting signal			T R			R T						R T	
Distance to empty signal			R						Т				
Parking brake switch signal							R		Т				
Door lock/unlock request signal						Т	R						
Door lock/unlock status signal						R	Т						
Starter permission signal						Т	R						
Back door open request signal						Т	R						
Power window open request signal						Т	R						
Alarm request signal						Т	R						
Key warning signal						Т			R				
ICC sensor signal					R					Т			
ICC warning lamp signal					Т				R				
ICC system display signal					Т				R				
Current gear position signal		Т			R						R		
Steering switch signal	Т				R								
ASCD operation signal	Т	R											
ASCD OD cancel request signal	Т	R											
ICC OD cancel request signal	R	R			Т								
A/T CHECK indicator lamp signal		Т							R				
A/T position indicator lamp signal		Т							R				
A/T shift schedule change demand signal		R									Т		
Manual mode signal		R							Т				
Not manual mode signal		R							Т				

# [CAN]

Α

В

D

Е

F

G

Н

LAN

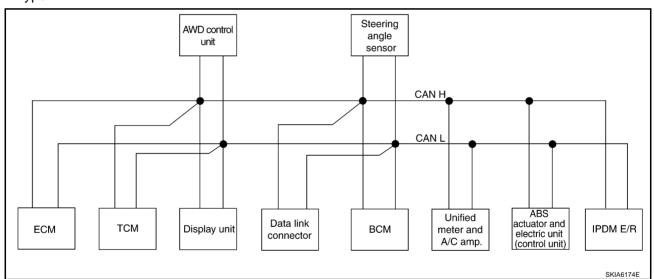
M

Signals	ECM	тсм	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	ICC unit	Intelli- gent Key unit	всм	Steer- ing angle sen- sor	Unified meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
Manual mode shift up signal		R							Т				
Manual mode shift down signal		R							Т				
Manual mode indicator signal		Т			R				R				
Ignition knob switch sig- nal						Т	R						
Snow mode switch signal	R								Т				

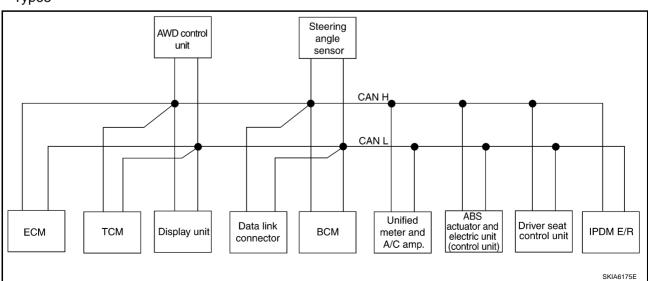
# TYPE 4/TYPE5

# System diagram

Type4



• Type5



# Input/output signal chart

								T: Tra	nsmit R	Receive
Signals	ECM	тсм	Dis- play unit	AWD con- trol unit	ВСМ	Steer- ing angle sensor	Uni- fied meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
A/T self-diagnosis signal	R	Т								
Stop lamp switch signal		R		R			T			
Battery voltage signal	Т	R								
Key switch signal					Т				R	
Ignition switch signal					Т				R	R
P range signal		Т						R	R	
Closed throttle position signal	Т	R								
Wide open throttle position signal	Т	R								
Engine speed signal	Т	R	R	R			R	R		
Engine status signal	Т				R					
Engine coolant temperature signal	Т						R			
Accelerator pedal position signal	Т	R		R				R		
Fuel consumption manitor signal	Т						R			
Fuel consumption monitor signal			R				Т			
Turbine revolution signal	R	Т								
Output shaft revolution signal	R	Т								
A/C switch signal	R				Т					
A/C compressor request signal	Т									R
A/C compressor feedback signal	Т						R			
Blower fan motor switch signal	R				Т					
			Т				R			
A/C switch/indicator signal			R				T			
Cooling fan speed request signal	Т									R
Position light request signal			R		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 light request signal					Т					R
Day time running light request signal					Т		R			
Turn LED burnout status signal					R		Т			
				R			R	Т		
Vehicle speed signal	R	R	R		R		Т		R	
Sleep wake up signal					Т		R			R
Door switch signal			R		Т		R		R	R
Turn indicator signal					Т		R			
Key fob ID signal					Т				R	

[CAN]

										[0/]
Signals	ECM	ТСМ	Dis- play unit	AWD con- trol unit	всм	Steer- ing angle sensor	Uni- fied meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
Key fob door unlock signal					Т				R	
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				Т			
ASCD SET lamp signal	Т						R			
ASCD CRUISE lamp signal	Т						R			
Malfunction indicator lamp signal	Т						R			
Front wiper request signal					Т					R
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
Steering angle sensor signal						Т		R		
ABS warning lamp signal							R	Т		
VDC OFF indicator lamp signal							R	Т		
SLIP indicator lamp signal							R	Т		
Brake warning lamp signal							R	Ţ		
System setting signal			T R		R T				R T	
AWD warning lamp signal				Т			R			
Distance to empty signal			R				Т			
Parking brake switch signal				R	R		Т			
ASCD operation signal	Т	R								
ASCD OD cancel request signal	T	R								
A/T CHECK indicator lamp signal		Т					R			
A/T position indicator lamp signal		Т					R			
A/T shift schedule change demand signal		R						Т		
Manual mode signal		R					Т			
Not manual mode signal		R					T			
Manual mode shift up signal		R					Т			
Manual mode shift down signal		R					T			
Manual mode indicator signal		Т					R			
Snow mode switch signal	R	-					Т			
Current gear position signal*	R	Т								

**LAN-15** Revision: 2004 November 2004.5 FX35/FX45 Α

В

С

D

F

Е

G

Н

LAN

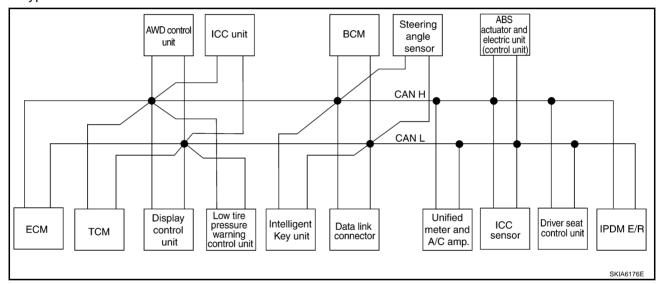
Signals	ECM	тсм	Dis- play unit	AWD con- trol unit	всм	Steer- ing angle sensor	Uni- fied meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
Next gear position signal*	R	Т								
Shift change signal*	R	Т								
Shift pattern signal*	R	Т								

<sup>\*:</sup> VK45DE engine model only

#### TYPE 6

## System diagram

### Type6



## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ТСМ	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	AWD con- trol unit	ICC unit	Intel- ligent Key unit	ВСМ	Steer- ing angle sen- sor	Uni- fied meter and A/C amp.	ICC sen- sor	ABS actu- ator and elec- tric unit (con- trol unit)	Driver seat con- trol unit	IPDM E/R
A/T self-diagnosis signal	R	Т												
ABS operation signal						R						Т		
TCS operation signal						R						Т		
VDC operation signal						R					R	Т		
Stop lamp switch signal		R			R					Т				
Battery voltage sig- nal	Т	R												
Key switch signal								Т					R	

[CAN]

													L'	CAN	
Signals	ECM	ТСМ	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	AWD con- trol unit	ICC unit	Intel- ligent Key unit	BCM	Steer- ing angle sen- sor	Unified meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R	A B
Ignition switch signal								Т					R	R	
P range signal		Т				R						R	R		D
Closed throttle position signal	Т	R				R									
Wide open throttle position signal	Т	R													Е
Engine speed signal	Т	R	R		R	R				R		R			
Engine status signal	Т							R							F
Engine coolant tem- perature signal	Т					R				R					
Accelerator pedal position signal	Т	R			R	R						R			G
Fuel consumption	Т									R					
monitor signal			R							T					Н
A/T self-diagnosis signal	R	Т													
Turbine revolution signal	R	Т				R									I
Output shaft revolution signal	R	Т				R									J
A/C switch signal	R							Т							
A/C compressor request signal	Т													R	LAI
A/C compressor feedback signal	Т									R					
Blower fan motor switch signal	R							Т							L
A/C switch/indicator			Т							R					M
signal			R							Т					IVI
Cooling fan speed request signal	Т													R	
Position light request signal			R					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 light request signal								Т						R	

**LAN-17** Revision: 2004 November 2004.5 FX35/FX45

													L'	CAN]
Signals	ECM	тсм	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	AWD con- trol unit	ICC unit	Intel- ligent Key unit	всм	Steer- ing angle sen- sor	Uni- fied meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
Day time running light request signal								Т		R				
Turn LED burnout status signal								R		Т				
Vehicle speed signal	R	R	R	R	R	R	R	R		R T	R	Т	R	
Sleep wake up signal							Т	T R		R				R
Door switch signal			R				R	Т		R			R	R
Key fob ID signal								Т					R	
Key fob door unlock signal								Т					R	
Oil pressure switch								R						T
signal								Т		R				
Buzzer output signal							Т	Т		R R				
						Т				R				
Fuel level sensor signal	R									Т				
Fuel level low warn- ing signal			R							Т				
ASCD SET lamp signal	Т									R				
ASCD CRUISE lamp signal	Т									R				
Malfunction indicator lamp signal	Т									R				
ICC operation signal	R					Т								
Front wiper request signal						R		Т						R
Front wiper stop position signal								R						Т
Rear window defog- ger switch signal								Т						R
Rear window defog- ger 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 sen- sor signal									Т			R		
Tire pressure signal				Т						R				

[CAN]

Signals	ECM	тсм	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	AWD con- trol unit	ICC unit	Intel- ligent Key unit	всм	Steer- ing angle sen- sor	Uni- fied meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
Tire pressure data signal			R	Т										
ABS warning lamp signal						R				R		Т		
VDC OFF indicator lamp signal						R				R		Т		
SLIP indicator lamp signal										R		Т		
Brake warning lamp signal										R		Т		
Custom cotting signal			Т				R						R	
System setting signal			R				Т						Т	
AWD warning lamp signal					Т					R				
Distance to empty signal			R							Т				
Parking brake switch signal					R			R		Т				
Door lock/unlock request signal							Т	R						
Door lock/unlock sta- tus signal							R	Т						
Starter permission signal							Т	R						
Back door open request signal							Т	R						
Power window open request signal							Т	R						
Alarm request signal							Т	R						
Key warning signal							Т			R				
ICC sensor signal						R					Т			
ICC warning lamp signal						Т				R				
ICC system display signal						Т				R				
Current gear position signal		Т				R						R		
Steering switch sig- nal	Т					R								
ASCD operation signal	Т	R												
ASCD OD cancel request signal	Т	R												
ICC OD cancel request signal	R	R				Т								

Revision: 2004 November **LAN-19** 2004.5 FX35/FX45

Α

В

С

D

Е

F

G

Н

LAN

L

 $\mathbb{N}$ 

Signals	ECM	тсм	Dis- play con- trol unit	Low tire pres- sure warn- ing con- trol unit	AWD con- trol unit	ICC unit	Intel- ligent Key unit	всм	Steer- ing angle sen- sor	Uni- fied meter and A/C amp.	ICC sen- sor	ABS actuator and electric unit (control unit)	Driver seat con- trol unit	IPDM E/R
A/T CHECK indicator lamp signal		Т								R				
A/T position indicator lamp signal		Т								R				
A/T shift schedule change demand signal		R										Т		
Manual mode signal		R								Т				
Not manual mode signal		R								Т				
Manual mode shift up signal		R								Т				
Manual mode shift down signal		R								Т				
Manual mode indicator signal		Т								R				
Ignition knob switch signal							Т	R						
Snow mode switch signal	R									Т				
Current gear position signal*	R	Т												
Next gear position signal*	R	Т												
Shift change signal*	R	Т												
Shift pattern signal*	R	Т			-									

<sup>\*:</sup> VK45DE engine model only

#### [CAN]

## **CAN SYSTEM (TYPE 1)**

PFP:23710

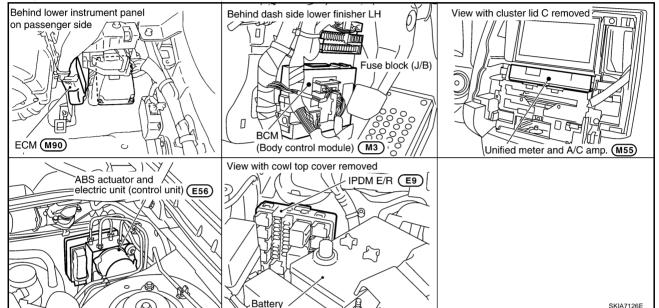
# **System Description**

KS007Q0

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**

AKS007Q1



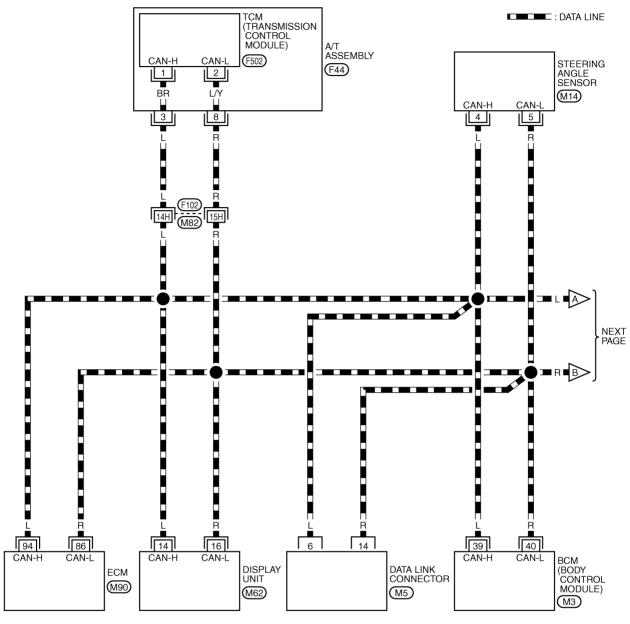
LAN

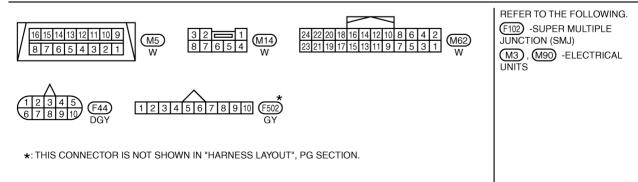
L

# Wiring Diagram - CAN -

AKS007Q3







TKWM1292E

Α

В

D

Е

G

Н

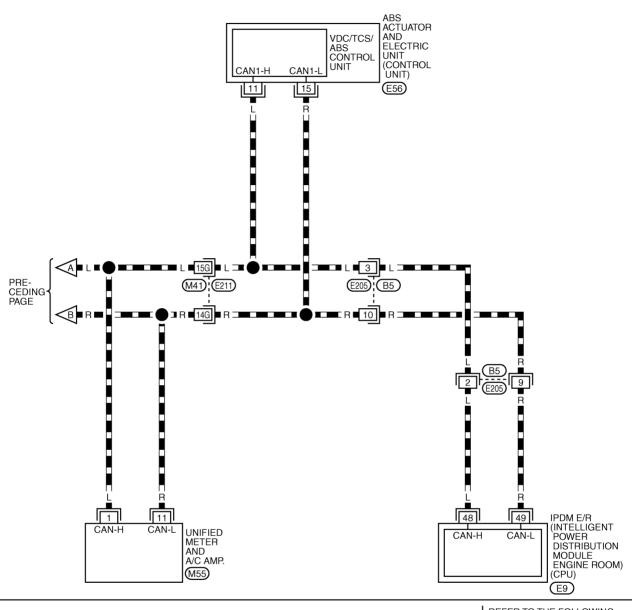
J

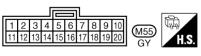
LAN

M

## LAN-CAN-02

: DATA LINE

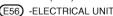




1 2 3 = 4 5 6 7 8 9 10 11 12 13 14 15 16 W



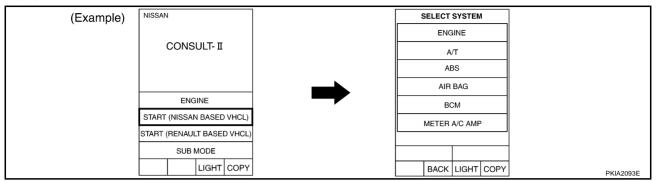
REFER TO THE FOLLOWING. (E211) -SUPER MULTIPLE JUNCTION (SMJ) (E56) -ELECTRICAL UNITS



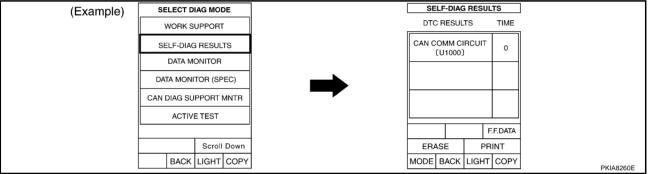
TKWH0247E

Work Flow

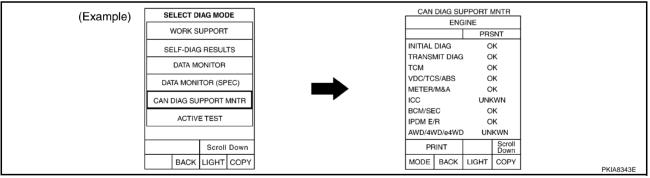
1. When there are no indications of "BCM", "METER A/C AMP" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-26, "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-26. "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-86, "CAN Communication Line Inspection".
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-26, "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-26, "CHECK SHEET".

## **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 AV-86, "CAN Communication Line Inspection".

9. According to the check sheet results (example), start inspection. Refer to <a href="LAN-28">LAN-28</a>, "CHECK SHEET RESULTS (EXAMPLE)".

С

Α

В

D

Е

F

G

Н

J

LAN

## **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		TC::	DIOE: **:	Receive	-	METER	VDC/TCS	
	T	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	STRG	/M&A	/ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
<b>4/T</b>	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN		_	_	_
			ach copy o ECT SYST				ttach copy LECT SYS				
					11	-1					
			C/	c	tach copy display uni MONITOR	t	eet				

Α

В

С

D

Е

F

G

Н

LAN

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

## **CHECK SHEET RESULTS (EXAMPLE)**

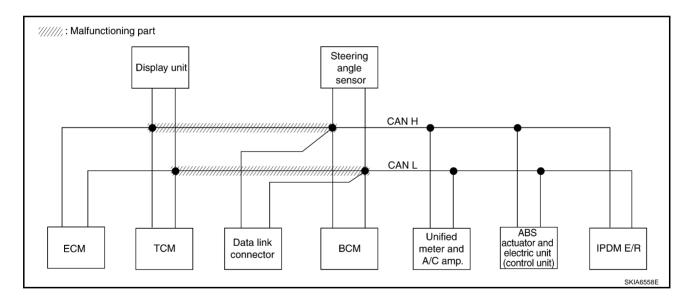
#### NOTE:

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

#### Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-41</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

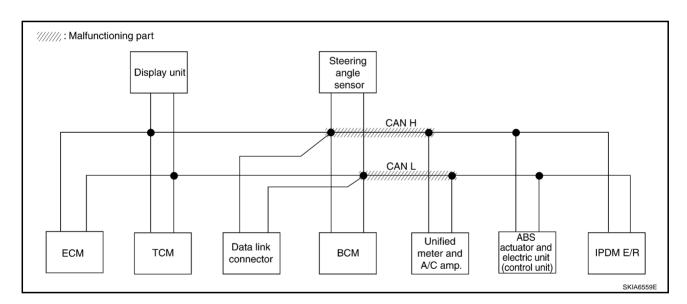
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	Z.W 0010011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	Ω <b>ΝΚ</b> (WN	_	UN <b>K</b> ₩N	UNK WN	UNK WN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNK/WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	C4/12	_	C <b>4/</b> 15	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNK WN	UNK WN	UNK WN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	UNKWN	_	_	_	_



Case 2

Check harness between data link connector and unified meter and A/C amp. Refer to <u>LAN-41</u>, "Circuit Check <u>Between Data Link Connector and Unified Meter and A/C Amp."</u>

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	Zivi dordori	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNK WN	UNK WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNK/WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	C <b>4√</b> 15	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	∩ <b>NK</b> WN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNI WN	UNKWN	_	_	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



В

Α

С

D

Е

F

G

Н

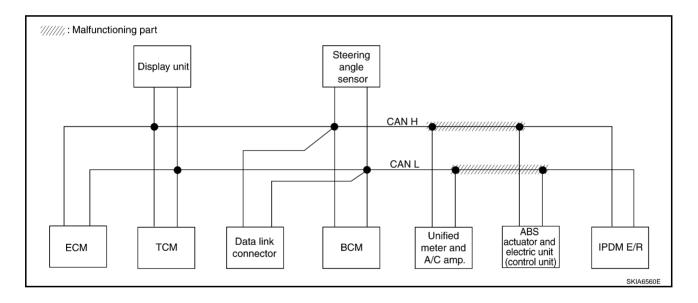
J

LAN

Case 3

Check harness between unified meter and A/C amp. and ABS actuator and electric unit (control unit). Refer to LAN-42, "Circuit Check Between Unified Meter and A/C Amp. and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
OLLLO1 0101	LIW Screen	diagnosis	diagnosis	ECM	TCM	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	_	UNKWN	UN <b>K</b> ₩N	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	UN <b>K</b> ₩N	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNK WI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNIONN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Α

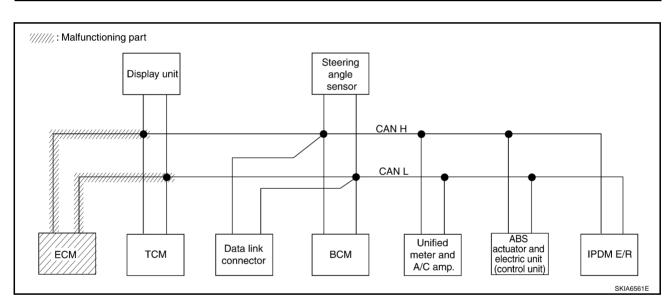
В

D

Е

Case 4
Check ECM circuit. Refer to <u>LAN-42</u>, "ECM Circuit Check".

					CAI	N DIAG SU	PPORT MN				
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	∩ <b>NK</b> WN	_	UN <b>K</b> ₩N	_	∩ <b>NK</b> WN	_	UNKWN	UNK WN	Ω <b>ΝΚ</b> /WN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	С₩із	_	_	CAN 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	<b>NNKWN</b>	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	UNKWN	_	-	-
IPDM E/R	No indication	_	UNKWN	UNK WN	_	-	UNKWN	_	_	-	_

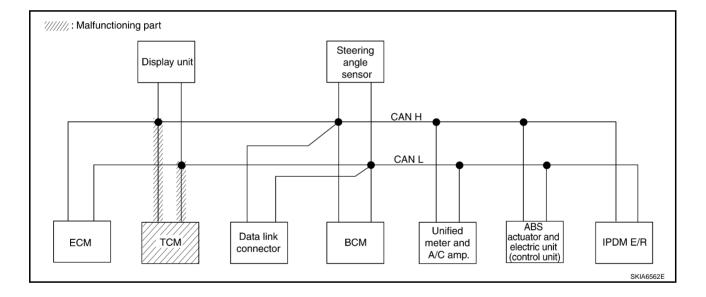


Н

LAN

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

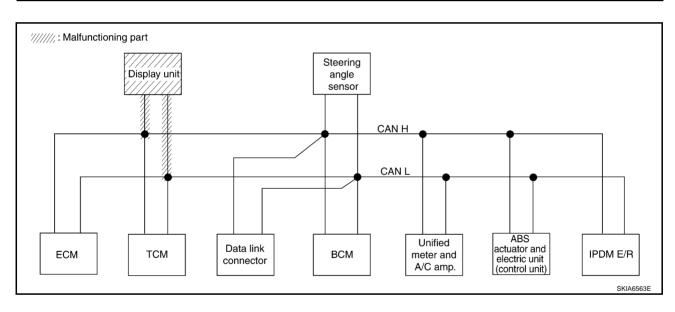
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
022201 0101	LIVI SOICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UN <b>K</b> ₩N	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	UNK\\\	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	∩ <b>иК</b> {\mathbb{W}}N	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Case 6

Check display unit circuit. Refer to LAN-43, "Display Unit Circuit Check" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
00		diagnosis	1 1	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN		UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	C <b>4√</b> 1 1	СМЗ	_	_	C <b>AN</b> 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



В

Α

С

D

Е

F

G

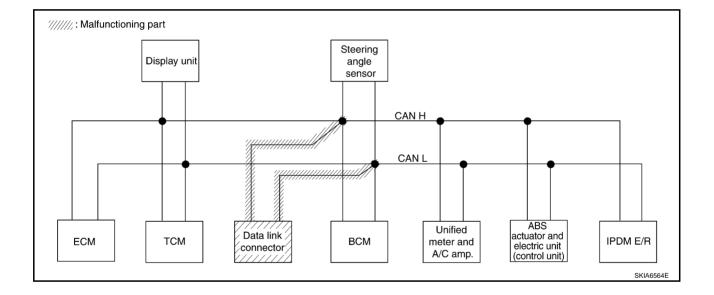
Н

J

LAN

Case 7
Check data link connector circuit. Refer to <u>LAN-44</u>, "<u>Data Link Connector Circuit Check</u>" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	EM screen	Initial	Tronomit				Receive of	diagnosis			
OLLLO1 O101	LIW SOICEIT	diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Α

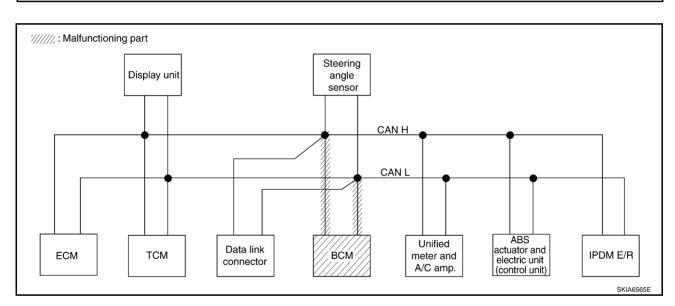
В

D

Е

Case 8
Check BCM circuit. Refer to <u>LAN-44, "BCM Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
01110	00.00	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	UN <b>K</b> ₩N	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	∩ <b>NK</b> WN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UN <b>K</b> ₩N	_	_	_	_



Н

LAN

Case 9
Check steering angle sensor circuit. Refer to <u>LAN-45</u>, "Steering Angle Sensor Circuit Check".

					CAI	N DIAG SU	PPORT MN				
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	-	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

//////: Malfunctioning part Steering Display unit angle sensor CAN H CAN L ABS Unified Data link actuator and ECM TCM всм meter and IPDM E/R electric unit (control unit) connector A/C amp. SKIA6566E

В

С

D

Е

F

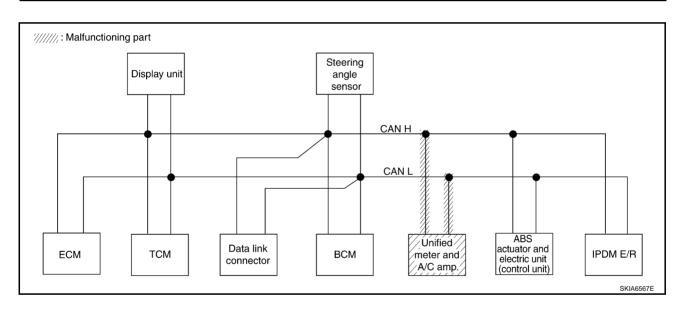
G

Н

Case 10

Check unified meter and A/C amp. circuit. Refer to LAN-45, "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	Ziii Gorgon	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	∩ <b>M</b> MN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	∩ <b>иК</b> {\mathbb{W}}N	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



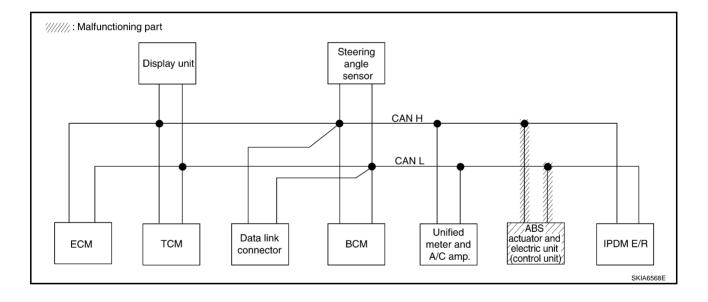
.

LAN

Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-46, "ABS Actuator and Electric Unit (Control Unit) Circuit Check"</u> .

					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	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK/WN	_
ABS	_	NG	UN <b>K</b> ₩N	UNKWN	UNK/WN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_



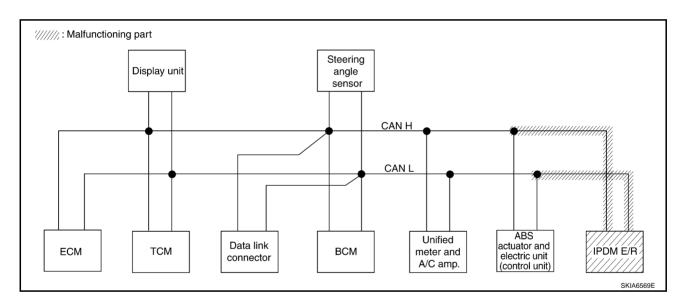
В

D

Е

Case 12
Check IPDM E/R circuit. Refer to <u>LAN-46</u>, "IPDM E/R Circuit Check".

					CAI	N DIAG SU	PPORT MN				
SELECT SYST	EM screen	Initial	Transmit				Receive of	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNI <b>W</b> MN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNIXWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Н

LAN

PKIA7940E

Case 13

Check CAN communication circuit. Refer to LAN-47, "CAN Communication Circuit Check" .

					CAI	N DIAG SU	PPORT MN				
SELECT SYST	FM screen	   Initial	Transmit				Receive of	diagnosis			
SEEE OF GIGT	EN OUICCIT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	Π <b>ΝΚW</b> W	_	UNIXWN	_	UN <b>K</b> ₩N	_	<b>NNK</b> WN	∩ <b>ик</b> //wи	UNI WN
A/T	_	NG	UNK/WN	UNKWN	_	_	_	_	UNK\\\	UNKWN	_
Display unit	_	CAN COMM	CAN 1	С₩13	_	_	CAN 2	_	C <b>A/</b> 15	_	C <b>A</b> 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNK/WN	UNIMN	UNK/WN	_	_	UNIXWN	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

Case 14

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

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
GEEEOT GTGT	LIVI SOICCII	diagnosis		ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UN <b>K</b> ₩N	_	UNKWN	-	UNKWN	UNIXWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	-	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	Π <b>ИΚ</b> ΜИ	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	-	_	-	_

# Case 15

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

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	   Initial	Transmit				Receive of	diagnosis			
GEEEGT GTGT	LW GOICEIT	diagnosis		ECM	TCM	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNK WN	_	_	_	_	∩ <b>ИК</b> МИ	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	<b>UNIX</b> WN	UNKWN	_	_	UNI WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

# Circuit Check Between TCM and Data Link Connector

# 1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 14H (L), 15H (R) and data link connector M5 terminals 6 (L), 14 (R).

14H (L) - 6 (L) : Continuity should exist. 15H (R) - 14 (R) : Continuity should exist.

# OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-24</u>, "Work Flow".

NG >> Repair harness.

# nd Unified Meter and A/C Amp.

SMJ harness connector

SMJ • CONNECTOR

.14H,15H

# Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.

# 1. CHECK HARNESS FOR OPEN CIRCUIT

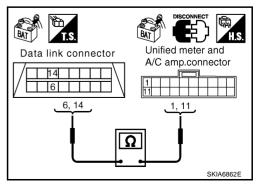
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and unified meter and A/C amp. connector.
- 4. Check continuity between data link connector M5 terminals 6 (L), 14 (R) and unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R).

6 (L) - 1 (L) : Continuity should exist. 14 (R) - 11 (R) : Continuity should exist.

# OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-24, "Work Flow"</u>.

NG >> Repair harness.



В

Α

С

-

\_\_

AKS007Q5

Data link connector

6

14

6,14

Н

J

LAN

# Circuit Check Between Unified Meter and A/C Amp. 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 M41
- Harness connector E211

# OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

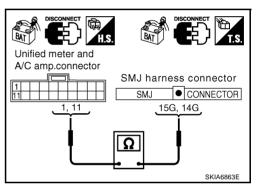
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect unified meter and A/C amp. connector and harness connector M41.
- Check continuity between unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R) and harness connector M41 terminals 15G (L), 14G (R).

1 (L) - 15G (L) : Continuity should exist. 11 (R) - 14G (R) : 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 E211 terminals 15G (L), 14G (R) and ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R).

15G (L) - 11 (L) : Continuity should exist. 14G (R) - 15 (R) : Continuity should exist.

### OK or NG

OK  $\rightarrow$  Connect all the connectors and diagnose again. Refer to LAN-24, "Work Flow" .

NG >> Repair harness.

# SMJ harness connector SMJ OCONNECTOR 15G, 14G C/UNIT OCONNECTOR 11,15 SKIA6864E

AKS007Q8

# **ECM Circuit Check**

# CHECK CONNECTOR

- 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.

AKS007Q9

Α

В

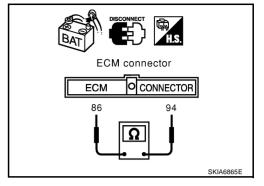
# $\overline{2}$ . CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M90 terminals 94 (L) and 86 (R).

# OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and harness connector M82.



# **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).
- A/T assembly 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

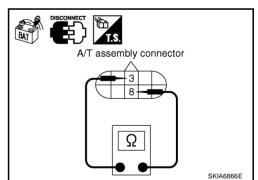
- Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

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

# OK or NG

OK >> Replace control valve with TCM.

NG >> Repair harness between A/T assembly and display unit.



# **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.

LAN

Н

L

M

AKS007QA

2004.5 FX35/FX45

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M62 terminals 14 (L) and 16 (R).

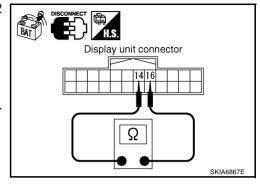
**14 (L) - 16 (R)** : Approx. **54 - 66**
$$\Omega$$

# OK or NG

OK >> Replace display unit.

NG

>> Repair harness between display unit and harness connector M82.



### AKS007QB

# **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

>> GO TO 2. OK

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

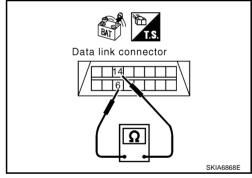
Check resistance between data link connector M5 terminals 6 (L) and 14 (R).

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

# OK or NG

OK >> Diagnose again. Refer to LAN-24, "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

- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M3 terminals 39 (L) and 40 (R).

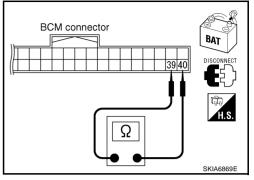
: Approx. 54 - 66 $\Omega$ 

# OK or NG

OK

>> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM".

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



AKS007QD

# **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 M14 terminals 4 (L) and 5 (R).

: Approx. 54 - 66 $\Omega$ 

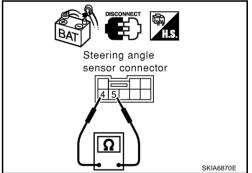
### OK or NG

OK

>> Replace steering angle sensor.

NG

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



AKS007QE

# 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.

**LAN-45** Revision: 2004 November 2004.5 FX35/FX45 В

Α

Н

LAN

# $\overline{2}$ . 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 M55 terminals 1 (L) and 11 (R).

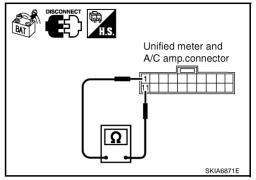
**1 (L) - 11 (R)** : Approx. 54 - 
$$66\Omega$$

# OK or NG

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

NG

>> Repair harness between unified meter and A/C amp. and harness connector M41.



# **ABS Actuator and Electric Unit (Control Unit) Circuit Check**

AKS007QF

# 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 E56 terminals 11 (L) and 15 (R).

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

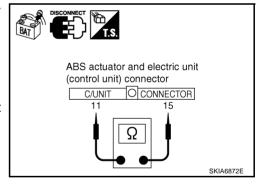
### OK or NG

OK

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

NG

>> Repair harness between ABS actuator and electric unit (control unit) and harness connector E205.



AKS007QG

# **IPDM E/R 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).
- IPDM E/R connector
- Harness connector E205
- Harness connector B5

### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

# 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 (R).

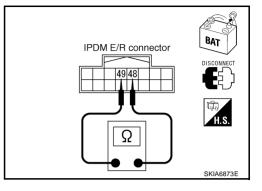
: Approx. 108 - 132 $\Omega$ 

# 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.

- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, unit side, sensor side, meter side, control unit side and harness side).
- **ECM**
- A/T assembly
- Display unit
- **BCM**
- Steering angle sensor
- 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 A/T assembly

# OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. AKS007QH

LAN

J

Н

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- BCM connector
- Steering angle sensor connector
- Unified meter and A/C amp. connector
- Harness connector M41
- 2. Check continuity between data link connector M5 terminals 6 (L) and 14 (R).

6 (L) - 14 (R) : 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 steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

# $oldsymbol{3}$ . Check harness for short circuit

Check continuity between data link connector M5 terminals 6 (L), 14 (R) and ground.

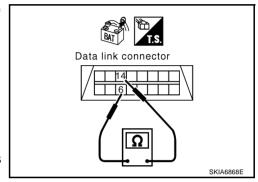
> 6 (L) - Ground : Continuity should not exist. 14 (R) - Ground : Continuity should not exist.

# 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 steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41



Data link connector

6, 14

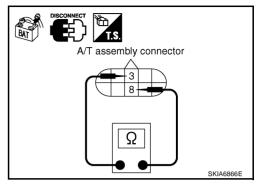
SKIA6874E

- Disconnect A/T assembly connector.
- Check continuity between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

# OK or NG

OK >> GO TO 5.

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



# 5. CHECK HARNESS FOR SHORT CIRCUIT

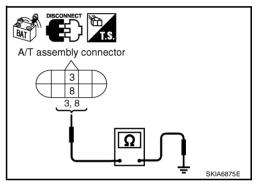
Check continuity between A/T assembly harness connector F44 terminals 3 (L), 8 (R) and ground.

> 3 (L) - Ground : Continuity should not exist. 8 (R) - Ground : Continuity should not exist.

# OK or NG

OK >> GO TO 6.

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



# 6. CHECK HARNESS FOR SHORT CIRCUIT

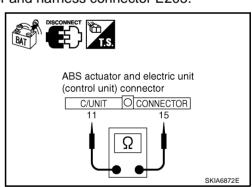
- Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

# OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205



В

Α

Н

LAN

Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and ground.

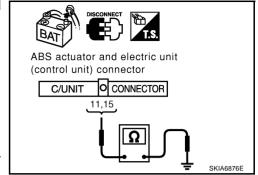
11 (L) - Ground : Continuity should not exist. 15 (R) - Ground : Continuity should not exist.

# OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205



# 8. CHECK HARNESS FOR SHORT CIRCUIT

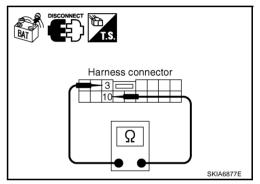
Check continuity between harness connector B5 terminals 3 (L) and 10 (R).

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

# OK or NG

OK >> GO TO 9.

NG >> Repair harness between harness connector B5 and harness connector B5.



# 9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L), 10 (R) and ground.

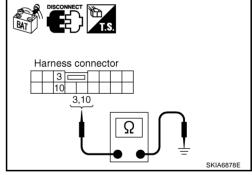
3 (L) - Ground : Continuity should not exist. 10 (R) - Ground : Continuity should not exist.

# OK or NG

NG

OK >> GO TO 10.

>> Repair harness between harness connector B5 and harness connector B5.



# 10. CHECK HARNESS FOR SHORT CIRCUIT

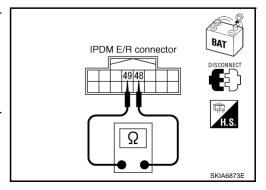
- 1. Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (R).

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

# OK or NG

OK >> GO TO 11.

NG >> Repair harness between IPDM E/R and harness connector E205.



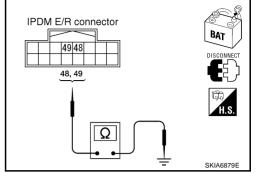
Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (R) and ground.

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

# OK or NG

OK >> GO TO 12.

NG >> Repair harness between IPDM E/R and harness connector E205.



# 12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-51</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" .  $\underline{\mathsf{OK}}$  or  $\underline{\mathsf{NG}}$ 

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-24, "Work Flow"</u>.

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

# IPDM E/R Ignition Relay Circuit Check

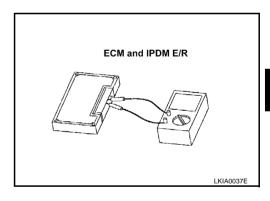
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-28, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12, "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



В

Α

С

F

D

AKS007QI G

Н

4KS0070 I

LAN

# [CAN]

# **CAN SYSTEM (TYPE 2)**

PFP:23710

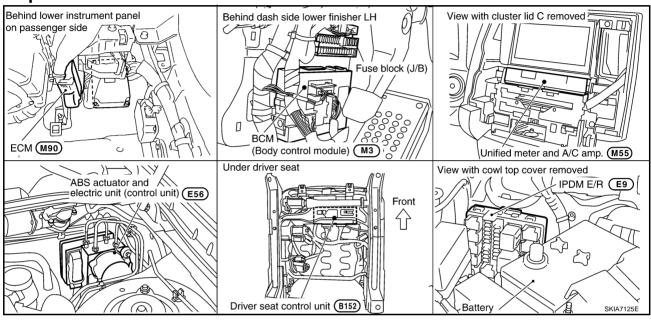
# **System Description**

AKS007R4

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.

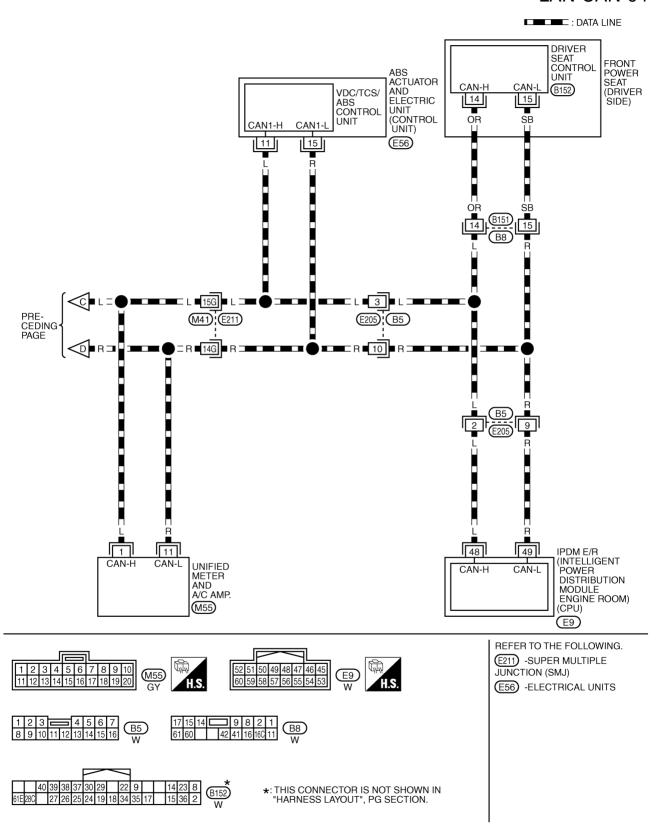
# **Component Parts and Harness Connector Location**

AKS007R5



TKWM1293E

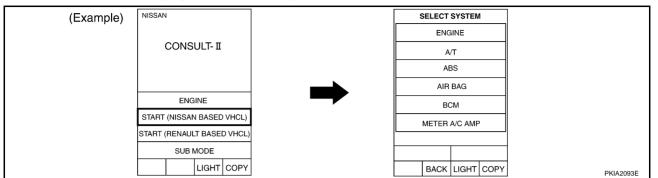
# LAN-CAN-04



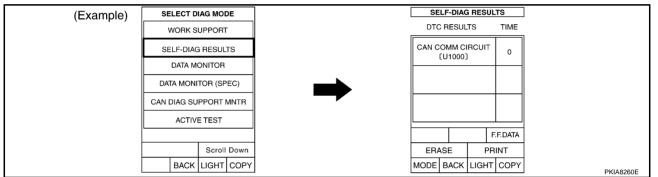
TKWH0248E

Work Flow

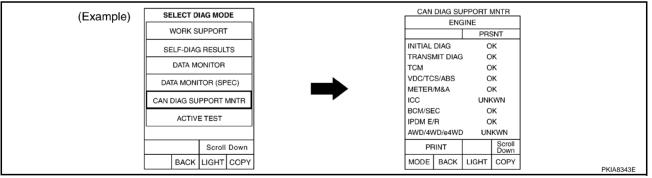
1. When there are no indications of "BCM", "METER A/C AMP", "AUTO DRIVE POS." or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



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

### NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
   So it is not necessary to check the status of "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-86, "CAN Communication Line Inspection"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-57, "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-57</u>, "CHECK SHEET".

Revision: 2004 November LAN-55 2004.5 FX35/FX45

LAN

# **CAN SYSTEM (TYPE 2)**

[CAN]

# NOTE:

- If "NG" is displayed on "CAN COMM" as "CAN DIAG MNTR" for the diagnosed control unit, replace the control unit. Refer to AV-86, "CAN Communication Line Inspection".
- 9. According to the check sheet results (example), start inspection. Refer to <a href="LAN-59">LAN-59</a>, "CHECK SHEET RESULTS (EXAMPLE)".

# **CAN SYSTEM (TYPE 2)**

[CAN]

Α

В

С

D

Е

F

G

Н

J

LAN

M

# **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	FM screen	Initial	Transmit			120,14 00	Receive of				
SELECT STOT	LIVI SCIEETI	diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
VT	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
isplay unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	-	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_
		Attach copy of SELECT SYSTEM					ttach copy LECT SYS				
			CA	C	tach copy lisplay uni MONITOR	t	et				

PKIA7943E

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

# **CHECK SHEET RESULTS (EXAMPLE)**

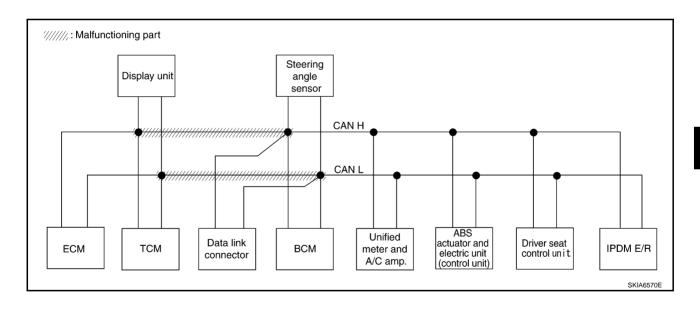
### NOTE:

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

# Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-74, "Circuit Check Between TCM and Data Link Connector"</u>.

					CA	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	Π <b>ΜΑ</b> ΜΝ	_	∩ <b>NK</b> WN	UNIXWN	Ω <b>NK</b> WN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UN <b>K</b> ₩N	<b>UNIX</b> WN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNK WN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	Ω <b>ΝΚ</b> ΜΝ	NNR WN	<b>UNIX</b> WN	UNKWN	_	_	UNKWN	-
ABS	_	NG	UNKWN	<b>UNKWN</b>	UNK WN	_	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



В

Α

C

D

Е

G

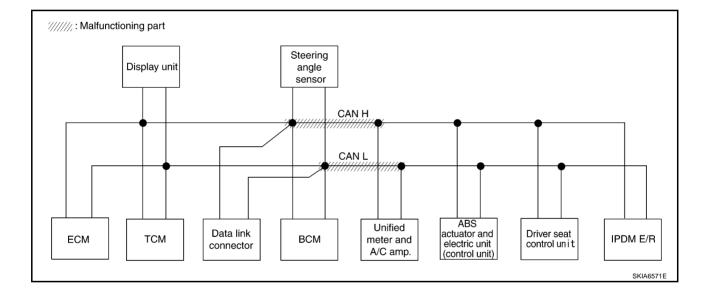
Н

LAN

L

Case 2
Check harness between data link connector and unified meter and A/C amp. Refer to LAN-74, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."

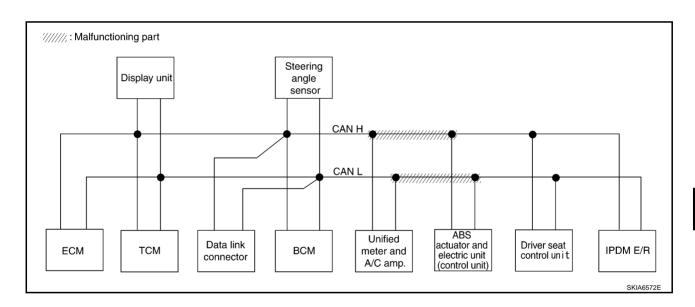
					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
322231 3131	LIVI 0010011	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	_	Π <b>ΝΚ</b> ΜΝ	UNIXWN	UNI WN
A/T	_	NG	UNKWN	UNKWN	_		_	_	UNK WN	UNK WN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNI WN	_	Ω <b>ΝΚ</b> (WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNK WN	_	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	-	_	_



Case 3

Check harness between unified meter and A/C amp. and ABS actuator and electric unit (control unit). Refer to LAN-75, "Circuit Check Between Unified Meter and A/C Amp. and ABS Actuator and Electric Unit (Control Unit)".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	diagnosis			
OLLLO1 O101	LIVI SCICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	1	UNKWN	_	UNKWN	_	UNKWN	UNK WN	UNI WN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	∩ <b>NK</b> WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNK WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	<b>UNK</b> WN	UNKWN	_	_	UNK WN	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_



В

Α

С

D

Е

F

G

Н

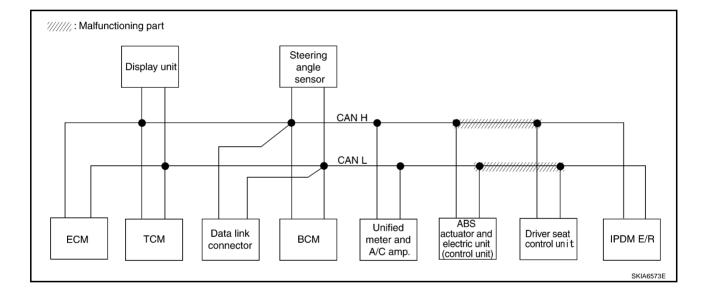
J

LAN

Case 4

Check harness between ABS actuator and electric unit (control unit) and driver seat control unit. Refer to <u>LAN-76</u>, "Circuit Check Between ABS Actuator and Electric Unit (Control Unit) and Driver Seat Control Unit".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNK WN
A/T	_	NG	UNKWN	UNKWN	_		_	_	UNKWN	UNKWN	1
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	_	Ω <b>ΝΚ</b> ⁄ΜΝ
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	1
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_



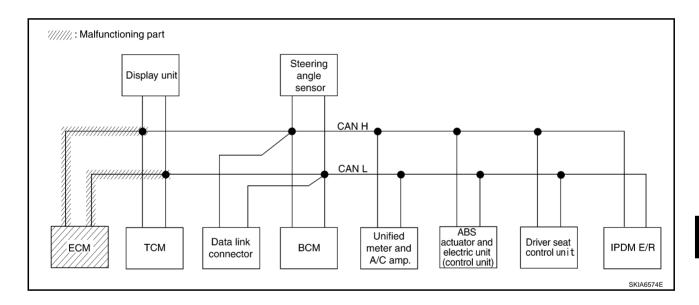
В

D

Е

Case 5
Check ECM circuit. Refer to <u>LAN-76</u>, "ECM Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
		diagnosis diagnosis  NG UNIWN	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/P	
ENGINE	_	NG	UNIXWN	_	UNK WN	_	UNIXWN	_	UNK WN	UNIXWN	Ω <b>ΝΙ</b> ΜΝ
A/T	_	NG	UNKWN	UNKWN		_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	С₩З	_	_	CAN 2	_	CAN 5	-	CAN 7
BCM	No indication	NG	UNKWN	UNI WN		_	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNIXWN	UNKWN	_	_	UNKWN	1	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

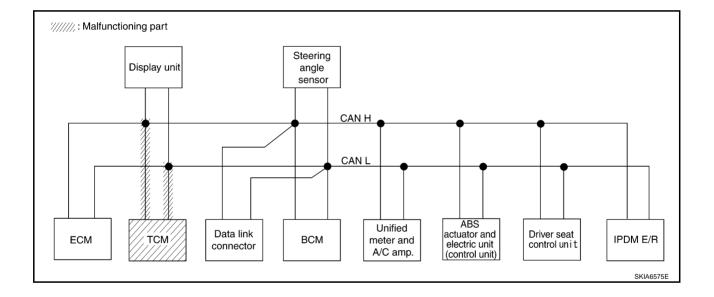


Н

LAN

Case 6
Check TCM circuit. Refer to <u>LAN-77</u>, "TCM Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
322231 3131	LIN GOIGGII	diagnosis	diagnosis	ECM	тсм	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/P
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	<b>UNIX</b> WN	UNI WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UN <b>K</b> ₩N	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNIONN	_	-	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



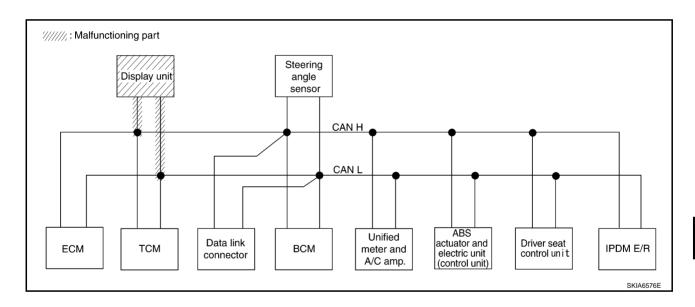
В

D

Е

Case 7
Check display unit circuit. Refer to <u>LAN-77</u>, "<u>Display Unit Circuit Check</u>" .

					CA	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	ZIVI GOICCII	diagnosis diag	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	_	UNKWN	ı	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	С₩З	_	_	CAN 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN		ĺ	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Н

1

J

LAN

Case 8
Check data link connector circuit. Refer to <u>LAN-78</u>, "<u>Data Link Connector Circuit Check</u>" .

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	ı
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_

//////: Malfunctioning part Steering Display unit angle sensor CAN H CAN L ABS actuator and electric unit (control unit) Unified Data link Driver seat control unit ECM TCM BCM IPDM E/R meter and connector A/C amp. SKIA6577E

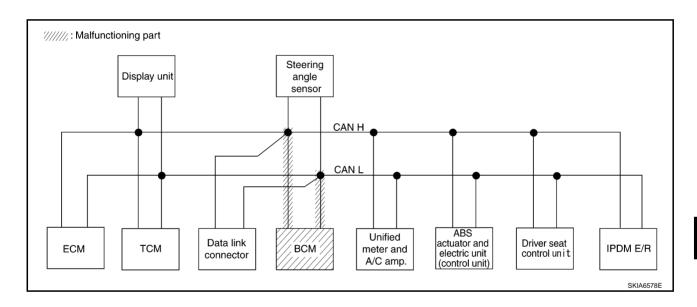
В

D

Е

Case 9
Check BCM circuit. Refer to <u>LAN-78</u>, "BCM Circuit Check" .

					CAI	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	ı	Π <b>ΝΚ</b> ΜΝ	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	l	_	_	UNKWN	UNKWN	ı
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	C <b>₩</b> 2	_	CAN 5	_	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	_	ĺ	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	Π <b>ИΚ</b> ,ΜИ	_	_	UNKWN	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	1	_	UNKWN	1	_	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	Ω <b>ΝΚ</b> ₩Ν	_	UNKWN	_	-
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	Ω <b>ΝΚ</b> ₩Ν	_	_	_	_



G

Н

|

J

LAN

Case 10
Check steering angle sensor circuit. Refer to <u>LAN-79</u>, "Steering Angle Sensor Circuit Check".

					CAI	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive o	liagnosis			
322237 3737	ZIW GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	-	CAN 2	_	CAN 5	-	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	-	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	-	UNWWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN		_	_	_

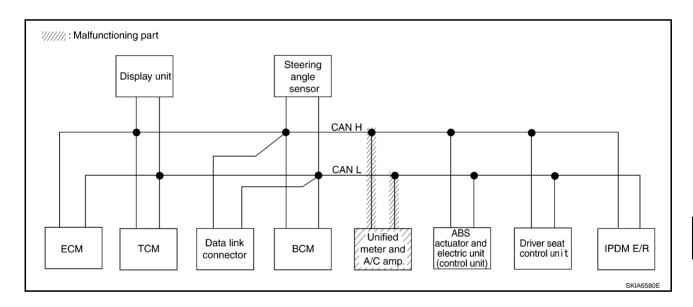
//////: Malfunctioning part Steering Display unit angle sensor CAN H CAN L ABS actuator and Unified Driver seat control unit Data link TCM всм IPDM E/R ECM meter and connector electric unit A/C amp. (control unit) SKIA6579E

В

D

Case 11
Check unified meter and A/C amp. circuit. Refer to <u>LAN-79</u>, "<u>Unified Meter and A/C Amp. Circuit Check</u>" .

					CAI	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive c	liagnosis			
322237 3737	ZW GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	_	UN <b>K</b> ₩N	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	-	_	_	UN <b>K</b> ₩N	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	-	CAN 2	_	CAN 5	-	CAN 7
всм	No indication	NG	UNKWN	UNKWN		ı	_	_	Ω <b>ΝΚ</b> ΜΝ	-	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	ĺ	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	1	UNKWN	_	UN <b>K</b> ₩N	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



G

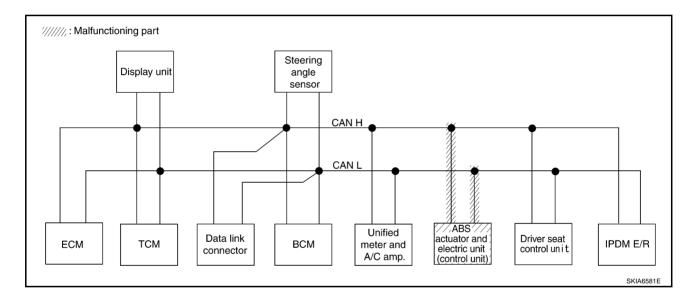
Н

J

LAN

Case 12
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-80</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

					CAI	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive o	liagnosis			
022201 0101	LIVI SOICCII	diagnosis diagnosis		ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	∩ <b>N</b> MN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNIXWN	1
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNK WN	-
ABS	_	NG	UNI WN	UNKWN	∩ <b>M</b> MN	_	_	UNK WN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



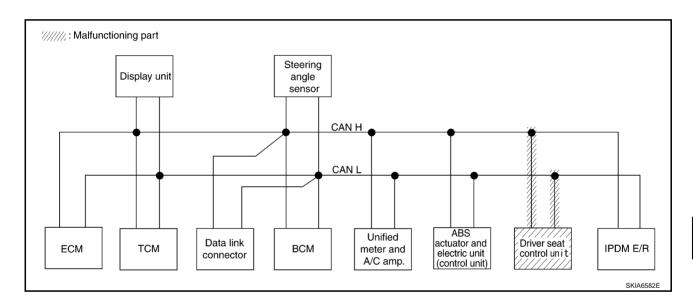
В

D

Е

Case 13
Check driver seat control unit circuit. Refer to <u>LAN-80</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
322231 3131	ZW GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	1	_	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	-	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_



Н

J

LAN

Case 14
Check IPDM E/R circuit. Refer to LAN-81, "IPDM E/R Circuit Check".

					CAI	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
322231 3131		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	UNKWN	UNI <b>X</b> WN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	∩ <b>NR</b> WN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_

//////: Malfunctioning part Steering Display unit angle sensor CAN H CAN L ABS actuator and Unified Driver seat control unit Data link TCM всм IPDM E/R ECM meter and connector electric unit A/C amp. (control unit) SKIA6583E

Case 15

Check CAN communication circuit. Refer to LAN-82, "CAN Communication Circuit Check" .

					CA	N DIAG SU	PPORT MN	ITR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
022201 0101	LIVI GOICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	<b>UNKWN</b>	_	UNK WN	_	UNKWN	_	<b>UNK</b> WN	UNKWN	<b>NNN</b> MN
A/T	_	NG	Π <b>ИΝ</b> ΜΝ	UNK WN	_	_	_	_	∩ <b>NN</b> WN	UNK WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	C <b>A</b> 2	_	C4/15	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNK WN	Ω <b>ΝΚ</b> ΜΝ	NNK WN	_	-	Π <b>ΝΚ</b> ΜΝ	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN		_	_	_

## Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-86, "IPDM E/R Ignition Relay Circuit Check".

					CAI	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive d	liagnosis			
OLLLOT OTOT	LIW SOICCII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNK WN	_	UNKWN	_	UNKWN	UNIXWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	UNKWN	1
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	Ω <b>ΝΆ</b> ΜΝ	UNKWN	UNKWN	_	_	∩ <b>NK</b> WN	1
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	n <b>uk</b> wu	_	UNKWN	_	UNKWN	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

**LAN-73** Revision: 2004 November 2004.5 FX35/FX45 Α

В

D

Н

LAN

#### Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-86, "IPDM E/R Ignition Relay Circuit Check".

					CAI	N DIAG SU	PPORT MN	TR			
SELECT SYST	FM screen	Initial	Transmit				Receive of	liagnosis			
322231 3131	ZIW GOLGGII	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	BCM/SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNK WN	_	_	_	_	∩ <b>NN</b> WN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	CAN 2	_	CAN 5	_	CAN 7
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	UNK WN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_

# Circuit Check Between TCM and Data Link Connector

AKS007R9

# 1. CHECK HARNESS FOR OPEN CIRCUIT

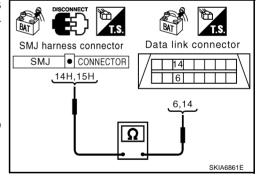
- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 14H (L), 15H (R) and data link connector M5 terminals 6 (L), 14 (R).

14H (L) - 6 (L) : Continuity should exist. 15H (R) - 14 (R) : Continuity should exist.

## OK or NG

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

NG >> Repair harness.



# Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.

# 1. CHECK HARNESS FOR OPEN CIRCUIT

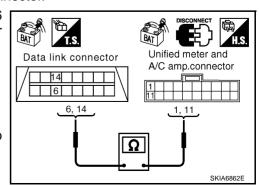
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and unified meter and A/C amp. connector.
- Check continuity between data link connector M5 terminals 6 (L), 14 (R) and unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R).

6 (L) - 1 (L) : Continuity should exist. 14 (R) - 11 (R) : Continuity should exist.

#### OK or NG

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

NG >> Repair harness.



[CAN]

В

 $\mathsf{D}$ 

F

Н

# Circuit Check Between Unified Meter and A/C Amp. 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 M41
- Harness connector E211

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

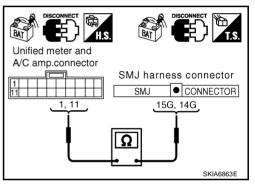
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector and harness connector M41.
- Check continuity between unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R) and harness connector M41 terminals 15G (L), 14G (R).

1 (L) - 15G (L) : Continuity should exist. 11 (R) - 14G (R) : Continuity should exist.

#### OK or NG

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



# 3. CHECK HARNESS FOR OPEN CIRCUIT

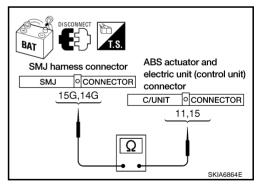
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E211 terminals 15G (L), 14G (R) and ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R).

15G (L) - 11 (L) : Continuity should exist. 14G (R) - 15 (R) : Continuity should exist.

#### OK or NG

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

NG >> Repair harness.



LAN

L

# Circuit Check Between ABS Actuator and Electric Unit (Control Unit) 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 E205
- Harness connector B5

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

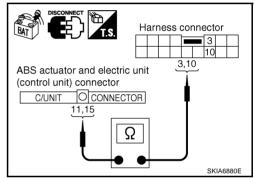
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and harness connector E205 terminals 3 (L), 10 (R).

: Continuity should exist. : Continuity should exist.

#### OK or NG

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



# 3. CHECK HARNESS FOR OPEN CIRCUIT

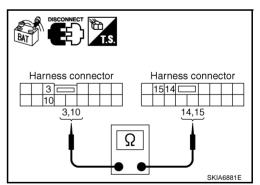
- Disconnect harness connector B8.
- Check continuity between harness connector B5 terminals 3 (L), 10 (R) and harness connector B8 terminals 14 (L), 15 (R).

3 (L) - 14 (L) : Continuity should exist. 10 (R) - 15 (R) : Continuity should exist.

#### OK or NG

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

NG >> Repair harness.



AKS007RC

# **ECM Circuit Check**

# CHECK CONNECTOR

- 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.

AKS007RD

Α

В

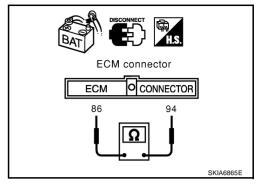
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M90 terminals 94 (L) and 86 (R).

#### OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and harness connector M82.



**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).
- A/T assembly 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

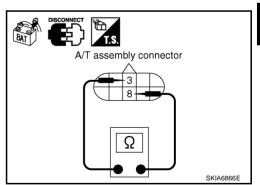
- Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

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

#### OK or NG

OK >> Replace control valve with TCM.

NG >> Repair harness between A/T assembly and display unit.



# **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.

LAN

Н

L

M

AKS007RE

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display unit connector.
- 2. Check resistance between display unit harness connector M62 terminals 14 (L) and 16 (R).

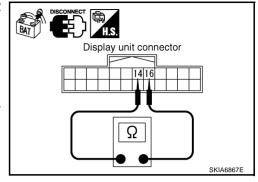
**14 (L) - 16 (R)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

OK >> Replace display unit.

NG

>> Repair harness between display unit and harness connector M82.



#### AKS007RF

# **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

>> GO TO 2. OK

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

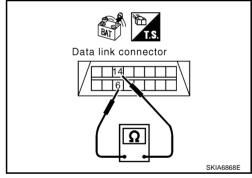
Check resistance between data link connector M5 terminals 6 (L) and 14 (R).

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

#### OK or NG

OK >> Diagnose again. Refer to LAN-55, "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. AKS007RG

Α

В

Н

LAN

M

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M3 terminals 39 (L) and 40 (R).

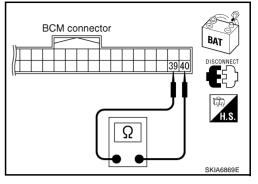
: Approx. 54 - 66 $\Omega$ 

#### OK or NG

OK

>> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM".

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



AKS007RH

# **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 M14 terminals 4 (L) and 5 (R).

: Approx. 54 - 66 $\Omega$ 

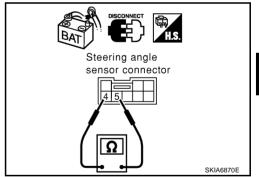
#### OK or NG

OK

>> Replace steering angle sensor.

NG

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



# 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. AKS007RI

# $\overline{2}$ . 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 M55 terminals 1 (L) and 11 (R).

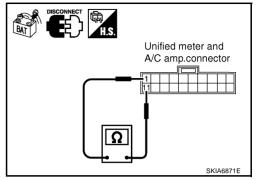
**1 (L) - 11 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG

>> Repair harness between unified meter and A/C amp. and harness connector M41.



# **ABS Actuator and Electric Unit (Control Unit) Circuit Check**

AKS007RJ

## 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 E56 terminals 11 (L) and 15 (R).

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

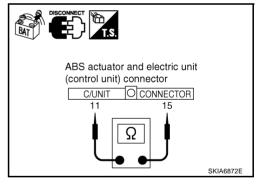
#### OK or NG

OK

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

NG

>> Repair harness between ABS actuator and electric unit (control unit) and harness connector E205.



AKS007RK

## **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 B151
- Harness connector B8

#### 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 B152 terminals 14 (OR) and 15 (SB).

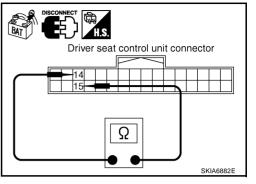
**14 (OR) - 15 (SB)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B5.



AKS007RI

## **IPDM E/R 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 module side and harness side).
- IPDM E/R connector
- Harness connector E205
- Harness connector B5

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

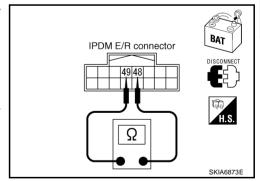
- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (R).

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

## OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and harness connector B8.



F

Α

В

LAN

Н

# **CAN Communication Circuit Check**

# 1. CHECK CONNECTOR

AKS007RM

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

#### 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
- Steering angle sensor connector
- Unified meter and A/C amp. connector
- Harness connector M41
- 2. Check continuity between data link connector M5 terminals 6 (L) and 14 (R).

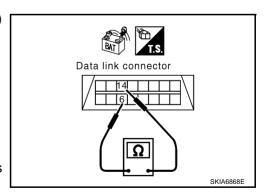
6 (L) - 14 (R) : Continuity should not exist.



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 steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41



# 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M5 terminals 6 (L), 14 (R) and ground.

> 6 (L) - Ground : Continuity should not exist. 14 (R) - 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 steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

# 4. CHECK HARNESS FOR SHORT CIRCUIT

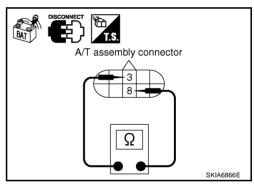
- Disconnect A/T assembly connector.
- Check continuity between A/T assembly harness connector F44 2. terminals 3 (L) and 8 (R).

#### OK or NG

OK >> GO TO 5.

NG

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



# LAN

# 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between A/T assembly harness connector F44 terminals 3 (L), 8 (R) and ground.

> 3 (L) - Ground : Continuity should not exist. 8 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 6.

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

A/T assembly connector 3 8 3, 8 SKIA6875E

Data link connector 6 6, 14

Α

F

Н

SKIA6876E

# 6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- 2. Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

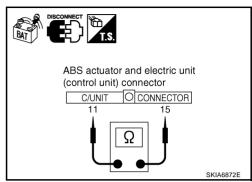
11 (L) - 15 (R) : Continuity should not exist.

## OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205



ABS actuator and electric unit

11,15

O CONNECTOR

(control unit) connector

C/UNIT

# 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and ground.

11 (L) - Ground :

: Continuity should not exist.

15 (R) - Ground

: Continuity should not exist.

## OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205

# 8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B8.
- 2. Check continuity between harness connector B5 terminals 3 (L) and 10 (R).

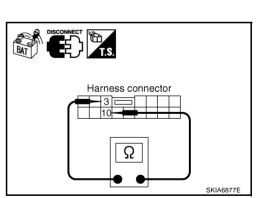
3 (L) - 10 (R) : Continuity should not exist.

## OK or NG

OK >> GO TO 9.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8



SKIA6878E

# 9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L), 10 (R) and ground.

> 3 (L) - Ground : Continuity should not exist. 10 (R) - 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 harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8

# 10. CHECK HARNESS FOR SHORT CIRCUIT

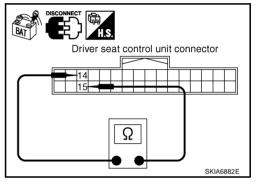
- Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B152 terminals 14 (OR) and 15 (SB).

#### OK or NG

OK >> GO TO 11.

NG

>> Repair harness between driver seat control unit and harness connector B151.



Harness connector

10 3,10

# 11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B152 terminals 14 (OR), 15 (SB) and ground.

> 14 (OR) - Ground : Continuity should not exist. 15 (SB) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 12.

NG

>> Repair harness between driver seat control unit and harness connector B151.

# Driver seat control unit connector 14,15

# 12. CHECK HARNESS FOR SHORT CIRCUIT

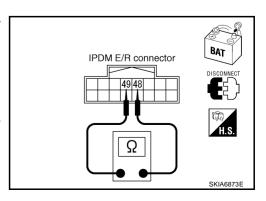
- Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (R).

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

#### OK or NG

OK >> GO TO 13.

NG >> Repair harness between IPDM E/R and harness connector E205.



Α

F

LAN

# $\overline{13}$ . Check harness for short circuit

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

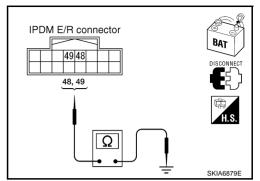
> 48 (L) - Ground : Continuity should not exist. 49 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 14.

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

nector E205.



# 14. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to LAN-86, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION". OK or NG

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

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

# IPDM E/R Ignition Relay Circuit Check

AKS007RN

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

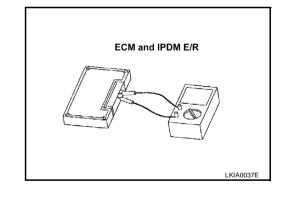
- IPDM E/R power supply circuit. Refer to PG-28, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-12, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"

## Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS007RO

- 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 3)**

PFP:23710

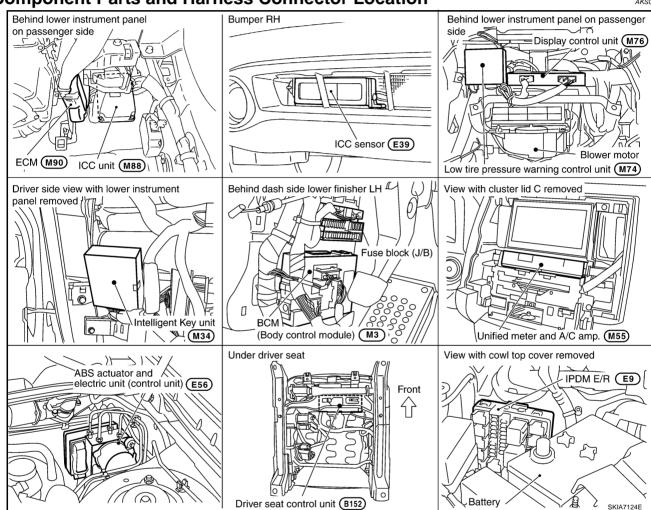
# **System Description**

KS007RR

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**

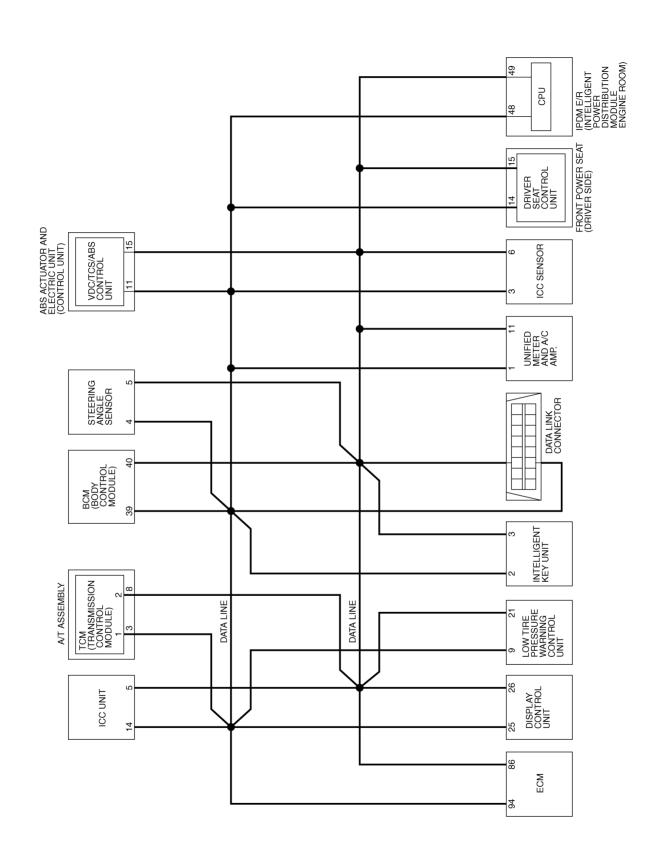
AKS007RS



LAN

L

Schematic

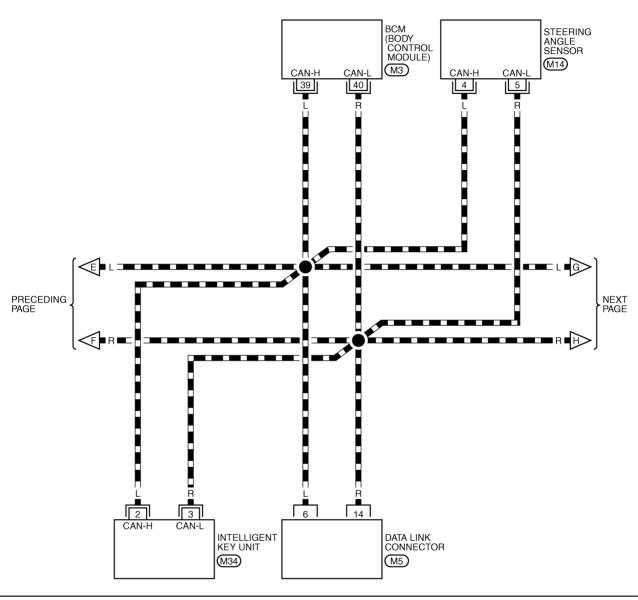


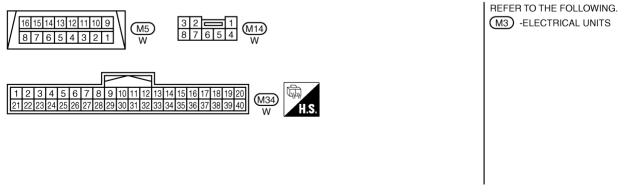
TKWM1294E

TKWM1295E

# LAN-CAN-06

: DATA LINE





TKWM0748E

Α

В

D

Е

G

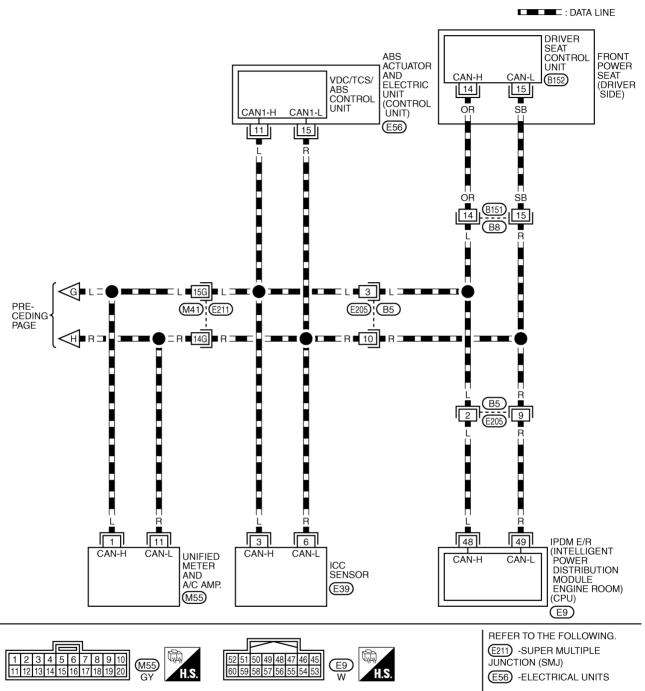
Н

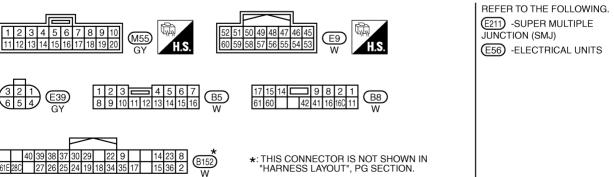
J

LAN

M

# LAN-CAN-07

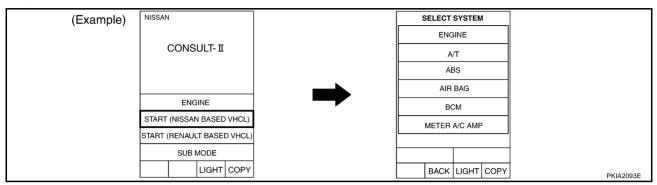




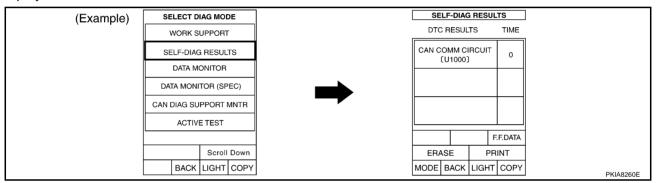
TKWH0249E

Work Flow

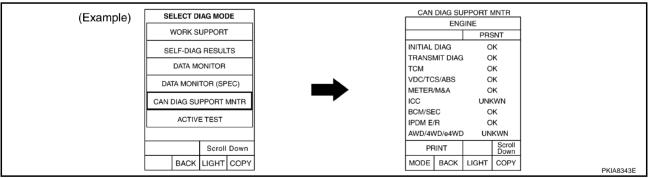
1. When there are no indications of "AIR PRESSURE MONITOR", "INTELLIGENT KEY", "BCM", "METER A/C AMP", "AUTO DRIVE POS." or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "AIR PRESSURE MONITOR", "ICC", "INTELLIGENT KEY", "BCM", "METER A/C AMP", "ABS", "AUTO DRIVE POS.", and "IPDM E/R" displayed on CONSULT-II.



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-94</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 <a href="LAN-94">LAN-94</a>, "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-157</u>, "CAN Communication Line <u>Check"</u>.

# **CAN SYSTEM (TYPE 3)**

[CAN]

- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-94</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-94, "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-157, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <a href="LAN-97">LAN-97</a>, "CHECK SHEET RESULTS (EXAMPLE)".

C

Α

В

D

Е

F

G

Н

J

LAN

L

PKIA7962E

# **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 — NG UNKWN — CAN COMM CAN CIRC 1 CAN CIRC 3 — CAN CIRC 6 — CAN CIRC 2 — CAN CIRC 5 — CAN CIRC 8 AIR PRESSURE MONITOR No indication NG UNKWN — — — — — — — — — UNKWN — — — UNKWN — — — — — UNKWN — — — — — UNKWN — — — — — — — UNKWN — — — — — — — UNKWN — — — — — — — — UNKWN — — — — — — — — — — — UNKWN — — — — — — — — — — — — — — — — — — —	Transmit diagnosis   Transmi		ole														
Initial diagnosis   Init	Initial diagnosis   Init								CAN								
ATT — NG UNKWN UNKWN — — UNKWN — — UNKWN — — — UNKWN — UNKWN — — CAN CIRC 5 — — CAN CIRC 5 — — CAN CIRC 5 — — CAN CIRC 6 — — CAN CIRC 5 — — CAN CIRC 6 — — UNKWN — — — UNKWN — — — UNKWN — — — UNKWN — — — UNKWN — — — UNKWN — — — UNKWN — — UNKWN — — UNKWN — — — UNKWN — — — UNKWN — — — — — — — UNKWN — — — — — — — — UNKWN — — — — — — — — — — — — UNKWN — — — — — — — — — — — — — — — — — — —	ATT — NG UNKWN UNKWN — — — UNKWN — — — UNKWN — UNKWN — OSPIGIA CONTROL UNIT — CAN COMM CAN CRC 1 CAN CIRC 3 — — CAN CIRC 6 — — CAN CIRC 2 — CAN CIRC 5 — — CAN CIRC 1 CAN CIRC 3 — — CAN CIRC 6 — — — CAN CIRC 2 — CAN CIRC 5 — — CAN CIRC 1 CAN CIRC 3 — — CAN CIRC 6 — — — — UNKWN — — — — UNKWN — — — — UNKWN — — — UNKWN — — — UNKWN — — — UNKWN — — — — UNKWN — — — — UNKWN — — — — UNKWN — — — UNKWN — — UNKWN — — UNKWN — — UNKWN — — UNKWN — — UNKWN — — — UNKWN — — — UNKWN — — — — — — — UNKWN — — — — — — — UNKWN — — — — — — — — — UNKWN — — — — — — — — — — — — — — — — — — —	SELECT SYST		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC		ВСМ					IPDM E/R
Display control unit	CAN CORR   CAN COMM   CAN CIRC	ENGINE	_	NG	UNKWN	ı	UNKWN	_	١	UNKWN	-	UNKWN	_	UNKWN	_	UNKWN	UNKW
Attach copy of Attach copy of Attach copy of Attach copy of	Attach copy of Attach copy of Attach copy of Attach copy of	<b>4</b> /T	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	_	_	UNKWN	_	UNKWN	1
CC	CC	Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
No indication	No indication	IR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	_	ı	_	_	_	_	UNKWN	_	_	ı
BCM No indication NG UNKWN UNK	BCM No indication NG UNKWN UNK	CC	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	-	UNKWN	_	_	UNKWN	UNKWN	ı
METER A/C AMP No indication — UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN — — — UNKWN — ABS — NG UNKWN UNKWN UNKWN — — — — UNKWN — UNKWN — — — — AUTO DRIVE POS. No indication NG UNKWN — UNKWN — — — — UNKWN — UNKWN — — — — IPDM E/R No indication — UNKWN UNKWN — — — — — UNKWN — — — — — Symptoms :	METER A/C AMP No indication — UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN — — — UNKWN — — — — AUTO DRIVE POS. No indication NG UNKWN — UNKWN — — — — UNKWN — UNKWN — — — — IPDM E/R No indication — UNKWN UNKWN — — — — — UNKWN — UNKWN — — — — Symptoms:	NTELLIGENT KEY	No indication	-	UNKWN	ı	_	_	ı	_	_	UNKWN	_	_	_	_	ı
ABS	ABS	ЗСМ	No indication	NG	UNKWN	UNKWN	_	_	ı	_	UNKWN	_	-	UNKWN	_	_	UNKW
Auto Drive Pos. No indication	Auto Drive Pos. No indication	METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	ı
IPDM E/R         No indication         —         UNKWN         — <td>  Attach copy of   Atta</td> <td>ABS</td> <td>_</td> <td>NG</td> <td>UNKWN</td> <td>UNKWN</td> <td>UNKWN</td> <td>_</td> <td>-</td> <td>_</td> <td>_</td> <td>_</td> <td>UNKWN</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td>	Attach copy of   Atta	ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	_	_	UNKWN	_	_	_	_
Symptoms:  Attach copy of Attach copy of	Symptoms:  Attach copy of Attach copy of	AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	_	_	UNKWN	_	UNKWN	_	_	_
Attach copy of Attach copy of	Attach copy of Attach copy of	PDM E/R	No indication	_	UNKWN	UNKWN	_	_		_	_	UNKWN	_	_	_	_	_
					Atta SELE	ch copy CT SYS	of TEM			SI	Attach o	copy of SYSTEM	1				
					Atta SELE	ch copy CT SYS	of TEM			S	Attach o	copy of SYSTEM	1				
					Atta SELE	ch copy	of TEM			S	Attach o	copy of SYSTEM	1				
					Atta SELE	ch copy	of TEM			SI	Attach o	copy of SYSTEM	1				

Α

В

D

Н

LAN

PKIA7963E

Attach copy of display control unit CAN DIAG SUPPORT MONITOR check sheet Attach copy of Attach copy of Attach copy of Attach copy of AIR PRESSURE ENGINE A/T MONITOR SELF-DIAG RESULTS **SELF-DIAG RESULTS SELF-DIAG RESULTS** SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of Attach copy of ABS INTELLIGENT KEY BCM METER A/C AMP SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS **SELF-DIAG RESULTS** Attach copy of Attach copy of AUTO DRIVE POS. IPDM E/R **SELF-DIAG RESULTS SELF-DIAG RESULTS** 

Revision: 2004 November LAN-95 2004.5 FX35/FX45

Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of A/T CAN DIAG SUPPORT MNTR	Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR	Attach copy of ICC CAN DIAG SUPPORT MNTR
Attach copy of INTELLIGENT KEY 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
Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR		
			PKIA79

# **CHECK SHEET RESULTS (EXAMPLE)**

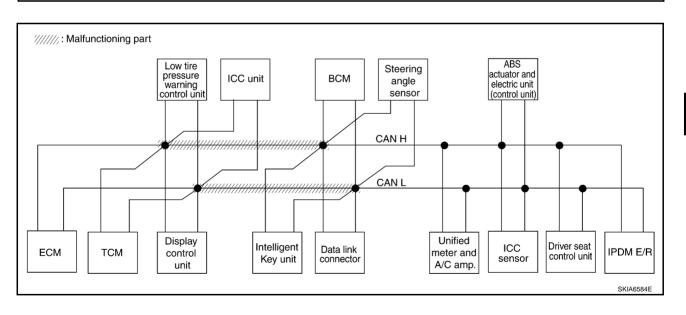
#### NOTE:

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-116</u>, "Circuit Check Between TCM and Data Link Connector".

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	EM screen	Initial	Transmit						Receive o	diagnosis					
		diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	1	ı	UNKWN	-	UNK WN	-	UNK WN	_	UNKWN	UNK WI
A/T	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	1	ı	-	UNKWN	_	UNK WN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	ı	CAN CIRC 6	_	ı	CANCAC 2	-	CANCAC 5	_	_	CANCAC
AIR PRESSURE MONITOR	No indication	₩	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	Ω <b>ΝΚ</b> { MN	_	_	UNK WN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_
BCM	No indication	NG	UNKWN	UNK WN	_	_	ı	_	UNKWN	-	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK/WN	UNKWN	UNK WN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNK <b>W</b> N	_	-	_	_	-	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



С

В

Α

D

Е

G

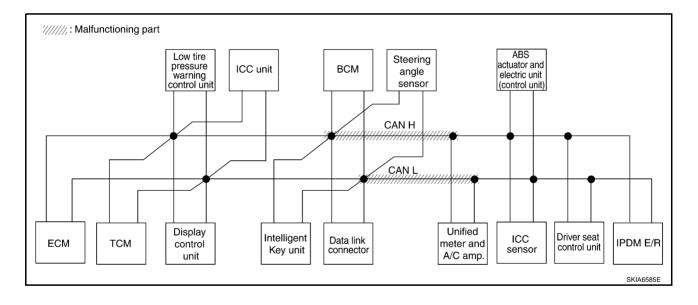
Н

LAN

ı

Case 2
Check harness between data link connector and unified meter and A/C amp. Refer to <u>LAN-117</u>, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."

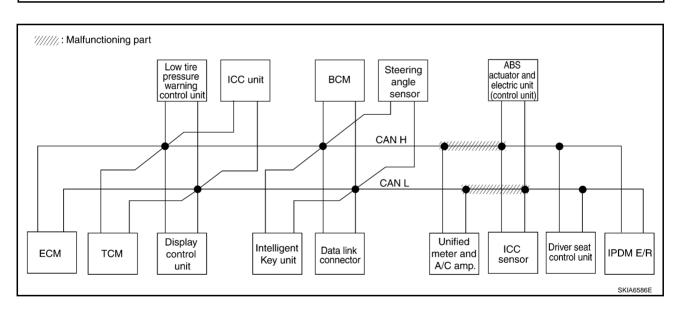
							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	-M screen	Initial	Transmit						Receive of	diagnosis					
02220101011		diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	UNI	_	UNYWN	UNI WI
A/T	ı	NG	UNKWN	UNKWN	_	_	ı	UNKWN	1	ı	ı	<b>UNK</b> WN	_	UNI <b>W</b> N	_
Display control unit	I	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	ı	ı	CAN CIRC 2	ı	CAN FIRC 5	_	_	CANORC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	UNKWN	_	_	UNIWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	n <b>ık</b> {\w}ν	Ω <b>Μ</b> ΜΝ	_	_	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	_	_	_	_



Case 3

Check harness between unified meter and A/C amp. and ABS actuator and electric unit (control unit). Refer to LAN-117, "Circuit Check Between Unified Meter and A/C Amp. and ABS Actuator and Electric Unit (Control Unit)".

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	=M screen	Initial	Transmit						Receive of	diagnosis					
0222010101		diagnosis		ECM	ТСМ	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	ı	UNKWN	ı	UNKWN	_	UNKWN	_	UNIWN	UNWWI
A/T	_	NG	UNKWN	UNKWN	I	_	1	UNKWN	1	1	_	UNKWN	_	UNIV	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	_	CAN CIRC 6	I	ı	CAN CIRC 2	_	CAN CIRC 5	_	ı	CANORC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	ı	_	ı	1	ı		_	UNKWN	_	-	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	-	1	-	UNKWN	_	-	UNI <b>W</b> N	UNI <b>W</b> N	_
INTELLIGENT KEY	No indication	ı	UNKWN	ı	ı	_	ı	ı	ı	UNKWN	_	ı	_	1	_
BCM	No indication	NG	UNKWN	UNKWN	ı	_	ı	1	UNKWN	ı	-	UNKWN	_	ı	UNWWI
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	ı	_	UNWN	_
ABS	_	NG	UNKWN	UNK WN	UNI WN	_	-	1	-	-	UNI WN	-	_	-	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	ı	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	_	_	_	_	UNKWN	_	_	_	_	_



В

Α

С

D

Е

F

G

Н

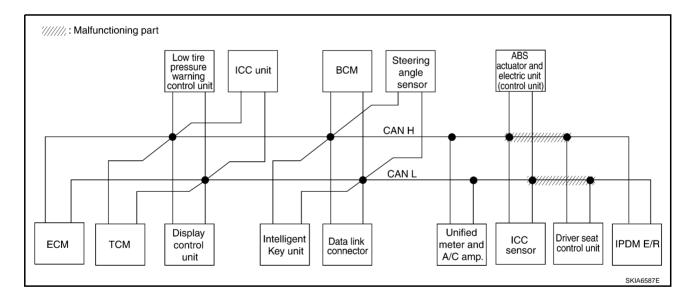
LAN

L

Case 4

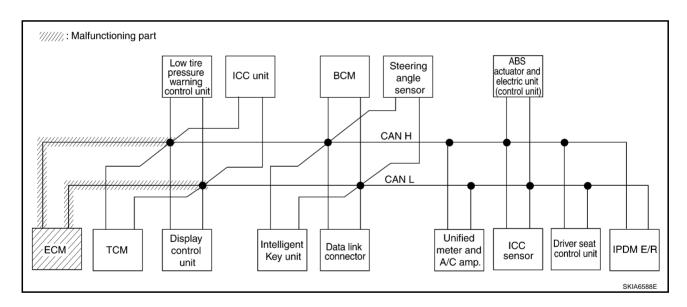
Check harness between ABS actuator and electric unit (control unit) and driver seat control unit. Refer to <u>LAN-118</u>, "Circuit Check Between ABS Actuator and Electric Unit (Control Unit) and Driver Seat Control Unit".

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	=M screen	Initial	Tuomomia						Receive o	diagnosis					
322201 01011	IN SOICCIT	diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	ı	UNKWN	_	UNKWN	_	UNKWN	UNIWN
A/T	_	NG	UNKWN	UNKWN	_	-	ı	UNKWN	ı	1	_	UNKWN	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	-	ı	CAN CIRC 2	_	CAN CIRC 5	_	-	CANORC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	ı	-	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	_	-	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	-	UNKWN	_	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	-	-	UNKWN		_	UNKWN	_	-	UNION
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	ı	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	1	-	UNKWN	ı	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	-	UNKWN	_	_	_	_	_



Case 5
Check ECM circuit. Refer to <u>LAN-119</u>, "ECM Circuit Check" .

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTI	-M screen	Initial	Transmit						Receive of	diagnosis					
02220101011		diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNIVWN	_	ı	UNIKWN	1	UNKWN	_	UNIWN	_	UNKWN	UNYWI
A/T	ı	NG	UNKWN	UNKWN	_	_	ı	UNKWN	ı	1	_	UNKWN	1	UNKWN	_
Display control unit	ı	CAN COMM	CAN CIRC 1	CAN FIRC 3	1	_	CAN CIRC 6	-	ı	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	ı	_	ı	ı	_	UNKWN	_	_	_
ICC	1	NG	UNKWN	Ω <b>ΝΚ</b> (ΜΝ	UNKWN	-	ı	_	1	UNKWN	_	ı	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	-	_	-	UNKWN	_	-	_	_	_
ВСМ	No indication	NG	UNKWN	UNK WN	_	_	-	_	UNKWN	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNWWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	ı	_	ı	_	UNKWN	ı	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	_	1	UNKWN	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	_	_	UNKWN	_	_			_



В

Α

С

D

Е

F

G

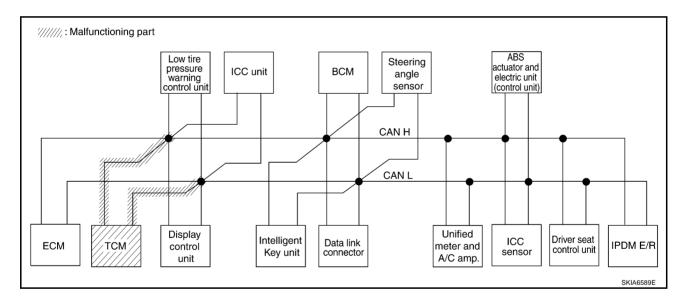
Н

J

LAN

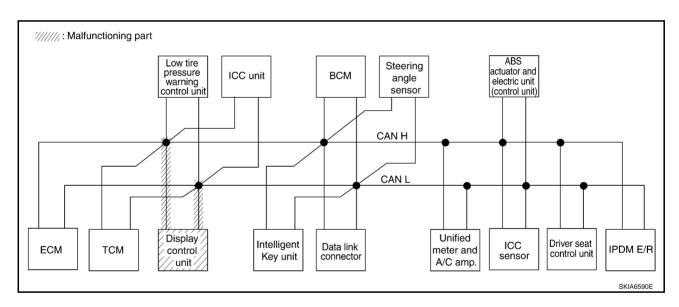
Case 6
Check TCM circuit. Refer to <u>LAN-119</u>, "TCM Circuit Check" .

							CAN	DIAG SU	PPORT N	/INTR					
SELECT SYSTE	M screen	Initial	Transmit						Receive of	diagnosis					
00	00.00		diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWI
A/T	_	NG	<b>∩Μ</b> ₩Ν	UNI WN	_	_	_	UNIXWN	_	-	_	<b>UNK</b> WN	_	UNI WN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ICC	-	NG	UNKWN	UNKWN	UNI <b>W</b> N	_	_	_	_	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	1	ı	UNKWN	_	-	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNI <b>W</b> N	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNI WN	_	_	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	_	_	_	UNKWN	_	UNKWN	_		_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



Case 7
Check display control unit circuit. Refer to <u>LAN-120</u>, "<u>Display Control Unit Circuit Check</u>".

							CAN	DIAG SU	PPORT N	INTR								
SELECT SYSTE	M screen	Initial	Transmit diagnosis															
				ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	1	UNKWN	_	ı	UNKWN	ı	UNKWN	_	UNKWN	_	UNKWN	UNKWN			
A/T	_	NG	UNKWN	UNKWN	ı	_	ı	UNKWN	1		_	UNKWN	_	UNKWN	_			
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	ı	_	CANORC 6	_	ı	CAN PRC 2	_	CANCAC 5	_	-	CANCAC 7			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	_	_	1	_	ı	_	_	UNKWN	_	_	_			
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	ı	UNKWN	_	_	UNKWN	UNKWN	_			
INTELLIGENT KEY	No indication	ı	UNKWN	ı	-	_	ı	_	ı	UNKWN	_	-	_	1	-			
всм	No indication	NG	UNKWN	UNKWN	_	_	ı	_	UNKWN	_	_	UNKWN	_	_	UNKWN			
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	-			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	-	_	UNKWN	_	_	_	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	ı	UNKWN	_	-	_	1	UNKWN	_	UNKWN	_	_	_			
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	_	_	1	UNKWN	_	_	_	_	_			
														Р	KIA7970E			



В

Α

С

D

Е

F

G

Н

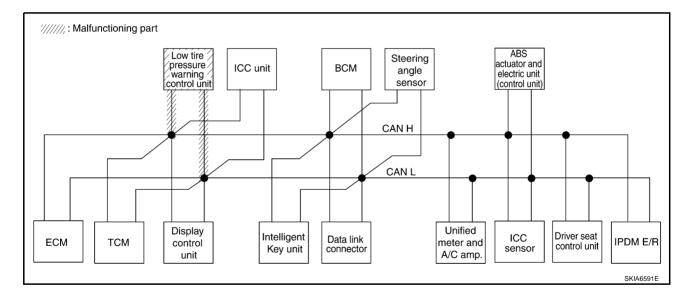
J

LAN

.

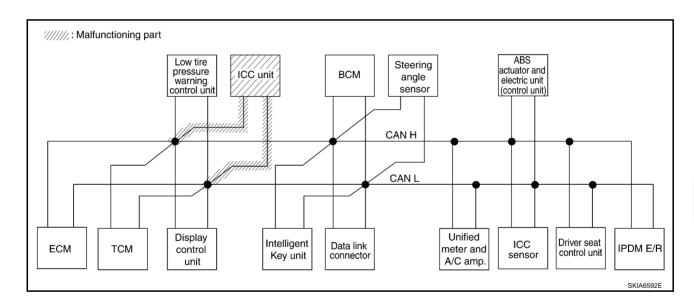
Case 8
Check low tire pressure warning control unit circuit. Refer to <u>LAN-120</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

		CAN DIAG SUPPORT MNTR													
SELECT SYSTE	Magroop		Transmit diagnosis						Receive of	diagnosis					
32120131312		Initial diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CANORC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC 7
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	-	_	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	ı	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	1	UNKWN	UNKWN	UNKWN	UNKWN	UNIWN	UNKWN	UNKWN	UNKWN	_	-	_	UNKWN	1
ABS	1	NG	UNKWN	UNKWN	UNKWN	_	_	_		_	UNKWN	_	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



Case 9
Check ICC unit circuit. Refer to LAN-121, "ICC Unit Circuit Check".

		CAN DIAG SUPPORT MNTR																
SELECT SYSTE	FM screen	Initial	Transmit															
			diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	1	UNKWN	_	1	UNIXWN		UNKWN	-	UNKWN	_	UNKWN	UNKWN			
A/T	ı	NG	UNKWN	UNKWN	-	_	ı	UNI WN	1	_	1	UNKWN	_	UNKWN	1			
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	ı	CAN CIRC 2	ı	CAN CIRC 5	_	-	CAN CIRC 1			
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	_	_			
ICC	_	NG	Ω <b>νΚ</b> ⁄⁄⁄⁄/(Ν	UNI WN	Ω <b>Μ</b> ΜΝ	_	-	_	1	UNKWN	-	_	Ω <b>M</b> MM	UNK WN	_			
INTELLIGENT KEY	No indication	_	UNKWN	ı	_	_	ı	_	_	UNKWN	ı	_	_	ı	_			
BCM	No indication	NG	UNKWN	UNKWN	_	_	ı	_	UNKWN	_	ı	UNKWN	_	-	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	∩ <b>M</b> MN	UNKWN	UNKWN	_	_	_	UNKWN	_			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	_	_	UNKWN	_	_	_	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_	_	_	-	UNKWN	-	UNKWN	_	-	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_			



В

Α

D

Е

F

G

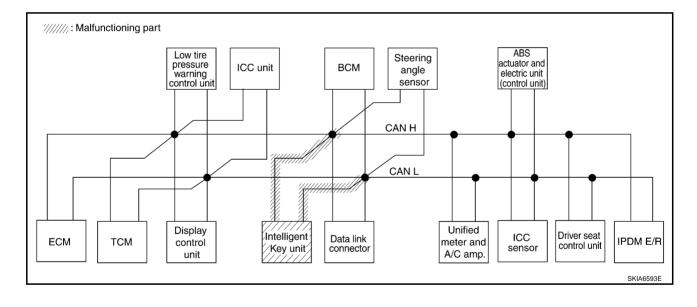
Н

J

LAN

Case 10
Check Intelligent Key unit circuit. Refer to <u>LAN-121</u>, "Intelligent Key Unit Circuit Check".

				CAN DIAG SUPPORT MNTR												
SELECT SYSTE	EM screen	Initial	Transmit						Receive	diagnosis						
			diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNKWN	ı	UNKWN	-	UNKWN	_	UNKWN	UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	ı	ı	-	UNKWN	_	UNKWN	_	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	-	CAN CIRC 2	ı	CAN CIRC 5	_	_	CAN CIRC 7	
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	ı	_	1	-	ı	UNKWN	_	_	_	
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	_	UNKWN	-	_	UNKWN	UNKWN	_	
INTELLIGENT KEY	No invication	-	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	_	_	
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNWWN	_	_	UNKWN	_	_	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNWWN	UNKWN	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	_	UNKWN	_	_	_	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	1	_	ı	UNKWN	ı	UNKWN	_		_	
IPDM E/R	No indication	1	UNKWN	UNKWN	_	_	_	_	1	UNKWN	_	_	_	_	_	
														Р	KIA7973E	



Α

В

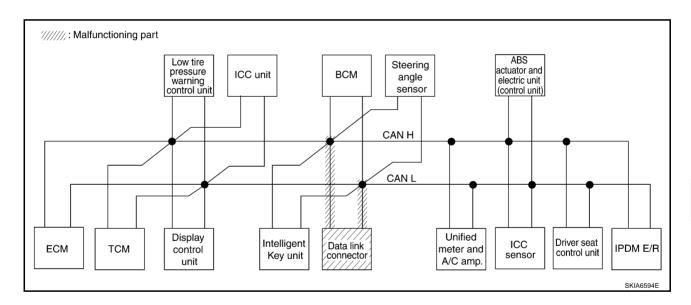
D

Е

Н

Case 11
Check data link connector circuit. Refer to LAN-122, "Data Link Connector Circuit Check".

		CAN DIAG SUPPORT MNTR															
SELECT SYSTE	EM screen	Initial diagnosis	Transmit diagnosis	Receive diagnosis													
				ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R		
ENGINE	ı	NG	UNKWN	_	UNKWN	_	ı	UNKWN	1	UNKWN	_	UNKWN	_	UNKWN	UNKWN		
A/T	ı	NG	UNKWN	UNKWN	-	-	ı	UNKWN	1	-	_	UNKWN	_	UNKWN	_		
Display control unit	ı	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC 7		
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_		-	_	UNKWN	_	_	_		
ICC	ı	NG	UNKWN	UNKWN	UNKWN	_	ı	_	1	UNKWN	_	ı	UNKWN	UNKWN	_		
INTELLIGENT KEY	No invication	ı	UNKWN	-	-	_	ı	_	_	UNKWN	_	ı	_	_	_		
BCM	No indication	NG	UNKWN	UNKWN	_	-	I	_	UNKWN	-	_	UNKWN	_	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	-	_	UNKWN	_	_	_	_		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	-	UNKWN	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_		

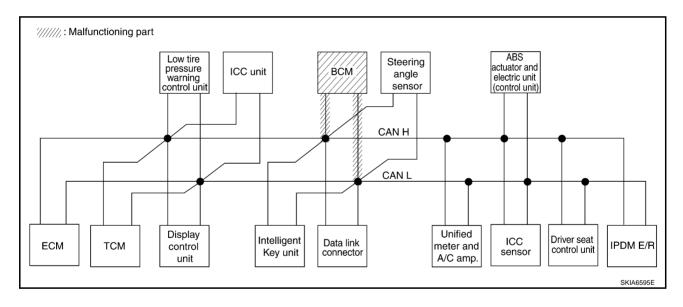


LAN

-/ \| \

Case 12
Check BCM circuit. Refer to <u>LAN-122</u>, "BCM Circuit Check" .

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	-M screen	Initial	Transmit						Receive of	diagnosis					
022201 01012			diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNI	-	UNKWN	_	UNKWN	UNKWN
A/T	ı	NG	UNKWN	UNKWN	_	_	-	UNKWN		-	1	UNKWN	_	UNKWN	_
Display control unit	1	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN ORC 2	1	CAN CIRC 5	_	_	CAN CIRC 1
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	-	UNKWN	_	_	_
ICC	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UN <b>∳</b> WN	-	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	-	_	-	<b>∩νΚ</b> ⁄⁄⁄⁄⁄ΝΝ	_	_	_	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	ı	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNWWN	1	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	-	UNKWN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



В

С

D

Е

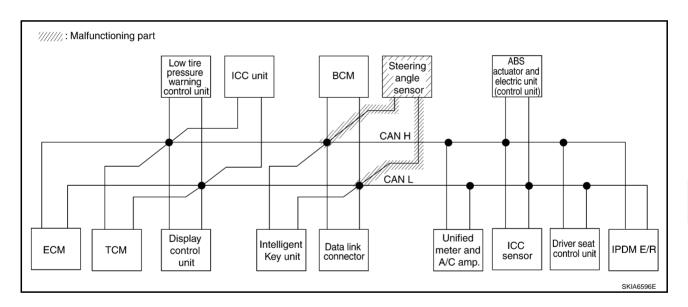
F

G

Н

Case 13
Check steering angle sensor circuit. Refer to <u>LAN-123</u>, "Steering Angle Sensor Circuit Check".

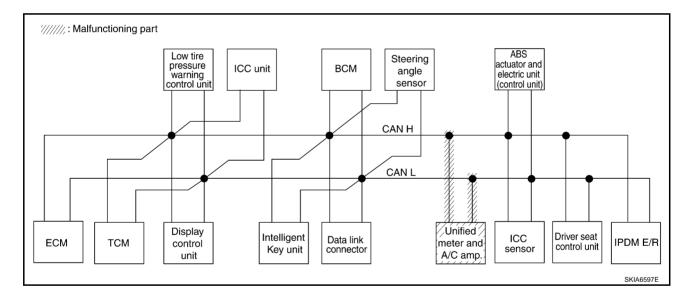
							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	-M screen	Initial	Transmit						Receive of	diagnosis					
			diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	I	UNKWN	1	UNKWN	_	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC 7
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	ı	_	-	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	-	UNKWN	-	_	_	-	_	_	UNKWN	_	_	_	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNK WN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_		_		UNKWN	_	UNKWN	_		_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	-	UNKWN		_	_	_	_



LAN

Case 14
Check unified meter and A/C amp. circuit. Refer to LAN-123, "Unified Meter and A/C Amp. Circuit Check".

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	M screen	Initial	Transmit						Receive	diagnosis					
			diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	1	UNWWN	_	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	ı	UNKWN	_	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	1	CAN ORC 5	_	_	CAN CIRC 7
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	ı	UNKWN	_	_	I
ICC	1	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	ı	_	UNKWN	UNKWN	l
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	UNKWN	ı	_	_	_	ı
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	<b>NN</b> WN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	_
ABS	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	ı	<b>NAM</b> WN	_	_	1
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN		_	_	_	-
														Р	KIA7977E



В

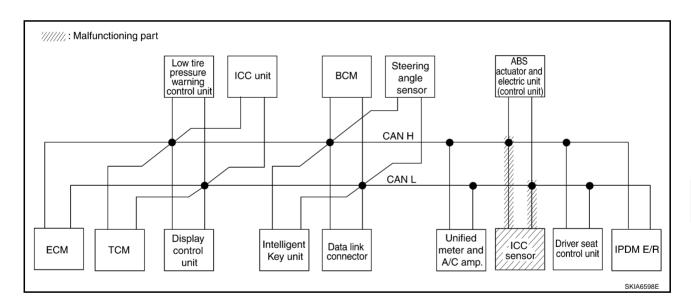
С

D

Е

Case 15
Check ICC sensor circuit. Refer to <u>LAN-124</u>, "ICC Sensor Circuit Check" .

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	M screen	Initial	Transmit						Receive of	diagnosis					
0222010101		diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	1	NG	UNKWN	1	UNKWN	_	ı	UNKWN	1	UNKWN	1	UNKWN	_	UNKWN	UNKWI
A/T	ı	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	-	-	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	_	ı	ı	1	1	ı	UNKWN	_	-	_
ICC	-	NG	UNKWN	UNKWN	UNKWN	_				UNKWN	1	_	Ω <b>ΝΚ</b> ΜΝ	UNKWN	_
INTELLIGENT KEY	No indication	1	UNKWN	1	_	_	1	1	-	UNKWN		1	_	-	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	I	I	UNKWN	-	ı	UNKWN	_	1	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	1	NG	UNKWN	UNKWN	UNKWN	_	1	1	1	1	UNKWN	_	_	-	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



F

G

Н

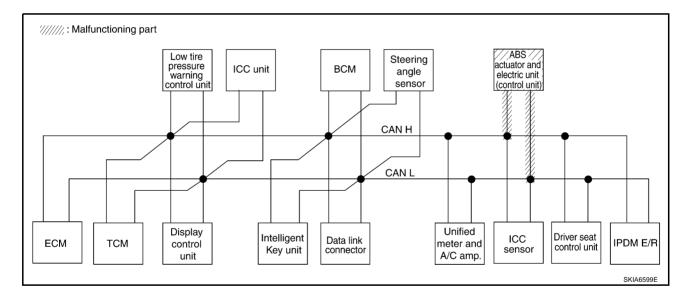
ı

J

LAN

Case 16
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-124</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	M screen	Initial	Tue						Receive of	diagnosis					
022201 01012		diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNIMN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN	_	UNK WN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	ı	CAN CIRC 2	_	CAN CIRC 5	_	-	CAN CIRC :
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	-	_	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	1	UNKWN	_	_	UNKWN	UNI WN	_
INTELLIGENT KEY	No indication	1	UNKWN	_	_	-	ı	_	ı	UNKWN	_	1	_	1	-
BCM	No indication	NG	UNKWN	UNKWN	_	_	I	_	UNKWN	1	-	UNKWN	_	ı	UNKWN
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	-	_	UNIXWN	_
ABS	_	NG	UNK\\\	Ω <b>Μ</b> ΜΝ	Ω <b>Ν</b> ΥΜΝ	_		_	-	_	Π <b>ΛΚ</b> ΜΝ	_	_	-	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	ı	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



В

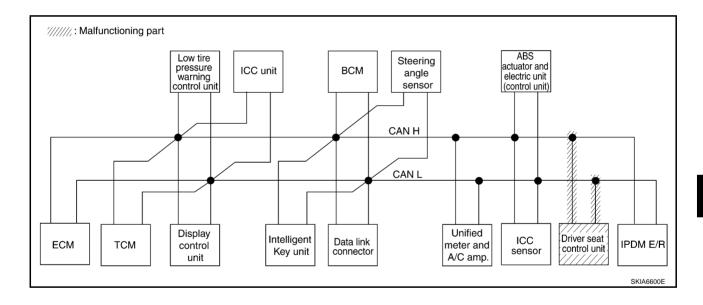
D

Е

Н

Case 17
Check driver seat control unit circuit. Refer to LAN-125, "Driver Seat Control Unit Circuit Check".

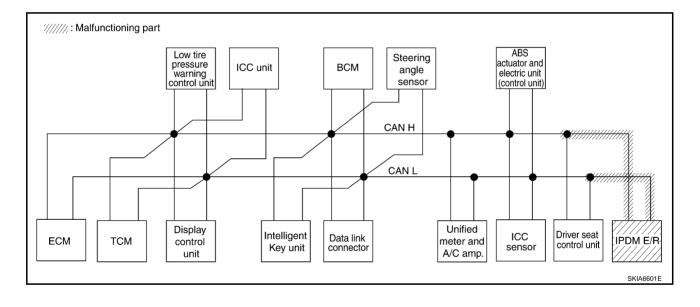
							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	-M screen	Initial	Transmit						Receive of	diagnosis					
022201 01011		diagnosis		ECM	ТСМ	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	1	UNKWN	_	-	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	ı	_	_	_	_	-	_	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	UNKWN	-	-	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	ı	_	_	-	_	_	UNKWN	1	ı	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	-	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		1	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_		UNKWN	1	_	_	_
AUTO DRIVE POS.	No invication	NG	UNKWN	_	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



LAN

Case 18
Check IPDM E/R circuit. Refer to LAN-126, "IPDM E/R Circuit Check".

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	Magroop								Receive	diagnosis					
3ELECT 3131E		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	ı	UNKWN	_	UNKWN	_	UNKWN	UNIO
A/T	_	NG	UNKWN	UNKWN	_	-	1	UNKWN	-	-	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	-	CAN CIRC 2	_	CAN CIRC 5	_	_	CANORC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	1	-	_	UNKWN	_	_	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	-	UNKWN	_	_	_	-	_	-	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	ı	_	UNKWN	1	_	UNKWN	_	_	UNI WI
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	_	-	1	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_		_	ı	UNKWN	_	UNKWN		_	
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_



Case 19

Check CAN communication circuit. Refer to LAN-127, "CAN Communication Circuit Check" .

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	-M screen	Initial	Transmit						Receive of	diagnosis					
022201 01011			diagnosis	ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNI	ı	UNYWN	_	_	UNION	_	UNIWN	ı	UNIXWN	_	UNKWN	UNYWI
A/T	_	NG	UNI WN	UNWWN	_	_	_	UNK WN	_	_	ı	<b>NNK</b> WN	_	UNK <b>W</b> N	-
Display control unit	_	CAN COMM	CANORC 1	CANORC 3	_	_	CANCAC 6	_	_	CANORC 2	1	CANORC 5	_	_	CANORC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	-	UNKWN	_	_	-
ICC	_	NG	UNKWN	UNIWN	UN <b>∳</b> WN	_	_	_	_	UNIXWN	-	_	UN <b>K</b> ₩N	Ω <b>NK</b> WN	_
INTELLIGENT KEY	No indication	_	UNKWN	ı	_	_	-	-	-	UNKWN	ı	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	_	_	UNKWN	_
ABS	-	NG	UM WN	UNKWN	UN <b>K</b> WN	_	_	_	_	_	∩ <b>NA</b> MN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	_	_	UNKWN	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_

## Case 20

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-132</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	EM screen	Initial	Transmit						Receive	diagnosis					
		diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNIVWN	_	ı	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	ı	UNKWN	_	ı	_	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
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	-	_	_	_	_	UNKWN	_	_	_
ICC	-	NG	UNKWN	UNKWN	<b>ΩΝΚ</b> ΜΝ	_	ı	_	_	UNKWN	_	ı	UNKWN	Ω <b>NR</b> WN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	-	-	_	UNKWN	_	ı	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNYWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	ı	_	UNI	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	_	UNKWN	-	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	1			UNKWN	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	_	_	_

Revision: 2004 November **LAN-115** 2004.5 FX35/FX45

Α

В

С

D E

F

G

Н

LAN

L

 $\mathbb{N}$ 

#### Case 21

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-132, "IPDM E/R Ignition Relay Circuit Check" .

							CAN	DIAG SU	PPORT N	INTR					
SELECT SYSTE	M screen	Initial	Transmit						Receive of	diagnosis					
022201 01012	in doloch	diagnosis		ECM	тсм	DISPLAY	TIRE-P	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	_	UNKWN	_	ı	UNKWN	1	UNKWN	_	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	UNIV	-	_	_	UNKWN	_	UNKWN	_
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	1	1	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1	_	_	ı	1	1	1	_	UNKWN	_	_	_
ICC	1	NG	UNKWN	UNKWN	UNKWN	_	ı	_	1	UNKWN	_	1	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	ı	UNKWN	_	_	_	ı	_	-	UNKWN	_	ı	_	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	ı	_	UNKWN	_
ABS	-	NG	UNKWN	UNI WN	UNKWN	_	-	_	1		∩ <b>M</b> MN	1	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN				_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	1	UNKWN	UNKWN	_	_	_		1	UNKWN	_	_	_	_	_

## **Circuit Check Between TCM and Data Link Connector**

AKS007RW

# 1. CHECK HARNESS FOR OPEN CIRCUIT

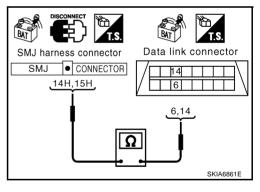
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 14H (L), 15H (R) and data link connector M5 terminals 6 (L), 14 (R).

14H (L) - 6 (L) : Continuity should exist. 15H (R) - 14 (R) : Continuity should exist.

#### OK or NG

OK  $\rightarrow$  Connect all the connectors and diagnose again. Refer to LAN-92, "Work Flow" .

NG >> Repair harness.



[CAN]

В

F

Н

# Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.

# 1. CHECK HARNESS FOR OPEN CIRCUIT

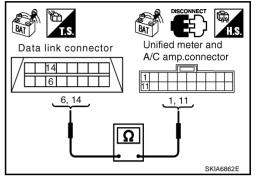
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect ECM connector and unified meter and A/C amp. connector.
- Check continuity between data link connector M5 terminals 6 (L). 14 (R) and unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R).

6 (L) - 1 (L) : Continuity should exist. 14 (R) - 11 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-92, "Work Flow".

NG >> Repair harness.



## Circuit Check Between Unified Meter and A/C Amp. 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 M41
- Harness connector E211

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

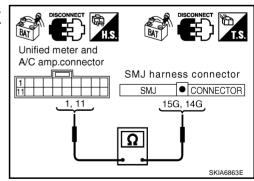
- Disconnect unified meter and A/C amp. connector and harness connector M41.
- Check continuity between unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R) and harness connector M41 terminals 15G (L), 14G (R).

1 (L) - 15G (L) : Continuity should exist. 11 (R) - 14G (R) : Continuity should exist.

#### OK or NG

OK >> GO TO 3.

NG >> Repair harness.



LAN

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

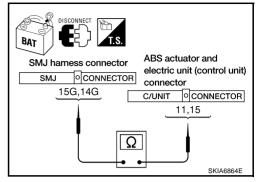
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E211 terminals 15G (L), 14G (R) and ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R).

15G (L) - 11 (L) : Continuity should exist. 14G (R) - 15 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-92. "Work Flow".

NG >> Repair harness.



# Circuit Check Between ABS Actuator and Electric Unit (Control Unit) 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 E205
- Harness connector B5

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

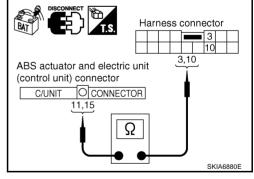
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and harness connector E205 terminals 3 (L), 10 (R).

11 (L) - 3 (L) 15 (R) - 10 (R) : 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 B8.
- Check continuity between harness connector B5 terminals 3 (L). 10 (R) and harness connector B8 terminals 14 (L), 15 (R).

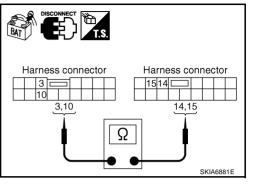
3 (L) - 14 (L) 10 (R) - 15 (R) : Continuity should exist.

: Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-92, "Work Flow".

NG >> Repair harness.



AKS007S0

## **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

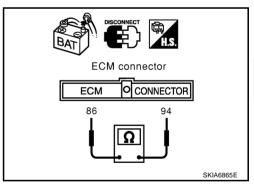
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector M90 terminals 94 (L) and 86 (R).

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

#### OK or NG

OK >> Replace ECM. NG

>> Repair harness between ECM and harness connector M82.



AKS007S1

#### **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).
- A/T assembly connector
- Harness connector F102
- Harness connector M82

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

**LAN-119** Revision: 2004 November 2004.5 FX35/FX45

Α

В

F

Н

LAN

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect A/T assembly connector.
- Check resistance between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

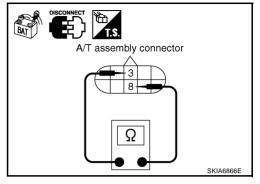
**3 (L) - 8 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace control valve with TCM.

NG

>> Repair harness between A/T assembly and display control unit.



AKS007S2

# **Display Control Unit Circuit Check**

#### 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

- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M76 terminals 25 (L) and 26 (R).

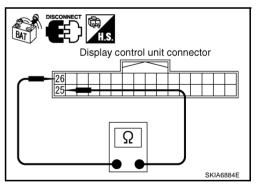
**25** (L) - **26** (R) : Approx. **54** - **66**
$$\Omega$$

#### OK or NG

OK >> Replace display control unit.

NG

>> Repair harness between display control unit and harness connector M82.



# Low Tire Pressure Warning Control Unit Circuit Check

AKS007S3

#### 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.

AKS007S4

В

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

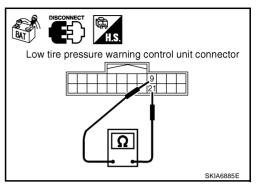
- Disconnect low tire pressure warning control unit connector.
- Check resistance between low tire pressure warning control unit harness connector M74 terminals 9 (L) and 21 (R).

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

#### OK or NG

>> Replace low tire pressure warning control unit. OK

NG >> Repair harness between low tire pressure warning control unit and harness connector M82.



#### **ICC Unit Circuit Check**

#### 1. CHECK CONNECTOR

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

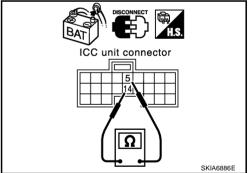
- 1. Disconnect ICC unit connector.
- Check resistance between ICC unit harness connector M88 terminals 14 (L) and 5 (R).

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

#### OK or NG

OK >> Replace ICC unit.

NG >> Repair harness between ICC unit and harness connector M82.



# **Intelligent Key Unit Circuit Check**

## 1. CHECK CONNECTOR

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

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

LAN

Н

AKS007S5

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

- 1. Disconnect Intelligent Key unit connector.
- Check resistance between Intelligent Key unit harness connector M34 terminals 2 (L) and 3 (R).

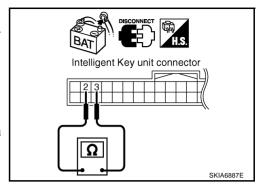
**2 (L) - 3 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace Intelligent Key unit.

NG

>> Repair harness between Intelligent Key unit and data link connector.



AKS007S6

## **Data Link Connector Circuit Check**

## 1. CHECK CONNECTOR

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

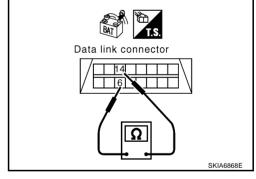
Check resistance between data link connector M5 terminals 6 (L) and 14 (R).

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

#### OK or NG

OK >> Diagnose again. Refer to LAN-92, "Work Flow".

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



AKS007S7

#### **BCM Circuit Check**

## 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.

В

Н

LAN

M

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M3 terminals 39 (L) and 40 (R).

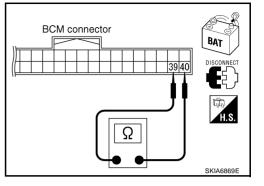
: Approx. 54 - 66 $\Omega$ 

#### OK or NG

OK

>> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM".

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



AKS007S8

# **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 M14 terminals 4 (L) and 5 (R).

: Approx. 54 - 66 $\Omega$ 

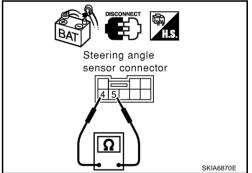
#### OK or NG

OK

>> Replace steering angle sensor.

NG

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



AKS007S9

# 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.

Revision: 2004 November

NG >> Repair terminal or connector.

**LAN-123** 2004.5 FX35/FX45

# $\overline{2}$ . 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 M55 terminals 1 (L) and 11 (R).

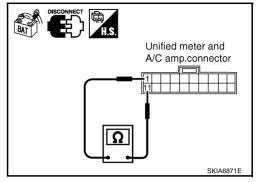
**1 (L) - 11 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG

>> Repair harness between unified meter and A/C amp. and harness connector M41.



#### AKS007SA

#### **ICC Sensor Circuit Check**

#### 1. CHECK CONNECTOR

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

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ICC sensor connector.
- 2. Check resistance between ICC sensor harness connector E39 terminals 3 (L) and 6 (R).

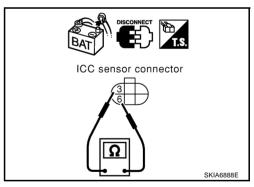
**3 (L) - 6 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace ICC sensor.

NG >> Repa

>> Repair harness between ICC sensor and ABS actuator and electric unit (control unit).



# ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS007SB

## 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 E56 terminals 11 (L) and 15 (R).

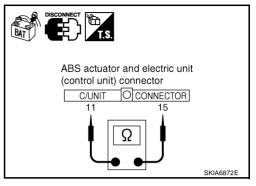
11 (L) - 15 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG >> Repair harness between ABS actuator and electric unit

(control unit) and ICC sensor.



AKS007SC

## **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 B151
- Harness connector B8

#### 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 B152 terminals 14 (OR) and 15 (SB).

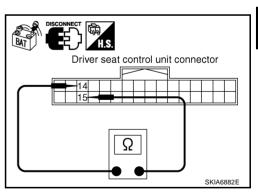
14 (OR) - 15 (SB) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B5.



В

Α

LAN

Н

## **CAN SYSTEM (TYPE 3)**

#### [CAN]

AKS007SD

## **IPDM E/R 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).
- IPDM E/R connector
- Harness connector E205
- Harness connector B5

#### 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 (R).

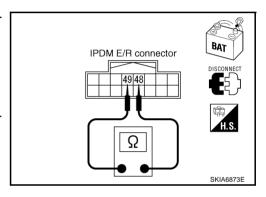
: **Approx. 108 - 132** $\Omega$ 

#### OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector B8.



## **CAN SYSTEM (TYPE 3)**

[CAN]

AKS007SE

Α

В

С

D

F

G

Н

## **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, sensor side, meter side and harness side).
- ECM
- A/T assembly
- Display control unit
- Low tire pressure warning control unit
- ICC unit
- Intelligent Key unit
- BCM
- Steering angle sensor
- Unified meter and A/C amp.
- ICC sensor
- ABS actuator and electric unit (control unit)
- Driver seat control unit
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and A/T assembly

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

LAN

J

Ė

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

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- Low tire pressure warning control unit connector
- ICC unit connector
- Intelligent Key unit connector
- BCM connector
- Steering angle sensor connector
- Unified meter and A/C amp. connector
- Harness connector M41
- 2. Check continuity between data link connector M5 terminals 6 (L) and 14 (R).

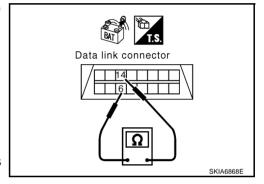
6 (L) - 14 (R) : Continuity should not exist.

#### 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 low tire pressure warning control unit
  - Harness between data link connector and ICC unit
  - Harness between data link connector and Intelligent Key unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41



# 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M5 terminals 6 (L), 14 (R) and ground.

6 (L) - Ground : Continuity should not exist. 14 (R) - 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 low tire pressure warning control unit
  - Harness between data link connector and ICC unit
  - Harness between data link connector and Intelligent Key unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

# 4. CHECK HARNESS FOR SHORT CIRCUIT

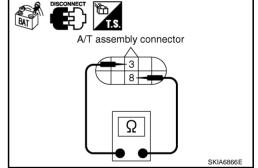
- Disconnect A/T assembly connector.
- 2. Check continuity between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

3 (L) - 8 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 5.

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



# 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between A/T assembly harness connector F44 terminals 3 (L), 8 (R) and ground.

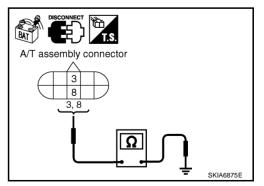
3 (L) - Ground : Continuity should not exist. 8 (R) - Ground : Continuity should not exist.

#### OK or NG

NG

OK >> GO TO 6.

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



Data link connector

6, 14

SKIA6874E

F

Н

I

LAN

SKIA6876E

# 6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector, ICC sensor connector and harness connector E205.
- 2. Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

11 (L) - 15 (R) : Continuity should not exist.

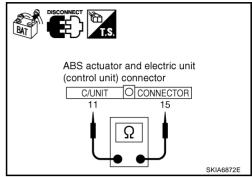
#### OK or NG

OK

>> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205
  - Harness between ABS actuator and electric unit (control unit) and ICC sensor



ABS actuator and electric unit

11,15

O CONNECTOR

(control unit) connector

C/UNIT

# 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and ground.

11 (L) - Ground

: Continuity should not exist.

15 (R) - Ground

: Continuity should not exist.

#### OK or NG

OK

>> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205
  - Harness between ABS actuator and electric unit (control unit) and ICC sensor

# 8. CHECK HARNESS FOR SHORT CIRCUIT

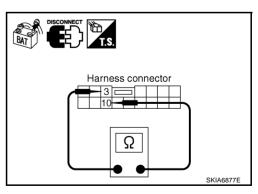
- 1. Disconnect harness connector B8.
- Check continuity between harness connector B5 terminals 3 (L) and 10 (R).

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

#### OK or NG

OK NG >> GO TO 9.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8



#### [CAN]

SKIA6878E

# 9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L), 10 (R) and ground.

> 3 (L) - Ground : Continuity should not exist. 10 (R) - 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 harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8

# 10. CHECK HARNESS FOR SHORT CIRCUIT

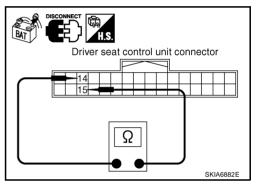
- Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B152 terminals 14 (OR) and 15 (SB).

#### OK or NG

OK >> GO TO 11.

NG

>> Repair harness between driver seat control unit and harness connector B151.



Harness connector

10 3,10

# 11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B152 terminals 14 (OR), 15 (SB) and ground.

> 14 (OR) - Ground : Continuity should not exist. 15 (SB) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 12.

NG

>> Repair harness between driver seat control unit and harness connector B151.

# Driver seat control unit connector 14,15

# 12. CHECK HARNESS FOR SHORT CIRCUIT

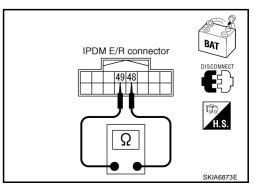
- Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (R).

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

#### OK or NG

OK >> GO TO 13.

NG >> Repair harness between IPDM E/R and harness connector E205.



Α

F

LAN

# 13. CHECK HARNESS FOR SHORT CIRCUIT

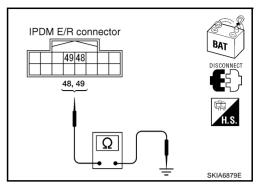
Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (R) and ground.

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

#### OK or NG

OK >> GO TO 14.

NG >> Repair harness between IPDM E/R and harness connector E205.



# 14. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-132</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-92</u>, "Work Flow".

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

# IPDM E/R Ignition Relay Circuit Check

AKS007SF

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

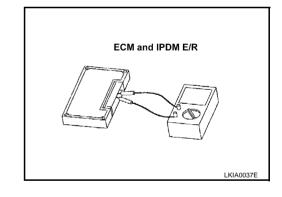
- IPDM E/R power supply circuit. Refer to PG-28, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12, "IGNITION POWER SUPPLY IGNITION SW. IN "ON"</u> AND/OR "START"".

# Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS007SG

- 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 ( $\Omega$ ) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



#### [CAN]

# **CAN SYSTEM (TYPE 4)**

PFP:23710

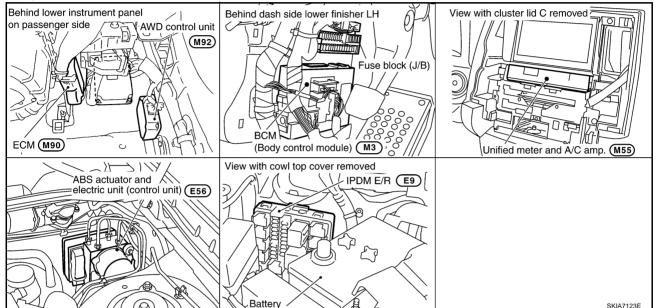
# **System Description**

AKS007SH

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

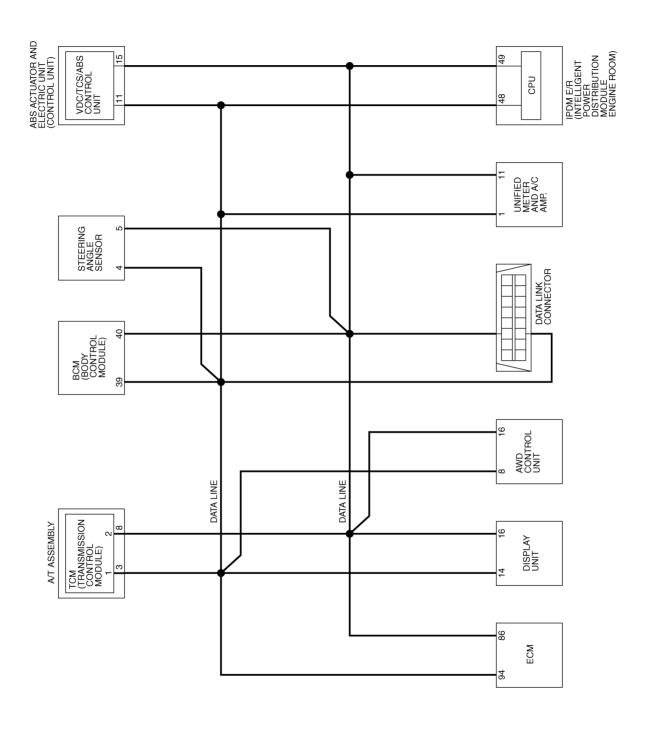
AKS007S



LAN

L

Schematic AKS0075J

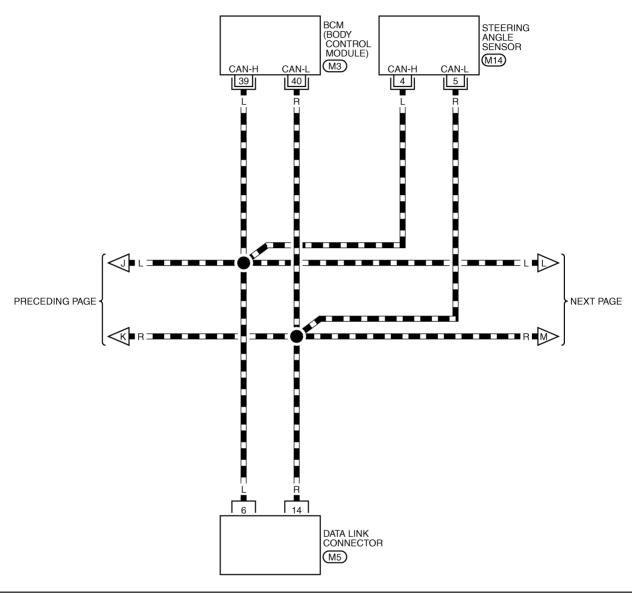


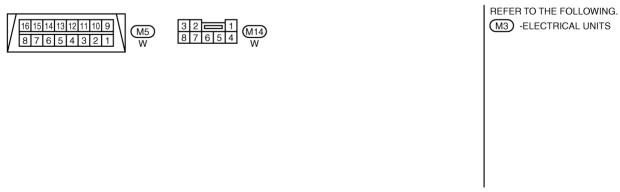
TKWM1296E

TKWM1297E

# LAN-CAN-09

: DATA LINE





TKWM0752E

В

D

Е

G

Н

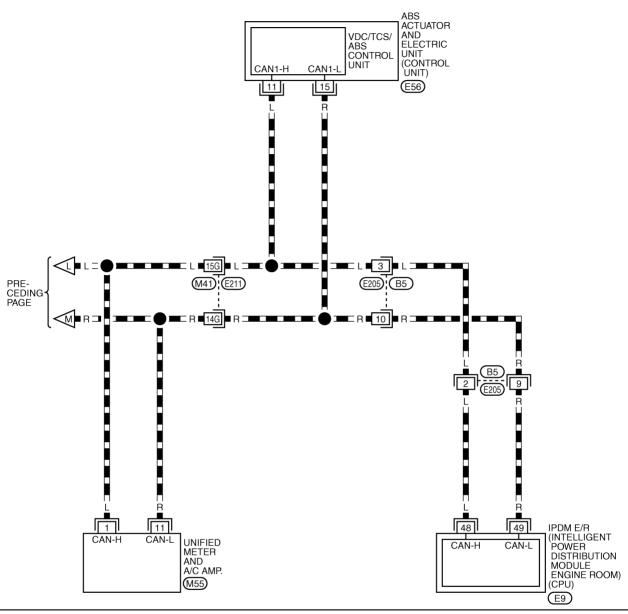
J

LAN

M

## LAN-CAN-10

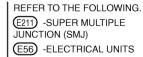
: DATA LINE





1 2 3 = 4 5 6 7 8 9 10 11 12 13 14 15 16 W

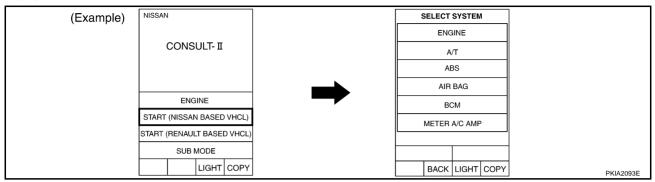




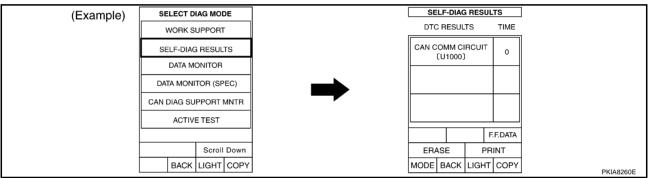
TKWH0250E

Work Flow

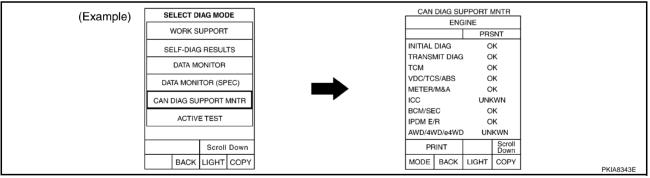
1. When there are no indications of "BCM", "METER A/C AMP" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-140, "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-140, "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-86, "CAN Communication Line Inspection"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-140</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-140</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-86, "CAN Communication Line Inspection".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-142, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

В

Α

С

D

Е

F

G

Н

J

LAN

ı

#### **CHECK SHEET**

#### NOTE:

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

SELECT SYSTE  NGINE  VT  isplay unit		Initial diagnosis	Transmit diagnosis		Γ		Rec	eive diagn	osis			
VT		diagnosis	diagnosie									
VT	_		gi 10010	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
		NG	UNKWN	-	UNKWN	_	1	UNKWN	_	UNKWN	UNKWN	UNKWN
isplay unit	-	NG	UNKWN	UNKWN	_	_	ı	_	-	UNKWN	UNKWN	_
	_	CAN COMM	CAN 1	CAN 3	-	_	ı	CAN 2	-	CAN 5	_	CAN 7
LL MODE AWD/4WD	-	NG	UNKWN	UNKWN	ı	_	1	1	I	UNKWN	UNKWN	_
CM N	No indication	NG	UNKWN	UNKWN	_	_	-	1	_	UNKWN	_	UNKWI
TETER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
BS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	1	UNKWN	_	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_
			tach copy ECT SYS					ocopy of TSYSTE	М			
			(		Attach c display G MONIT	opy of unit OR checi	< sheet					

Attach copy of	Attach copy of	Attach copy of	Attach copy of
ENGINE	A/T	ALL MODE AWD/4WD	BCM
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of METER A/C AMP SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS	
Attach copy of	Attach copy of	Attach copy of	Attach copy of
ENGINE	A/T	ALL MODE AWD/4WD	BCM
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR
Attach copy of	Attach copy of	Attach copy of	
METER A/C AMP	ABS	IPDM E/R	
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	
MNTR	MNTR	MNTR	

Revision: 2004 November **LAN-141** 2004.5 FX35/FX45

Α

В

С

D

Е

F

G

Н

ī

. I

LAN

L

## **CHECK SHEET RESULTS (EXAMPLE)**

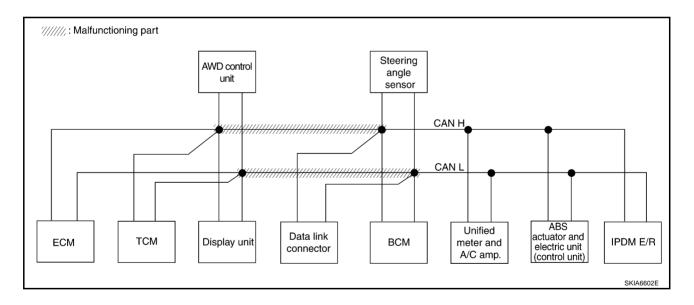
#### NOTE:

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-156</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

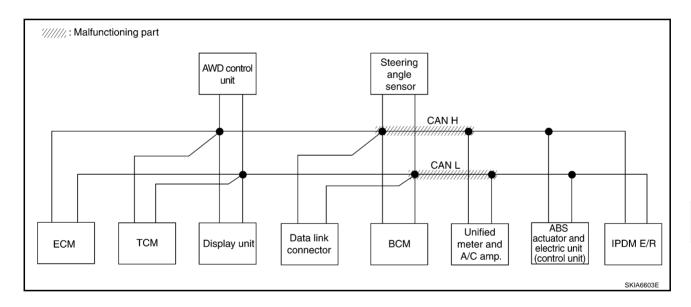
SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	_	UNKWN	_	1	UNIONN	_	∩ <b>NR</b> WN	Ω <b>ΝΚ</b> /WΝ	Ω <b>Ν</b> ΑΜΝ		
A/T	_	NG	UNKWN	UNKWN	_	_	-	_	_	UNK WN	∩ <b>NK</b> WN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	_	CAN 5	_	CAN 7		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNK WN	UNK WN	_		
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	_	_	_	UNKWN	_	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNIXWN	UNKWN	UNKWN	_	_	UNKWN	_		
ABS	_	NG	UNKWN	UNK WN	UNI <b>W</b> WN	_	UNKWN	_	UNKWN	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNK/WN	_	_	-	UNKWN	_	_	_	_		



Case 2

Check harness between data link connector and unified meter and A/C amp. Refer to LAN-156, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	ı	UNK WN	UNK WN	∩ <b>NK</b> WN		
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	1	UNK WN	∩ <b>NK</b> WN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	_	CAN 2	1	CAN 5	_	CAN 7		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	-	-	∩ <b>NK</b> WN	UNK WN	_		
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	1	UN <b>K</b> ₩N	_	UN <b>K</b> ₩N		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_		
ABS	_	NG	UNKWN	UNK WN	<b>NNK</b> MN	_	UNKWN	_	UNK WN	-	-	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_		



В

Α

D

Е

F

G

Н

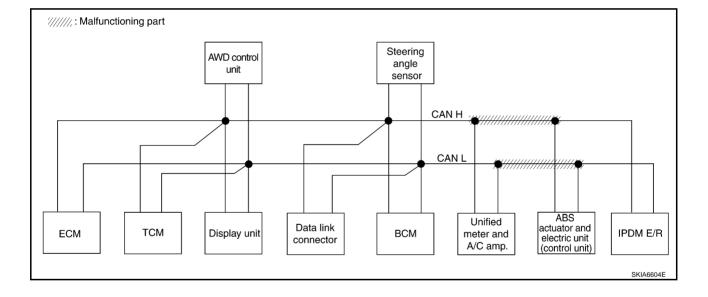
J

LAN

Case 3

Check harness between unified meter and A/C amp. and ABS actuator and electric unit (control unit). Refer to LAN-157, "Circuit Check Between Unified Meter and A/C Amp. and ABS Actuator and Electric Unit (Control Unit)".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		1	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F		
ENGINE	_	NG	UNKWN	ı	UNKWN	_	_	UNKWN	ı	UNKWN	UNKWN	UNK WI		
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	ı	UNKWN	UNKWN	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	1	CAN 5	1	CAN 7		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	ı	UNKWN	UNK WN	_		
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	ı	UNKWN	-	UNK WI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN	_		
ABS	_	NG	UNKWN	UNKWN	UNIXWN	_	UNKWN	_	UNK WN	_	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	1	1	_	_		



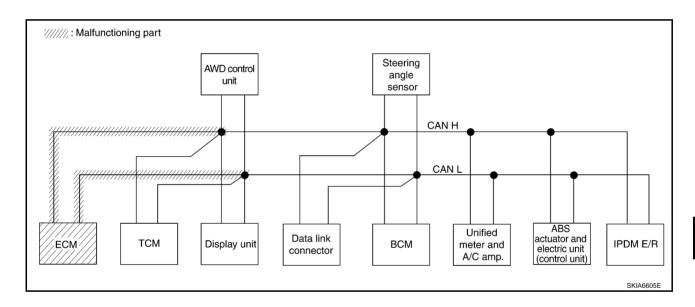
В

D

Е

Case 4
Check ECM circuit. Refer to <u>LAN-157</u>, "ECM Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOFCCIT		diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNI <b>W</b> WN	_	<b>UNIX</b> WN	_	_	UNK WN	_	UNK WN	UN <b>K</b> ₩N	Ω <b>ΝΚ</b> /WΝ
A/T	_	NG	UNKWN	UNIXWN	_	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	C <b>∜√</b> 3	-	_	-	CAN 2	_	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	_	_	-	_	_	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNWWN	UNKWN	UNKWN	UNKWN	UNKWN	_	ı	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	UNKWN	_	UNKWN	ı	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

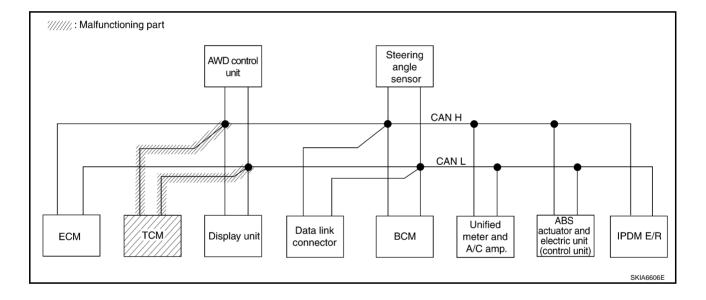


Н

LAN

Case 5
Check TCM circuit. Refer to <u>LAN-158</u>, "TCM Circuit Check" .

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOICCII	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNI <b>W</b> N	_	_	-	_	-	UNK WN	∩ <b>NK</b> WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	-	CAN 2	-	CAN 5	_	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	-	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNIKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	1	UNKWN	ı	_	_	_



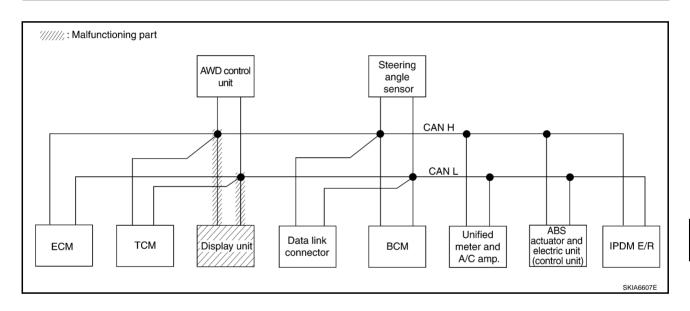
В

D

Е

Case 6
Check display unit circuit. Refer to <u>LAN-158</u>, "<u>Display Unit Circuit Check"</u>.

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131	2111 0010011	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/
ENGINE	_	NG	UNKWN	-	UNKWN	_	ı	UNKWN	-	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	1	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	C <b>4/</b> 1	С₩з	-	_	1	C <b>4/1</b> 2	1	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	ı	_	ı	UNKWN	UNKWN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	1	_	ı	UNKWN	-	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UN <b>K</b> ₩N	UNKWN	UNKWN	ı	ı	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	ı	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	_

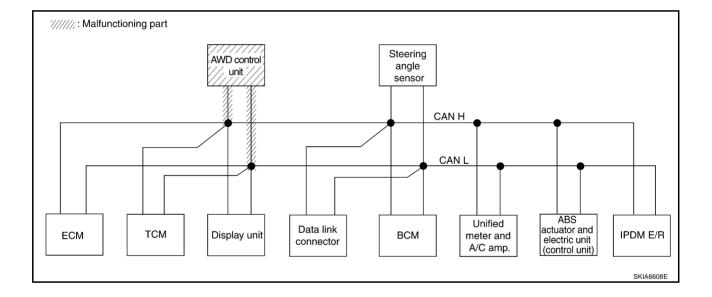


Н

LAN

Case 7
Check AWD control unit circuit. Refer to <u>LAN-159</u>, "AWD Control Unit Circuit Check" .

						CAN DIAG	3 SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
	LIW SCICCII		diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	UNKWN	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	_	CAN 2	_	CAN 5	_	CAN 7
ALL MODE AWD/4WD		NG	UNKWN	UNKWN	_	_	_	_	_	UNK/WN	UNK/WN	
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_



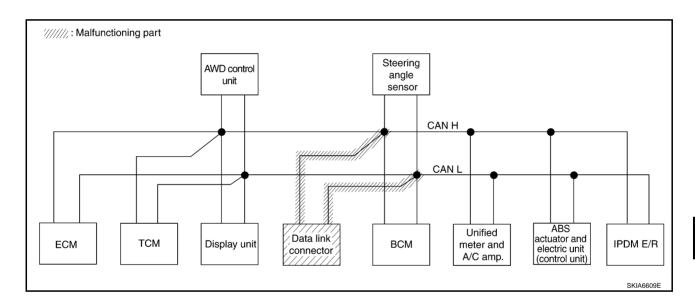
В

D

Е

Case 8
Check data link connector circuit. Refer to <u>LAN-159</u>, "<u>Data Link Connector Circuit Check</u>".

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	1	UNKWN	ı	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	ı	_	-	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	1	CAN 2	-	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	1	_	-	UNKWN	UNKWN	_
всм	No indication	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	_	UNKWN	1	-	_
IPDM E/R	No indication	-	UNKWN	UNKWN	_	_	-	UNKWN	-	1	_	_



Н

ı

LAN

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

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Rec	eive diagn	osis			
	LIVI SCIECTI	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	_	UNKWN	_	ı	UNKWN	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	-	-	_	UNKWN	UNKWN	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_		C <b>4/</b> 12	_	CAN 5	_	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	-	-	_	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNI <b>W</b> N	_	- 1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	1	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNK WN	_	_	_	_

//////: Malfunctioning part Steering AWD control angle sensor CAN H CAN L ABS Unified Data link actuator and ECM TCM Display unit ВСМ IPDM E/R meter and electric unit (control unit) connector A/C amp. SKIA6610E

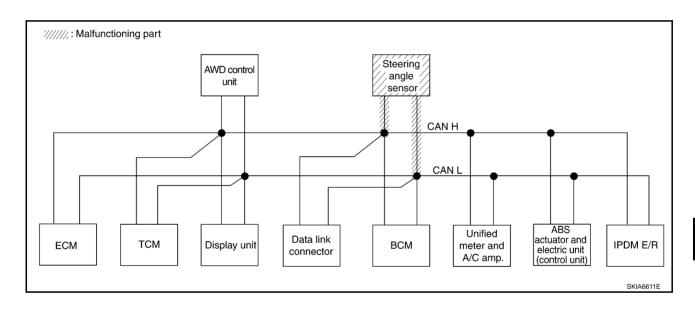
В

D

Е

Case 10
Check steering angle sensor circuit. Refer to <u>LAN-160</u>, "Steering Angle Sensor Circuit Check".

						CAN DIAG	SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	LIN GOTGOTT	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	ı	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	1	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	1	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	_	1	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	_	_	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNK <b>W</b> N	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

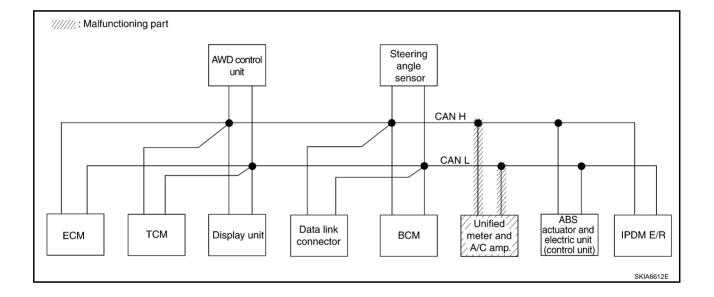


Н

LAN

Case 11
Check unified meter and A/C amp. circuit. Refer to <u>LAN-161</u>, "<u>Unified Meter and A/C Amp. Circuit Check</u>".

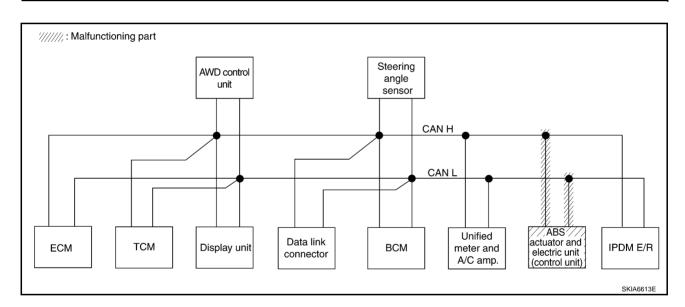
						CAN DIAG	SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131			diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	1	UNK WN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	-	_	_	1	∩ <b>NK</b> WN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	-	CAN 2	1	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	1	_	1	ı	UNIXWN	UNKWN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	ı	UNK WN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	ı	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	1	-	_	_



Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-161</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI SOICCII	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	UNI <b>W</b> WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	-	CAN 2	1	CAN 5	-	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	-	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	1	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNK WN	-
ABS	_	NG	UNK WN	UNK WN	UNK WN	_	UNKWN	_	UNK WN	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	-	_	_	_



В

Α

С

D

Е

F

G

Н

I

J

LAN

ı

Case 13
Check IPDM E/R circuit. Refer to LAN-162, "IPDM E/R Circuit Check".

						CAN DIAC	SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	1	UNKWN	_	_	UNKWN	ı	UNKWN	UNKWN	UNK WN
A/T	-	NG	UNKWN	UNKWN	ı	_	-	_	ı	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	_	CAN 2	-	CAN 5	_	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	-	_	ı	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	ı	_	_	_	ı	UNKWN	-	UNK <b>W</b> N
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	-	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_
												PKIA7999E

//////: Malfunctioning part Steering AWD control angle sensor CAN H CAN L ABS Unified Data link actuator and ECM TCM Display unit всм IPDM E/R meter and electric unit (control unit) connector A/C amp. SKIA6614E

В

D

Н

Case 14

Check CAN communication circuit. Refer to LAN-163, "CAN Communication Circuit Check" .

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131	LIN GOTGOTT	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNI WN	_	UNK WN	-		UN <b>K</b> ₩N	1	UNK WN	UNI	UNK WI
A/T	_	NG	∩ <b>NK</b> WN	UNKWN	_	-	1	_	1	<b>NNK</b> WN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	C <b>₩</b> 3	_		1	CAN 2	1	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNK WN	UNWWN	_	1	ı	1	ı	UNK WN	UNK WN	_
ВСМ	No invication	NG	UNKWN	UNKWN	_	_	-	_	ı	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN	_
ABS	_	NG	UNIMN	NNWN	UNKWN	_	UNK WN	_	UNK WN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	_

#### Case 15

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

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	-	_	-	∩ <b>NK</b> WN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	ı	CAN 2	ı	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	-	UNKWN	UNKWN	-
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	ı	_	ı	UNKWN	-	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	1	UNKWN	ı
ABS	_	NG	UNKWN	<b>NNK</b> WN	UNKWN	_	UNK <b>W</b> N	_	UNK WN	-	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_	_

1

LAN

 $\mathbb{N}$ 

#### Case 16

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

			CAN DIAG SUPPORT MNTR												
SELECT SYST	FM screen	Initial	Transmit		Receive diagnosis										
		Initial diagnosis	diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	-	UNKWN	UNK <b></b> ₩N	UNKWN			
A/T	_	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	UNKWN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_		_	CAN 2	-	CAN 5		CAN 7			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	UN <b>∳</b> WN	_			
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_			
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	_	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_			

## Circuit Check Between TCM and Data Link Connector

AKS00BQU

#### 1. CHECK HARNESS FOR OPEN CIRCUIT

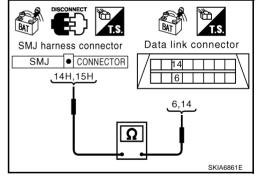
- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 14H (L), 15H (R) and data link connector M5 terminals 6 (L), 14 (R).

14H (L) - 6 (L) : Continuity should exist. 15H (R) - 14 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-138, "Work Flow".

NG >> Repair harness.



# Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.

## 1. CHECK HARNESS FOR OPEN CIRCUIT

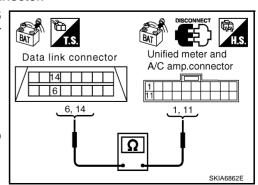
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and unified meter and A/C amp. connector.
- Check continuity between data link connector M5 terminals 6 (L), 14 (R) and unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R).

6 (L) - 1 (L) : Continuity should exist. 14 (R) - 11 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-138</u>, "Work Flow".

NG >> Repair harness.



В

 $\mathsf{D}$ 

F

Н

# Circuit Check Between Unified Meter and A/C Amp. 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 M41
- Harness connector E211

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

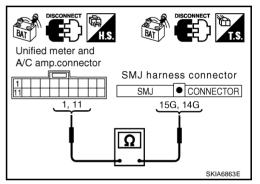
## 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector and harness connector M41.
- Check continuity between unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R) and harness connector M41 terminals 15G (L), 14G (R).

1 (L) - 15G (L) : Continuity should exist. 11 (R) - 14G (R) : 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 E211 terminals 15G (L), 14G (R) and ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R).

15G (L) - 11 (L) : Continuity should exist. 14G (R) - 15 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-138, "Work Flow"</u>.

NG >> Repair harness.

# SMJ harness connector SMJ OCONNECTOR 15G,14G C/UNIT OCONNECTOR 11,15 SKIA6864E

AKS00BQX

#### **ECM Circuit Check**

#### 1. 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.

Revision: 2004 November LAN-157 2004.5 FX35/FX45

LAN

L

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

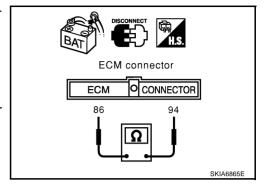
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M90 terminals 94 (L) and 86 (R).

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

#### OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and harness connector M82.



AKS00BQY

AKS00BQZ

#### **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).
- A/T assembly 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 A/T assembly connector.
- Check resistance between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

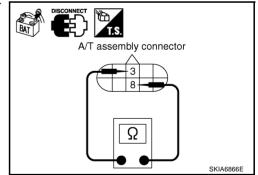
3 (L) - 8 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

NG

OK >> Replace control valve with TCM.

>> Repair harness between A/T assembly and display unit.



#### 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.

Revision: 2004 November

NG >> Repair terminal or connector.

В

F

Н

LAN

M

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

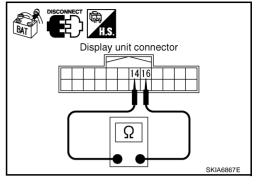
- 1. Disconnect display unit connector.
- Check resistance between display unit harness connector M62 terminals 14 (L) and 16 (R).

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

#### OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit and harness connector M82.



AKS00BR0

#### **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

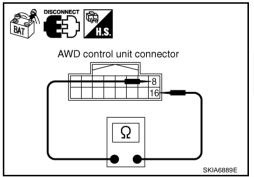
- 1. Disconnect AWD control unit connector.
- Check resistance between AWD control unit harness connector M92 terminals 8 (L) and 16 (R).

**8 (L) - 16 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace AWD control unit. NG

>> Repair harness between AWD control unit and harness connector M82.



AKS00BR1

#### **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).

**LAN-159** 

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2004.5 FX35/FX45

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M5 terminals 6 (L) and 14 (R).

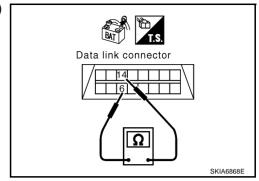
**6 (L) - 14 (R)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

NG

OK >> Diagnose again. Refer to LAN-138, "Work Flow".

>> Repair harness between data link connector and BCM.



AKS00BR2

#### **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

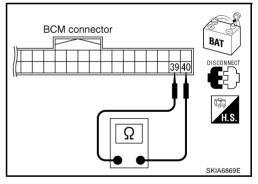
- Disconnect BCM connector.
- Check resistance between BCM harness connector M3 terminals 39 (L) and 40 (R).

**39** (L) - **40** (R) : Approx. **54** - **66**
$$\Omega$$

#### OK or NG

OK >> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM" .

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



AKS00BR3

## **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.

В

# 2. CHECK HARNESS FOR OPEN CIRCUIT

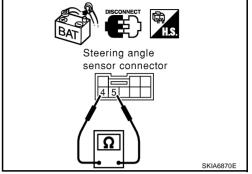
- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M14 terminals 4 (L) and 5 (R).

**4 (L) - 5 (R)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

OK >> Replace steering angle sensor.

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



## 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

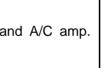
- 1. Disconnect unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M55 terminals 1 (L) and 11 (R).

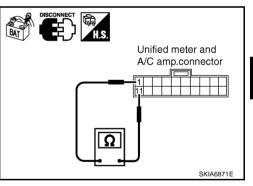
1 (L) - 11 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG >> Repair harness between unified meter and A/C amp. and harness connector M41.





## 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.

AKS00BR4

Н

LAN

AKS00BR5

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

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

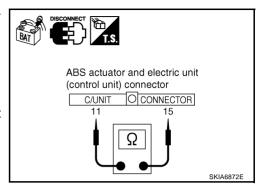
11 (L) - 15 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG >> Repair harness between ABS actuator and electric unit

(control unit) and harness connector E205.



AKS00BR6

#### IPDM E/R 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).
- IPDM E/R connector
- Harness connector E205
- Harness connector B5

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

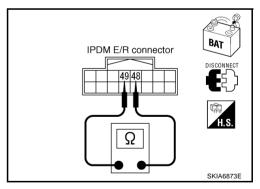
- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (R).

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

#### 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 4)**

#### [CAN]

AKS00BR7

Α

В

F

Н

#### **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, sensor side, meter side, control unit side and harness side).
- ECM
- A/T assembly
- Display unit
- AWD control unit
- BCM
- Steering angle sensor
- 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 A/T assembly

#### 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
- AWD control unit connector
- BCM connector
- Steering angle sensor connector
- Unified meter and A/C amp. connector
- Harness connector M41
- Check continuity between data link connector M5 terminals 6 (L) and 14 (R).

6 (L) - 14 (R)

: 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 AWD control unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

LAN

## 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M5 terminals 6 (L), 14 (R) and ground.

> : Continuity should not exist. 6 (L) - Ground 14 (R) - 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 AWD control unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

## 4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect A/T assembly connector. 1.
- Check continuity between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

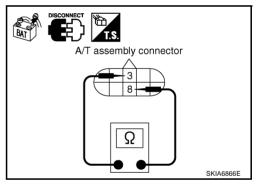
3 (L) - 8 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 5.

NG

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



## 5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between A/T assembly harness connector F44 terminals 3 (L), 8 (R) and ground.

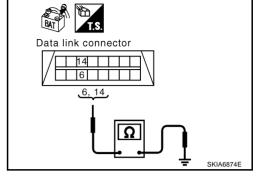
> 3 (L) - Ground : Continuity should not exist. 8 (R) - Ground : Continuity should not exist.

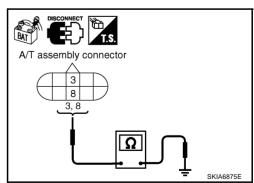
#### OK or NG

OK >> GO TO 6.

NG

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





## 6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

11 (L) - 15 (R)

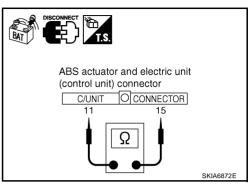
: Continuity should not exist.

#### OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205



ABS actuator and electric unit

11,15

OCONNECTOR

(control unit) connector

C/UNIT

## 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and ground.

> 11 (L) - Ground : Continuity should not exist. 15 (R) - Ground

: Continuity should not exist.

#### OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205

## 8. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L) and 10 (R).

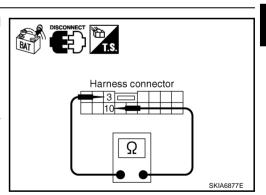
> 3 (L) - 10 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 9.

NG

>> Repair harness between harness connector B5 and harness connector B5.



## 9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L), 10 (R) and ground.

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

#### OK or NG

OK >> GO TO 10.

NG >> Repair harness between harness connector B5 and harness connector B5.

Harness connector 3,10 SKIA6878E

LAN

SKIA6876E

## 10. CHECK HARNESS FOR SHORT CIRCUIT

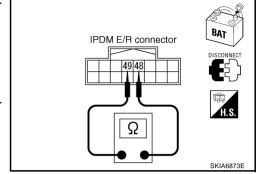
- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (R).

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

#### OK or NG

OK >> GO TO 11.

NG >> Repair harness between IPDM E/R and harness connector E205.



## 11. CHECK HARNESS FOR SHORT CIRCUIT

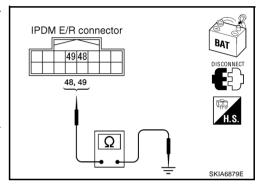
Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (R) and ground.

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

#### OK or NG

OK >> GO TO 12.

NG >> Repair harness between IPDM E/R and harness connector E205.



## 12. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-166</u>, "<u>ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION</u>" . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-138, "Work Flow".

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

## IPDM E/R Ignition Relay Circuit Check

AKS00BR8

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

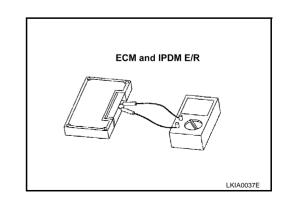
- IPDM E/R power supply circuit. Refer to PG-28, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN "ON" AND/OR "START"".

# Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS00BR9

- 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 $(\Omega)$ (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



#### [CAN]

## **CAN SYSTEM (TYPE 5)**

PFP:23710

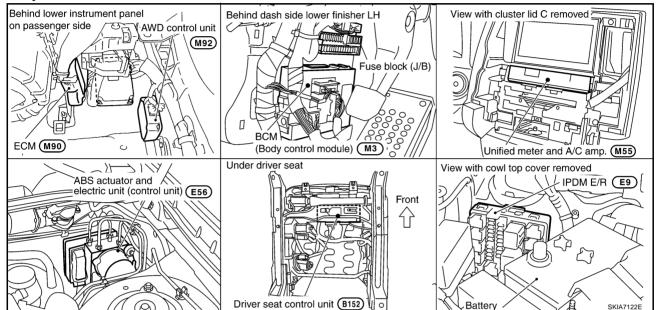
## **System Description**

KS007T1

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

AKS007T2

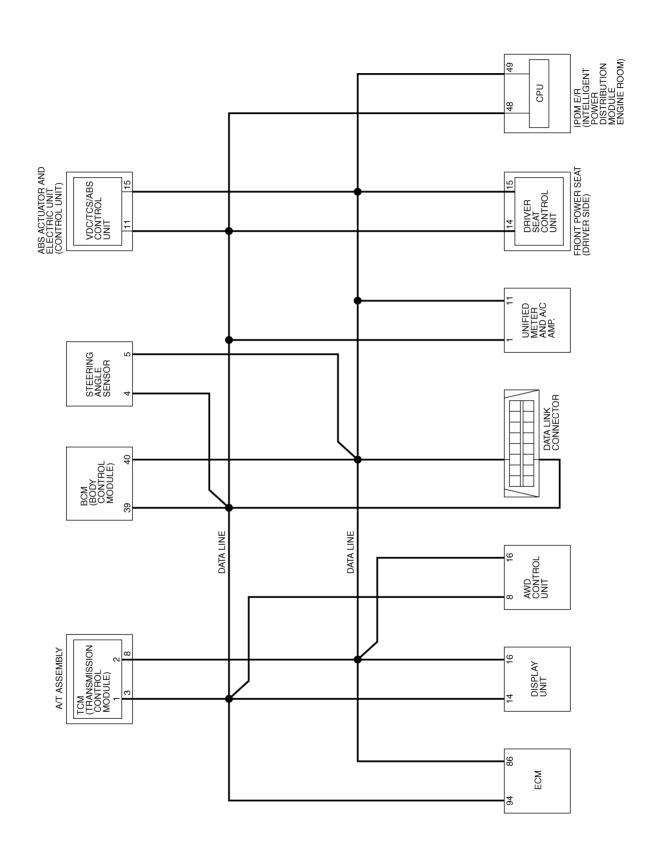


LAN

Н

L

Schematic AKS007T3



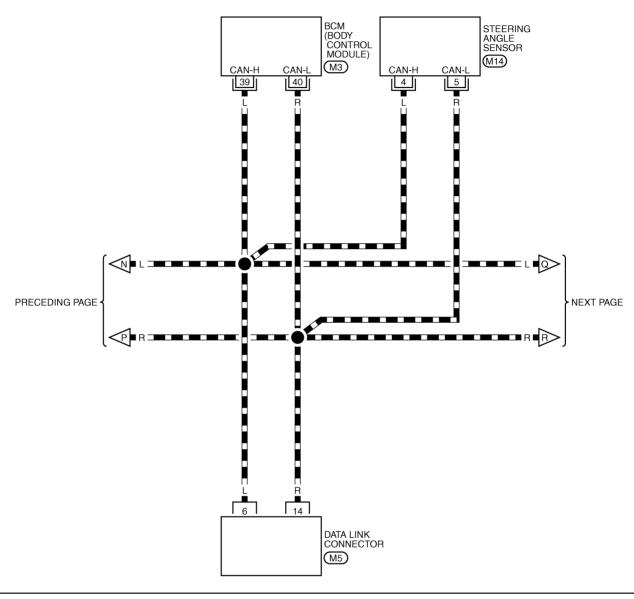
TKWM1298E

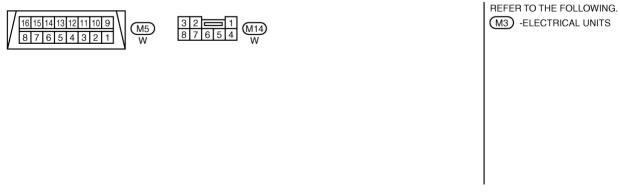
TKWM1299E

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

## LAN-CAN-12

: DATA LINE





TKWM0756E

В

D

Е

G

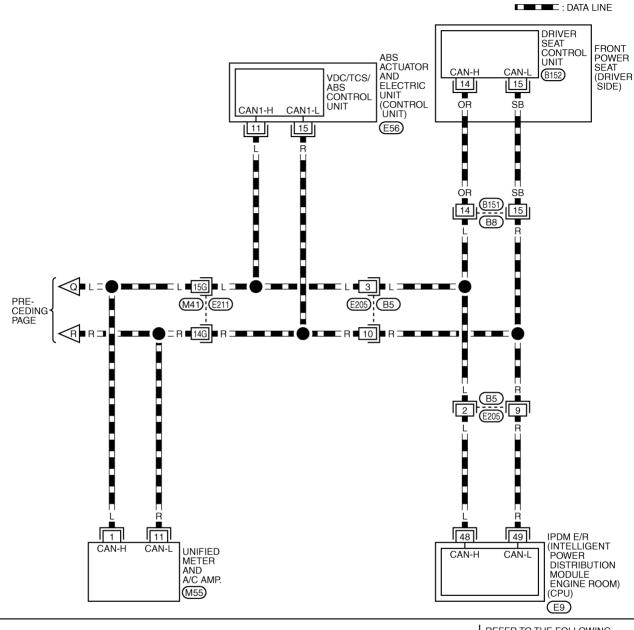
Н

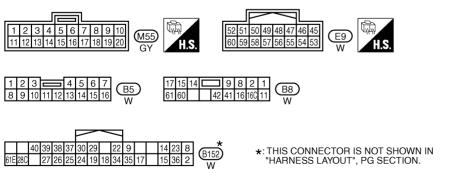
J

LAN

M

## LAN-CAN-13





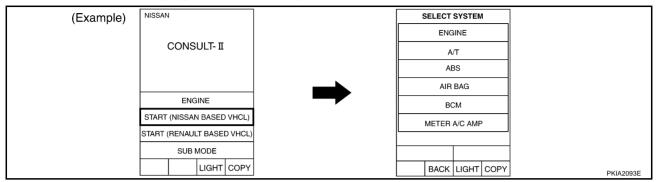
REFER TO THE FOLLOWING. (E211) -SUPER MULTIPLE JUNCTION (SMJ)

(E56) -ELECTRICAL UNITS

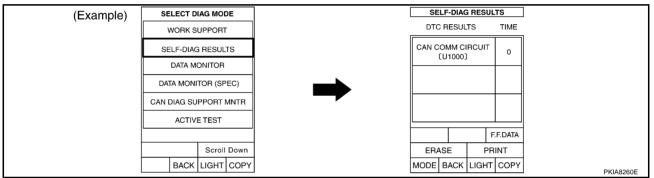
TKWH0251E

Work Flow

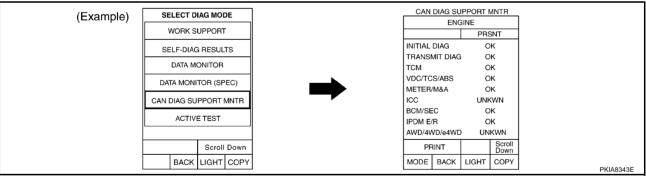
1. When there are no indications of "BCM", "METER A/C AMP", "AUTO DRIVE POS." or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to LAN-174, "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-174, "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-86, "CAN Communication Line Inspection"</u>.
- Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to <u>LAN-174, "CHECK SHEET"</u>

## **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 MONITOR check sheet. Refer to <u>LAN-174</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-86, "CAN Communication Line Inspection".

9. According to the check sheet results (example), start inspection. Refer to <u>LAN-176, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

С

В

Α

D

Е

F

G

Н

J

LAN

ı

## **CHECK SHEET**

#### NOTE:

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

						CAN DIAC						
SELECT SYST	EM screen	Initial	Transmit					eive diagn	osis	METER	LUDO TOO	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	-	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	_	CAN 2	-	CAN 5	_	CAN 7
ALL MODE AWD/4WE	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	UNKWN	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	-	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	_	_
AUTO DRIVE POS	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	-	UNKWN	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_
			tach copy ECT SYS					сору of Г SYSTEI	м			
					Attach co	opy of						

В

С

D

Е

F

G

Н

LAN

M

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

Revision: 2004 November **LAN-175** 2004.5 FX35/FX45

## **CHECK SHEET RESULTS (EXAMPLE)**

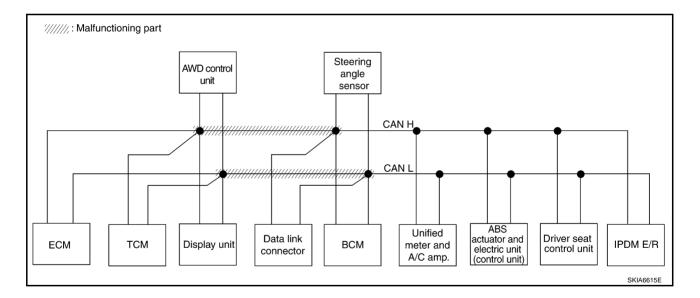
#### NOTE:

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-192</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

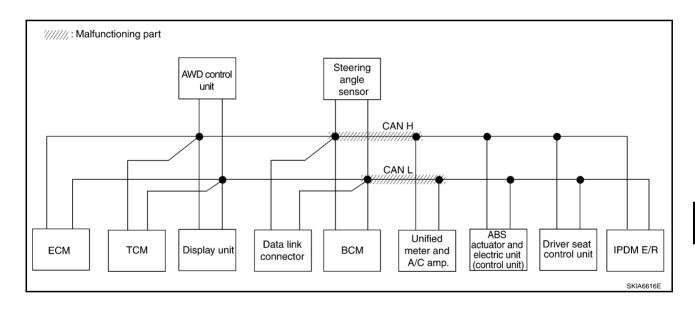
						CAN DIAG	SUPPOR	RT MNTR					
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis									
OLLLOT GTOT	LIVI SOICCII	Initial diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F	
ENGINE	_	NG	UNKWN		UNKWN	_	1	UNKWN	_	UNK WN	UNK WN	∩ <b>NR</b> WN	
A/T	_	NG	UNKWN	UNKWN	_	-	-	-	_	∩ <b>NK</b> WN	∩ <b>NK</b> WN	_	
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	1	C <b>W</b> 2	_	CAN 5	-	CAN 7	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	-	_	UNK WN	UNK WN	_	
ВСМ	No indication	NG	UNKWN	UN <b>K</b> ₩N	_	_	1	ı	_	UNKWN	-	UNKWN	
METER A/C AMP	No indication	_	UNKWN	UN <b>W</b> WN	UN <b>W</b> WN	UN <b>K</b> WN	UNK WN	UNKWN	_	_	UNKWN	ı	
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	UNIV	-	UNKWN	_	_	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNIXWN	_	_	UNKWN	_	UNKWN	_	_	
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	UNKWN	_	_	_	_	



Case 2

Check harness between data link connector and unified meter and A/C amp. Refer to <u>LAN-192</u>, "Circuit Check <u>Between Data Link Connector and Unified Meter and A/C Amp."</u>.

						CAN DIAG	SUPPOR	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit diagnosis	Receive diagnosis										
OLLLO1 O101	LIVI GOICCII			ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/		
ENGINE	_	NG	UNKWN	1	UNKWN	_	-	UNKWN	_	UNK WN	UNK WN	UNK WI		
A/T	_	NG	UNKWN	UNKWN	1	_	-	1	_	UNK WN	<b>NNKWN</b>	_		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	_	CAN 5	_	CAN 7		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	UN <b>K</b> ₩N	_		
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	ı	_	UNK WN	-	UNK WI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	-		
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	UNKWN	1	∩N <b>K</b> WN	-	-	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_		



В

Α

D

Е

F

G

Н

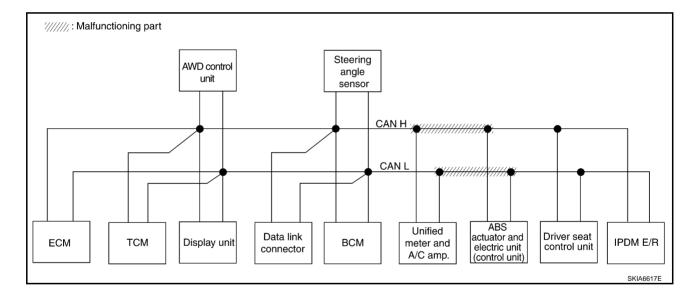
J

LAN

Case 3

Check harness between unified meter and A/C amp. and ABS actuator and electric unit (control unit). Refer to LAN-193, "Circuit Check Between Unified Meter and A/C Amp. and ABS Actuator and Electric Unit (Control Unit)".

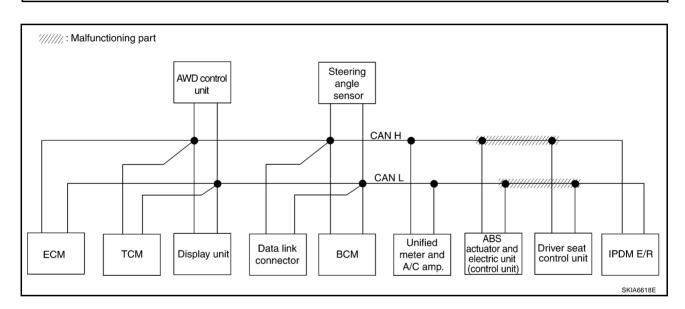
						CAN DIAG	SUPPO	RT MNTR							
SELECT SYST	FM screen	Initial Transmit		Receive diagnosis											
GEEEOT GTOT	LIVI SCICCII		Transmit diagnosis	ECM	ТСМ	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F			
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	1	UNKWN	UN <b>K</b> ₩N	UNK WN			
A/T	_	NG	UNKWN	UNKWN	_	_	_	-	1	UNKWN	∩ <b>NK</b> WN	_			
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	-	CAN 2	1	CAN 5	_	CAN 7			
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	1	ı	UNKWN	η <b>νκ</b> γνν	_			
всм	No indication	NG	UNKWN	UNKWN	_	_	_	1	ı	UNKWN	_	UNK WN			
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	1	Ω <b>NR</b> WN	_			
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	UNI WN	1	UNK <b>W</b> N	1	_	_			
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	1	UNKWN	_	_			
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	1	_	_	_			



Case 4

Check harness between ABS actuator and electric unit (control unit) and driver seat control unit. Refer to <u>LAN-194</u>, "Circuit Check Between ABS Actuator and Electric Unit (Control Unit) and Driver Seat Control Unit".

						CAN DIAG	SUPPOR	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit diagnosis	Receive diagnosis										
022201 0101	LIN GOIGGII			ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I		
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNK WI		
A/T	_	NG	UNKWN	UNKWN	1	_	-	_	_	UNKWN	UNKWN	-		
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	_	CAN 5	_	CAN 7		
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	_	-	_	_	UNKWN	UNKWN	-		
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	-	_	UNKWN	-	UNKWN		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	ı		
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	-	UNKWN	1	-	ı		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	_	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_		



В

Α

С

D

Е

F

G

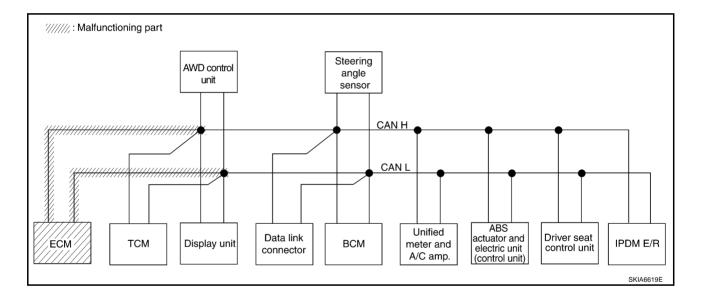
Н

J

LAN

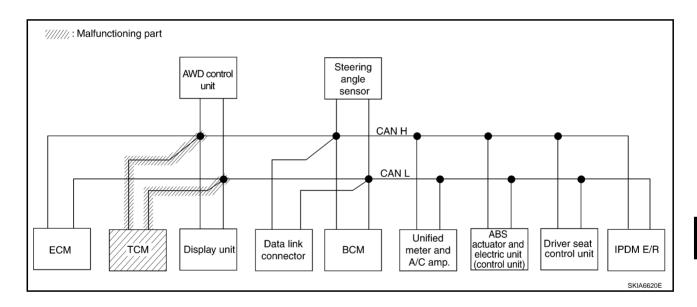
Case 5
Check ECM circuit. Refer to <u>LAN-194, "ECM Circuit Check"</u>.

						CAN DIAG	SUPPO	RT MNTR						
SELECT SYST	FM screen	Initial	Transmit	Receive diagnosis										
322231 3131	LIVI GOLGGII		diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/		
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNK WN	ı	UNK WN	UN <b>W</b> WN	UNK WI		
A/T	_	NG	UNKWN	UNK WN	_	_	-	1	I	UNKWN	UNKWN	ı		
Display unit	_	CAN COMM	CAN 1	C <b>W</b> 3	-	_	-	CAN 2	I	CAN 5	ı	CAN 7		
ALL MODE AWD/4WD	_	NG	UNKWN	UNK WN	_	_	-	İ	ı	UNKWN	UNKWN	_		
BCM	No indication	NG	UNKWN	UNK WN	_	_	-	1	I	UNKWN	ı	UNKWI		
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNKWN	-		
ABS	_	NG	UNKWN	NNK WN	UNKWN	_	UNKWN	ı	UNKWN	ı	_	-		
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN		Ė	UNKWN	ı	UNKWN	_	_		
IPDM E/R	No indication	_	UNKWN	UNK WN	_	_	_	UNKWN	_	_	_	_		



Case 6
Check TCM circuit. Refer to <u>LAN-195, "TCM Circuit Check"</u>.

						CAN DIAG	SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNK WN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	∩ <b>NK</b> WN	_	_	_	_	_	UNK WN	UNI <b>W</b> WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	-	CAN 2	_	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	1	ı	UNKWN	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNK WN	_	UNKWN	_	UNKWN	1	-	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_



Е

D

Α

В

Н

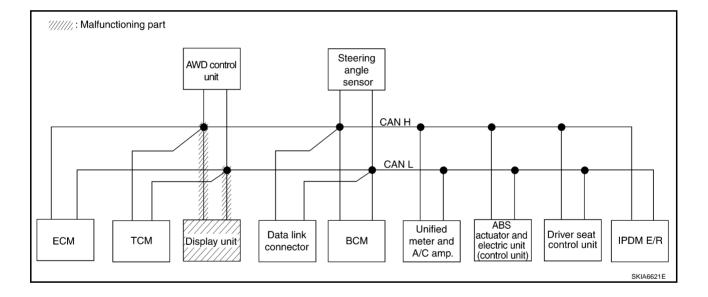
J

LAN

\_

Case 7
Check display unit circuit. Refer to <u>LAN-195</u>, "<u>Display Unit Circuit Check</u>" .

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
OLLLO1 0101	LIVI SCICCII	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	-	NG	UNKWN	1	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	-	_	UNKWN	UNKWN	-
Display unit	_	CAN COMM	C <b>4</b> /1	C <b>∜√</b> 3	_	-	_	C <b>M</b> 2	_	CAN 5	_	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	-	-	1	1	UNKWN	UNKWN	-
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	_	1	1	UNKWN	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	1	1	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	1	UNKWN	1	ı	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_



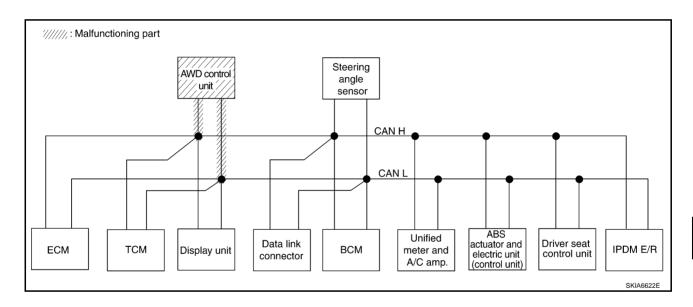
В

D

Е

Case 8
Check AWD control unit circuit. Refer to <u>LAN-196</u>, "AWD Control Unit Circuit Check" .

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
3222313131	LIN GOIGGII		diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/
ENGINE	1	NG	UNKWN	1	UNKWN	-	_	UNKWN	_	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	_	CAN 2	_	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNIWN	UNKWN	_	-	-	_	_	UNK WN	UNK WN	_
ВСМ	No indication	NG	UNKWN	UNKWN	ı	ı	-	1	-	UNKWN	1	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	_	1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNK WN	_	UNKWN	1	1	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_



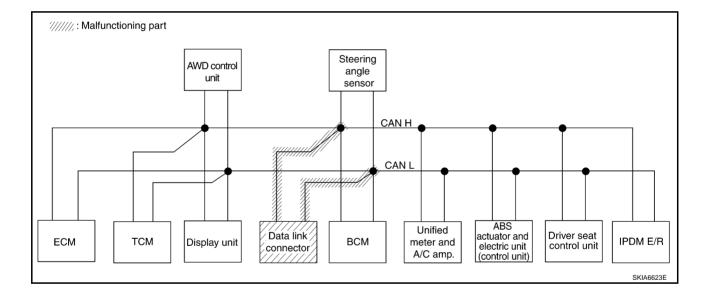
Н

ı

LAN

Case 9
Check data link connector circuit. Refer to <u>LAN-196</u>, "<u>Data Link Connector Circuit Check"</u>.

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOICCII	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	1	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	ı	UNKWN	UNKWN	-
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	1	CAN 2	1	CAN 5	_	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	ı	UNKWN	UNKWN	-
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	_	_	ı	UNKWN	_	UNKWN
METER A/C AMP	No invication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNKWN	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	1	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN			_	UNKWN	_	_		



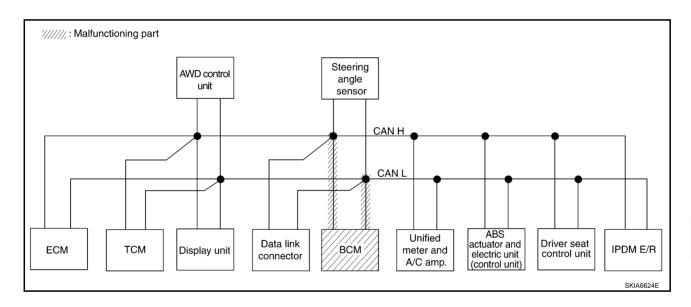
В

D

Е

Case 10
Check BCM circuit. Refer to <u>LAN-197, "BCM Circuit Check"</u>.

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E
ENGINE	_	NG	UNKWN	ı	UNKWN	_	_	UNKWN	ı	UNKWN	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	ı	_	_	1	I	UNKWN	UNKWN	ı
Display unit	_	CAN COMM	CAN 1	CAN 3	ı	_	_	C <b>A</b> 2	ı	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	_	-	İ	ı	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	1	I	UNKWN	1	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	I	UNKWN	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	1	UNKWN	ı	1	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	1	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_		_	UNION	_			

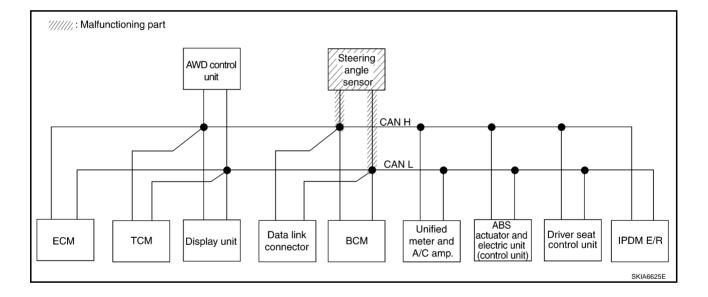


Н

LAN

Case 11
Check steering angle sensor circuit. Refer to <u>LAN-197</u>, "Steering Angle Sensor Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	ı	UNKWN	_	_	UNKWN	ı	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	ı	_	_	ı	ı	UNKWN	UNKWN	ı
Display unit	_	CAN COMM	CAN 1	CAN 3	ı	_	_	CAN 2	_	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	_	-	_	_	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	1	ı	UNKWN	1	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	I	UNKWN	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	-	Π <b>ΝΚ</b> ΜΝ	ı	ı	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_

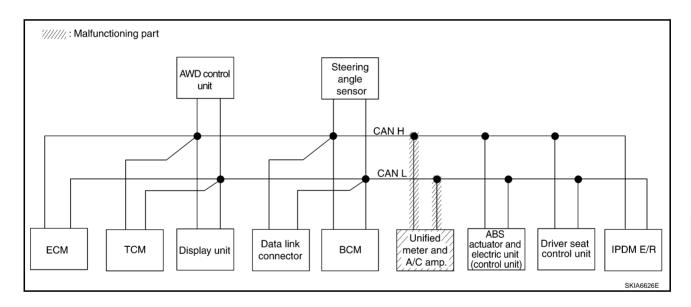


В

D

Case 12
Check unified meter and A/C amp. circuit. Refer to LAN-198, "Unified Meter and A/C Amp. Circuit Check".

						CAN DIAG	SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E
ENGINE	1	NG	UNKWN	ı	UNKWN	_	_	UNKWN	ı	UNK WN	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNK WN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	1	CAN 2	_	C <b>AN</b> 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	-	_	-	_	_	UNK WN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	1	ı	UNIVN	1	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	1	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	-	UNKWN	ı	ı	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	_	UNK WN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_



Н

|

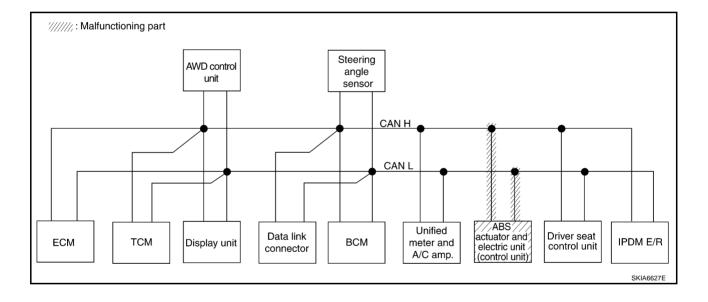
J

LAN

L

Case 13
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-198</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			
OLLLO1 O101	LIVI SOICCII	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/I
ENGINE	_	NG	UNKWN	1	UNKWN	_	-	UNKWN	ı	UNKWN	UNK WN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	-	-	UNKWN	UNI <b>X</b> WN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	1	CAN 5	1	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	-	ı	UNKWN	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	ı	UNIONN	1
ABS	_	NG	UNK WN	UNK WN	UNKWN	_	UNK WN	-	UNKWN	ı	ı	ı
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	UNKWN	-	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	ĺ	_	_	_



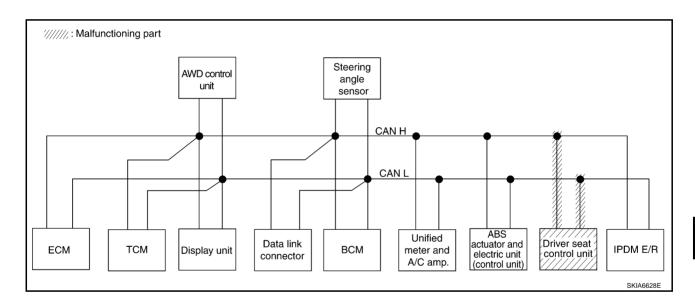
В

D

Е

Case 14
Check driver seat control unit circuit. Refer to <u>LAN-199</u>, "<u>Driver Seat Control Unit Circuit Check"</u>.

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIVI GOICCII		diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN		_	_	_	_	UNKWN	UNKWN	ı
Display unit	_	CAN COMM	CAN 1	CAN 3	ı		-	CAN 2	_	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	_	-	_	_	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	ı	_	-	1	-	UNKWN	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_



Н

.

LAN

L

Case 15
Check IPDM E/R circuit. Refer to <u>LAN-200, "IPDM E/R Circuit Check"</u>.

						CAN DIAG	SUPPO	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
322231 3131	LIN COTOGIT	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	UNKWN	ı	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	ı	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	-	_	-	CAN 2	I	CAN 5	-	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	ı	UNKWN	UNKWN	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	-	1	I	UNKWN	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	I	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	_	UNKWN	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN	1	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	-	_	_	_

//////: Malfunctioning part Steering AWD control angle unit sensor CAN H CAN L ABS actuator and electric unit (control unit) Unified Driver seat control unit Data link TCM **ECM BCM** IPDM E/R Display unit meter and connector A/C amp. SKIA6629E

В

D

Case 16

Check CAN communication circuit. Refer to LAN-200, "CAN Communication Circuit Check" .

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
022201 0101	LIW GOICCIT		diagnosis	ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	<b>NNK</b> WN	-	<b>NNW</b>	_	_	UNKWN	-	∩ <b>NK</b> WN	UN <b>K</b> WN	Ω <b>ΝΚ</b> /WΝ
A/T	_	NG	UNKWN	UNK WN	_	-	-	_	-	∩ <b>NK</b> WN	UNIXWN	_
Display unit	_	CAN COMM	C <b>4/</b> 1	CM 3	_	_	1	C <b>M</b> 2	1	CAN 5	_	CAN 7
ALL MODE AWD/4WD	_	NG	UNK WN	UNK WN	_	_	1	_	-	UNKWN	UNKWN	_
всм	No indication	NG	UNKWN	UNKWN	_	_	ı	_	-	UNKWN	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	_	UNKWN	_
ABS	_	NG	UNK WN	<b>NNK</b> WN	UN <b>∳</b> WN	_	UNK WN	_	UNK WN	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	UNKWN		UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	ı	UNKWN	ı	_	_	_

#### Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-205, "IPDM E/R Ignition Relay Circuit Check".

						CAN DIAG	SUPPOI	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Rec	eive diagn	osis			
0222010101	00.00	diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F
ENGINE	_	NG	UNKWN	ı	UNKWN	_	I	UNKWN	_	UNKWN	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNKWN	-	_	Ī	Ι	_	UNKWN	UNKWN	_
Display unit	_	CAN COMM	CAN 1	CAN 3	ı	_	ı	CAN 2	_	CAN 5	ı	CAN 7
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	ı	_	ı	1	_	UNKWN	UNKWN	-
BCM	No indication	NG	UNKWN	UNKWN	ı	_	ı	1	_	UNKWN	ı	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	1	UNIV	ı
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	UNKWN	1	UNKWN	-	ı	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNI WN	_	-	UNKWN	_	UNKWN	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	

LAN

Н

#### Case 18

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-205, "IPDM E/R Ignition Relay Circuit Check".

		CAN DIAG SUPPORT MNTR														
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis												
		diagnosis		ECM	TCM	DISPLAY	AWD /4WD	BCM /SEC	STRG	METER /M&A	VDC/TCS /ABS	IPDM E/F				
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	UNKWN		UNKWN	UNKWN	UNKWN				
A/T	_	NG	UNKWN	UNK WN	_	_	_	1	-	UNK WN	UNKWN	_				
Display unit	_	CAN COMM	CAN 1	CAN 3	_	_	-	CAN 2	1	CAN 5	1	CAN 7				
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	-	_	UNKWN	UNKWN	_				
ВСМ	No indication	NG	UNKWN	UNKWN	_	1	-	ı	ı	UNKWN	ı	UNKWN				
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	ı	1	UNKWN	1				
ABS	_	NG	UNKWN	<b>NNK</b> WN	UNKWN	_	UNK WN	1	UNK WN	-	-	-				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	UNKWN	1	UNKWN	-	_				
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	UNKWN	_	_	_	_				

#### Circuit Check Between TCM and Data Link Connector

AKS007T6

## 1. CHECK HARNESS FOR OPEN CIRCUIT

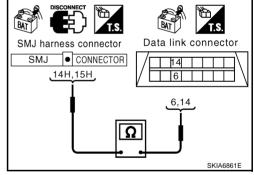
- 1. Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- 4. Check continuity between harness connector M82 terminals 14H (L), 15H (R) and data link connector M5 terminals 6 (L), 14 (R).

14H (L) - 6 (L) : Continuity should exist. 15H (R) - 14 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-172, "Work Flow".

NG >> Repair harness.



# Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.

# 1. CHECK HARNESS FOR OPEN CIRCUIT

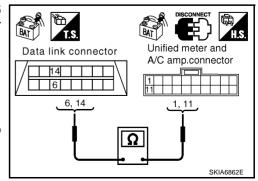
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and unified meter and A/C amp. connector.
- Check continuity between data link connector M5 terminals 6 (L), 14 (R) and unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R).

6 (L) - 1 (L) : Continuity should exist. 14 (R) - 11 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-172</u>, "Work Flow".

NG >> Repair harness.



В

 $\mathsf{D}$ 

F

Н

# Circuit Check Between Unified Meter and A/C Amp. 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 M41
- Harness connector E211

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

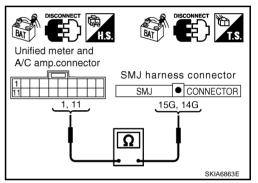
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector and harness connector M41.
- Check continuity between unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R) and harness connector M41 terminals 15G (L), 14G (R).

1 (L) - 15G (L) : Continuity should exist. 11 (R) - 14G (R) : Continuity should exist.

#### OK or NG

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



# 3. CHECK HARNESS FOR OPEN CIRCUIT

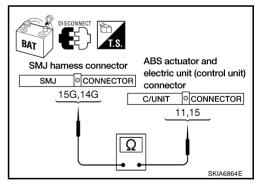
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E211 terminals 15G (L), 14G (R) and ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R).

15G (L) - 11 (L) : Continuity should exist. 14G (R) - 15 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-172, "Work Flow".

NG >> Repair harness.



LAN

L

# Circuit Check Between ABS Actuator and Electric Unit (Control Unit) 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 E205
- Harness connector B5

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

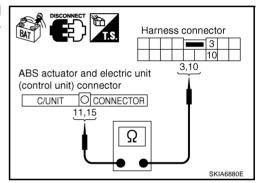
# 2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and harness connector E205 terminals 3 (L), 10 (R).

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

#### OK or NG

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



# 3. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector B8.
- 2. Check continuity between harness connector B5 terminals 3 (L), 10 (R) and harness connector B8 terminals 14 (L), 15 (R).

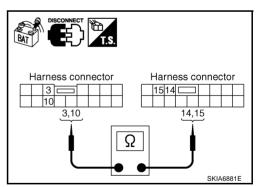
3 (L) - 14 (L) 10 (R) - 15 (R) : Continuity should exist. : Continuity should exist.

#### OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-172, "Work Flow".

NG >> Repair harness.



AKS007TA

# **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.

AKS007TB

Α

В

# 2. CHECK HARNESS FOR OPEN CIRCUIT

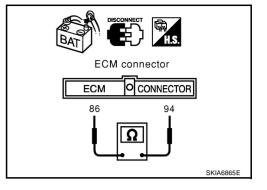
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M90 terminals 94 (L) and 86 (R).

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and harness connector M82.



#### **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).
- A/T assembly 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

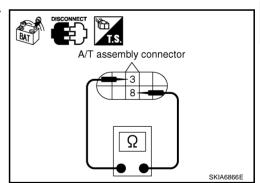
- 1. Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

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

#### OK or NG

OK >> Replace control valve with TCM.

NG >> Repair harness between A/T assembly and display unit.



# **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.

LAN

Н

L

M

AKS007TC

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

- 1. Disconnect display unit connector.
- Check resistance between display unit harness connector M62 terminals 14 (L) and 16 (R).

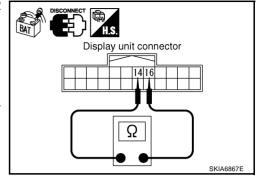
14 (L) - 16 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace display unit.

NG

>> Repair harness between display unit and harness connector M82.



AKS007UE

#### **AWD Control Unit Circuit Check**

#### 1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 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 M92 terminals 8 (L) and 16 (R).

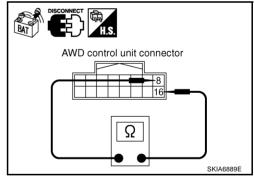
**8 (L) - 16 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace AWD control unit.

NG

>> Repair harness between AWD control unit and harness connector M82.



AKS007TD

#### **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.

В

D

F

F

Н

AKS007TE

# 2. CHECK HARNESS FOR OPEN CIRCUIT

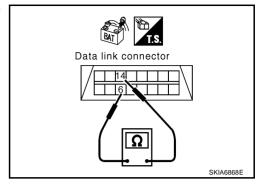
Check resistance between data link connector M5 terminals 6 (L) and 14 (R).

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

#### OK or NG

OK >> Diagnose again. Refer to LAN-172, "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.

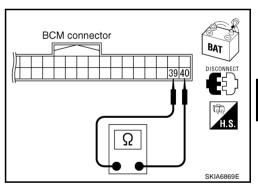
Check resistance between BCM harness connector M3 terminals 39 (L) and 40 (R).

**39 (L) - 40 (R)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

OK >> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM".

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



# **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.

LAN

M

AKS007TF

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect steering angle sensor connector.
- Check resistance between steering angle sensor harness connector M14 terminals 4 (L) and 5 (R).

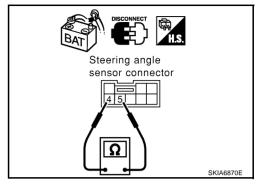
**4 (L) - 5 (R)** : Approx. 
$$54 - 66\Omega$$

#### OK or NG

OK >> Replace steering angle sensor.

NG

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



#### AKS007TG

# 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.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

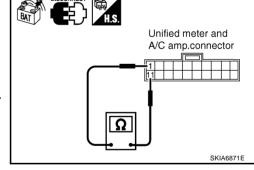
- 1. Disconnect unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M55 terminals 1 (L) and 11 (R).

**1 (L) - 11 (R)** : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG >> Repair harness between unified meter and A/C amp. and harness connector M41.



# ABS Actuator and Electric Unit (Control Unit) Circuit Check

AKS007TH

## 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

- Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

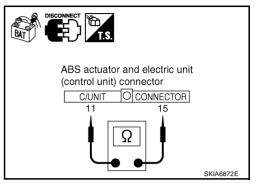
11 (L) - 15 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG >> Repair harness between ABS actuator and electric unit

(control unit) and harness connector E205.



AKS007TI

#### **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 B151
- Harness connector B8

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

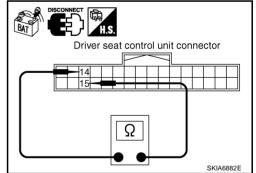
- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B152 terminals 14 (OR) and 15 (SB).

**14 (OR) - 15 (SB)** : Approx. 
$$54 - 66\Omega$$

#### OK or NG

OK >> Replace driver seat control unit.

NG >> Repair harness between driver seat control unit and harness connector B5.



Н

Α

В

M

LAN

#### **IPDM E/R Circuit Check**

# 1. CHECK CONNECTOR

AKS007TJ

- 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).
- IPDM E/R connector
- Harness connector E205
- Harness connector B5

#### 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 (R).

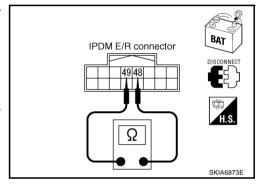
: **Approx. 108 - 132** $\Omega$ 

#### OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and harness connector B8.



AKS007TK

#### **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, control unit side, sensor side, meter side and harness side).
- ECM
- A/T assembly
- Display unit
- AWD control unit
- BCM
- Steering angle sensor
- Unified meter and A/C amp.
- ABS actuator and electric unit (control unit)
- Driver seat control unit
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and A/T assembly

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

# 2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display unit connector
- AWD control unit connector
- BCM connector
- Steering angle sensor connector
- Unified meter and A/C amp. connector
- Harness connector M41
- Check continuity between data link connector M5 terminals 6 (L) and 14 (R).

#### 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 AWD control unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

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

Check continuity between data link connector M5 terminals 6 (L), 14 (R) and ground.

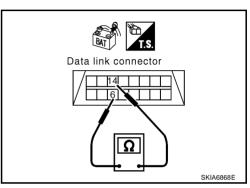
> 6 (L) - Ground : Continuity should not exist. 14 (R) - Ground : Continuity should not exist.

#### 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 AWD control unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41



LAN

Н

# 4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect A/T assembly connector.
- 2. Check continuity between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

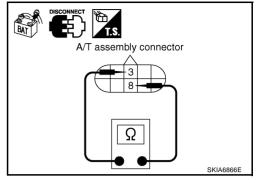
3 (L) - 8 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 5.

NG >> Repair h

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



# 5. CHECK HARNESS FOR SHORT CIRCUIT

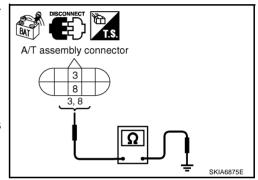
Check continuity between A/T assembly harness connector F44 terminals 3 (L), 8 (R) and ground.

3 (L) - Ground : Continuity should not exist. 8 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 6.

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



# 6. CHECK HARNESS FOR SHORT CIRCUIT

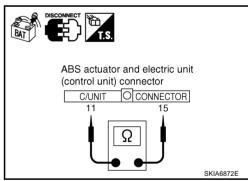
- Disconnect ABS actuator and electric unit (control unit) connector and harness connector E205.
- 2. Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

# OK or NG

OK >> GO TO 7.

NG >> Check th

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205



# 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and ground.

11 (L) - Ground : Continuity should not exist. 15 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205

# ABS actuator and electric unit (control unit) connector C/UNIT O CONNECTOR 11,15 SKIA6876E

# 8. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect harness connector B8.
- 2. Check continuity between harness connector B5 terminals 3 (L) and 10 (R).

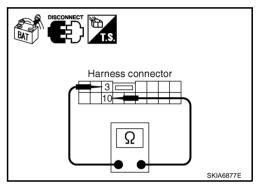
3 (L) - 10 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 9.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8



# 9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L), 10 (R) and ground.

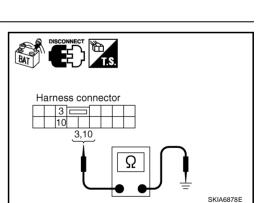
3 (L) - Ground : Continuity should not exist. 10 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 10.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8



Α

В

С

D

F

G

Н

LAN

L

# 10. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B152 terminals 14 (OR) and 15 (SB).

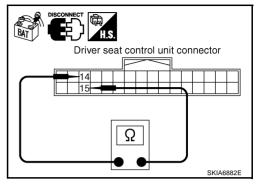
14 (OR) - 15 (SB) : Continuity should not exist.

#### OK or NG

OK >> GO TO 11.

NG

>> Repair harness between driver seat control unit and harness connector B151.



# 11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B152 terminals 14 (OR), 15 (SB) and ground.

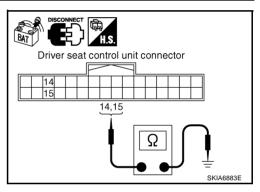
> 14 (OR) - Ground : Continuity should not exist. 15 (SB) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 12.

NG >> Repair harness between driver seat control unit and har-

ness connector B151.



# 12. CHECK HARNESS FOR SHORT CIRCUIT

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

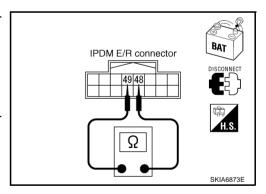
48 (L) - 49 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 13.

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

nector E205.



# 13. CHECK HARNESS FOR SHORT CIRCUIT

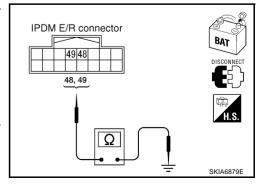
Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (R) and ground.

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

#### OK or NG

OK >> GO TO 14.

NG >> Repair harness between IPDM E/R and harness connector E205.



В

D

F

# 14. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to <u>LAN-205</u>, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION" .  $\underline{\mathsf{OK}}$  or  $\underline{\mathsf{NG}}$ 

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-172, "Work Flow"</u>.

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

# IPDM E/R Ignition Relay Circuit Check

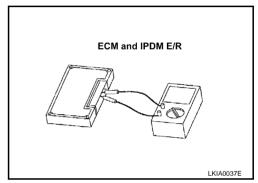
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-28, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12, "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



AKS007TM

AKS007TL

F

G

Н

LAN

L

# **CAN SYSTEM (TYPE 6)**

#### PFP:23710

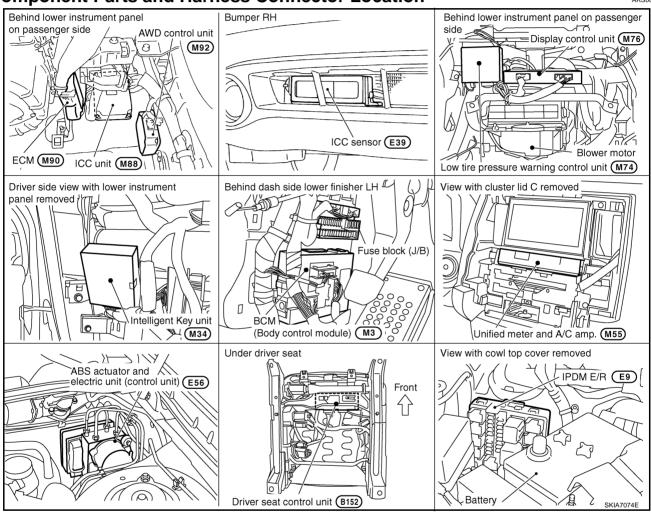
# **System Description**

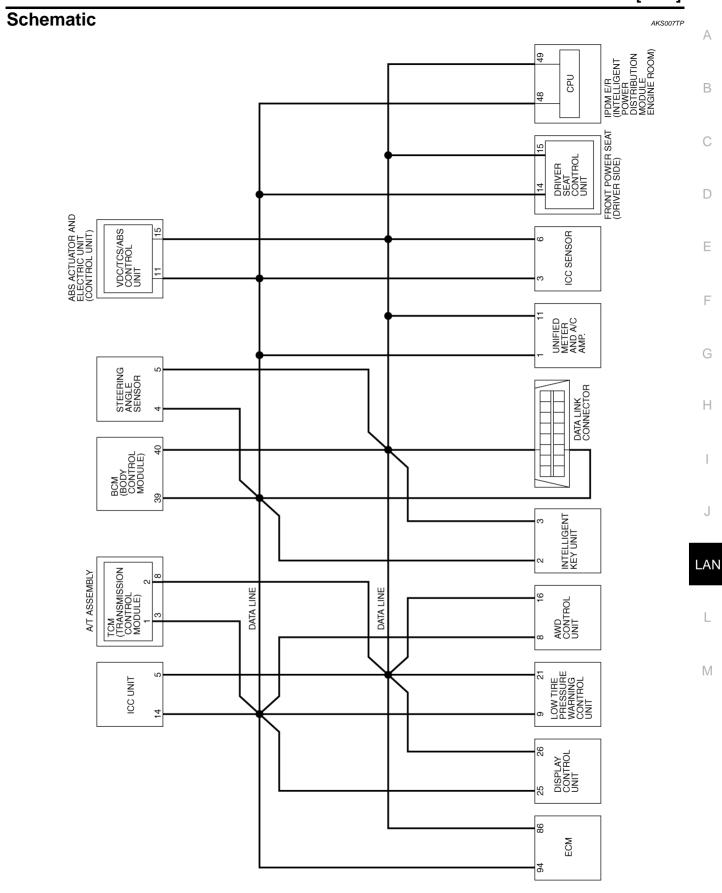
AKS007TN

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**

AKS007TO



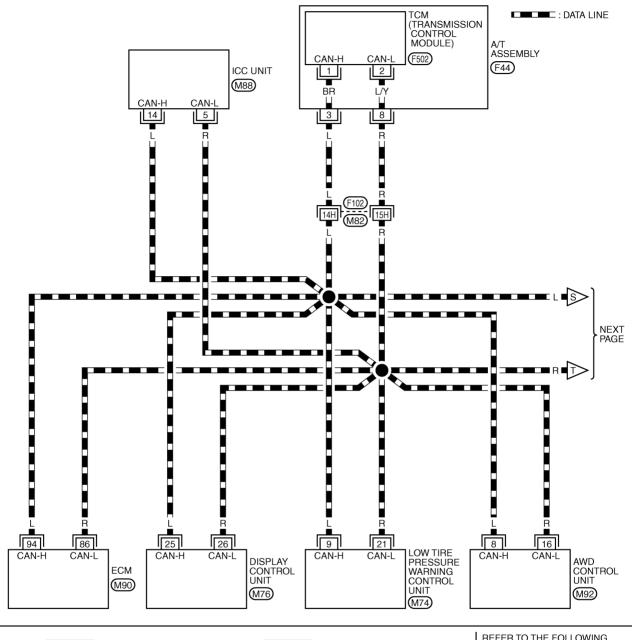


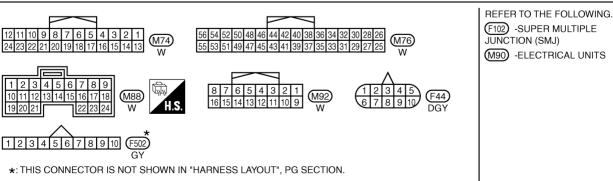
TKWM1300E

Wiring Diagram - CAN -

AKS007TQ

#### LAN-CAN-14

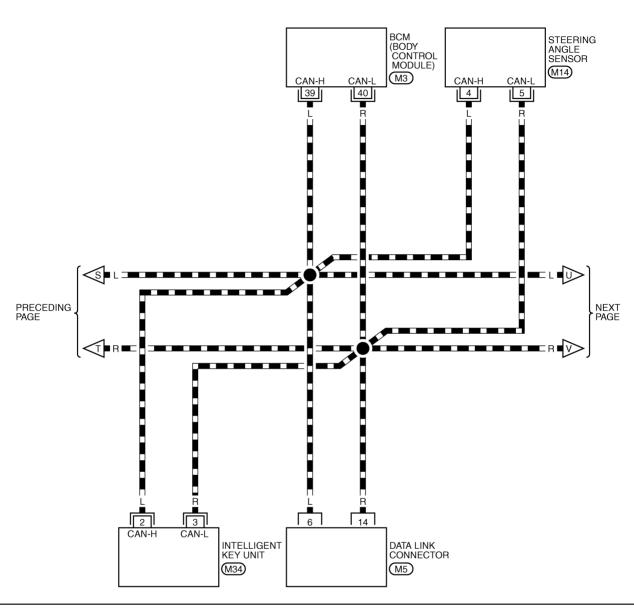


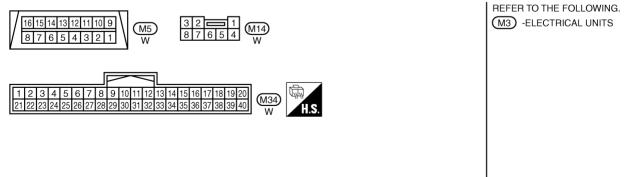


TKWM1301E

# LAN-CAN-15

: DATA LINE





TKWM0760E

В

Α

D

Е

F

G

Н

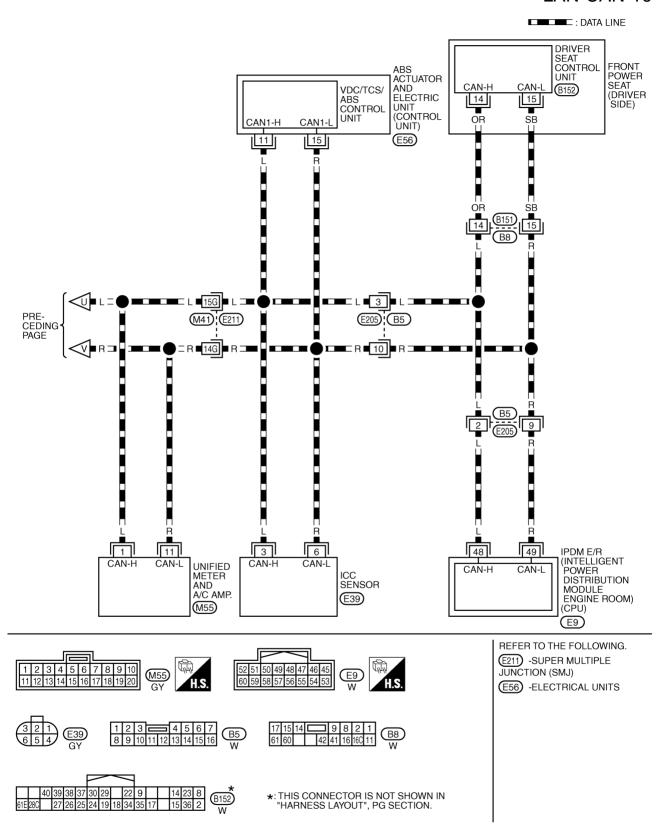
|

J

LAN

L

## LAN-CAN-16



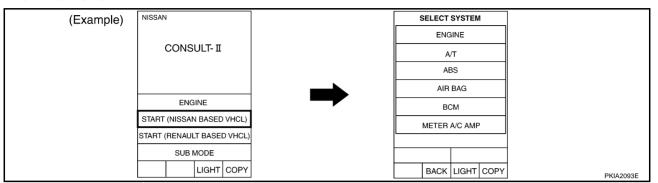
TKWH0252E

В

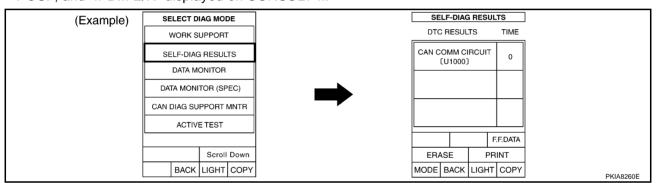
LAN

Work Flow

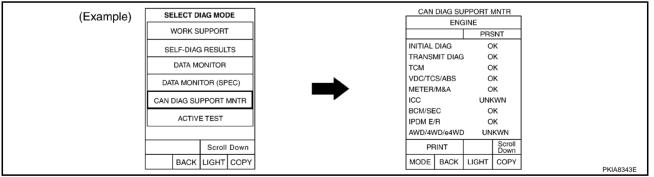
1. When there are no indications of "AIR PRESSURE MONITOR", "INTELLIGENT KEY", "BCM", "METER A/C AMP", "AUTO DRIVE POS." or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- 4. Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to <u>LAN-213</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 <a href="LAN-213">LAN-213</a>, "CHECK SHEET"</a>.

#### NOTE

Revision: 2004 November

- 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-157, "CAN Communication Line Check"</u>.

# **CAN SYSTEM (TYPE 6)**

[CAN]

- 7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to <u>LAN-213</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-213, "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-157, "CAN Communication Line Check".
- 9. According to the check sheet results (example), start inspection. Refer to <u>LAN-216, "CHECK SHEET RESULTS (EXAMPLE)"</u>.

В

С

D

Е

F

G

Н

LAN

M

## **CHECK SHEET**

#### NOTE:

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

Check sheet ta	ble															
							•	CAN DIAG	SUPPO							
SELECT SYSTEM screen		Initial diagnosis	Transmit					AWD	ICC	eive diagr	nosis BCM		METER	ICC	VDC/TCS	IPDM
		ulagriosis	ulayriosis	ECM	TCM	DISPLAY	TIRE-P	/4WD	/e4WD	I-KEY	/SEC	STRG	/M&A	SENSOR	/ABS	E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKWN
<b>4</b> ∕T	_	NG	UNKWN	UNKWN	_	_	-	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN		-	_	-	_	_	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	-	_	_	_	_	_	UNKWN	_	UNKWN	_
СС	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	UNKWN	UNKWN	_
NTELLIGENT KEY	No indication	1	UNKWN	_	_	_	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKWN
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	-	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_
				attach co						tach cop						
			SE.	LECTS	YSTEM		SELECT SYSTEM									

	Attach c display coi CAN DIAG SUPPORT N	ntrol unit	
Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of A/T SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS
Attach copy of ICC SELF-DIAG RESULTS	Attach copy of INTELLIGENT KEY 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 AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS	

В

D

Н

LAN

Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of A/T CAN DIAG SUPPORT MNTR Attach copy of AIR PRESSURE MONITOR CAN DIAG SUPPORT MNTR

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

Attach copy of ICC
CAN DIAG SUPPORT
MNTR

Attach copy of INTELLIGENT KEY 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 Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR

(IA8025E

Revision: 2004 November LAN-215 2004.5 FX35/FX45

## **CHECK SHEET RESULTS (EXAMPLE)**

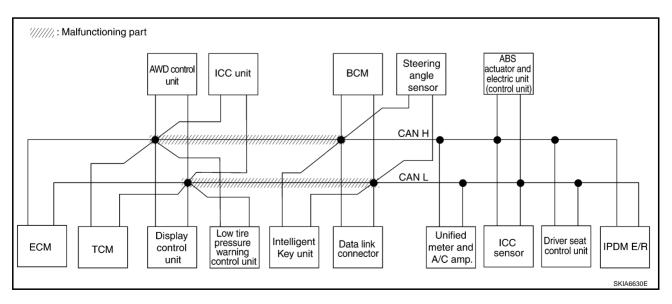
#### NOTE:

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-237</u>, "Circuit Check Between TCM and Data Link Connector" .

							(	CAN DIA	3 SUPPO	RT MNTR							
SELECT SYSTEM screen		Initial	Transmit														
			diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R	
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_	UNIMN	_	UNKWN	nwkw	
A/T	_	NG	UNKWN	UNKWN	-	_	_	-	UNKWN	_	ı	_	UNK WN	ı	Ω <b>ΝΚ\</b> N	_	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	l	_	CAN CIRC 6	ı	_	_	CANCRC 2	ı	CANORC 5	1	_	CANOR	
AIR PRESSURE MONITOR	No indication	N	UNKWN	ı	ı	_	1	ı	_	_	ı	-	UNKWN	ı	_	_	
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNK WN	_	UNKWN	_	
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNI WN	_	_	UNK NN	n <b>uk</b> wu	_	
INTELLIGENT KEY	No indication	_	UNKWN	-	_	_	-	_	_	_	UNKWN	_	_	_	_	_	
ВСМ	No indication	NG	UNKWN	UNK WN	_	_	_	_	_	UNKWN	_	_	UNKWN	-	_	UNKW	
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_	
ABS	_	NG	UNKWN	UNK NN	UNKWN	_	_	UNK WN	_	_	_	UNKWN	_	_	_	_	
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNK WN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	-	_	_	



В

D

Е

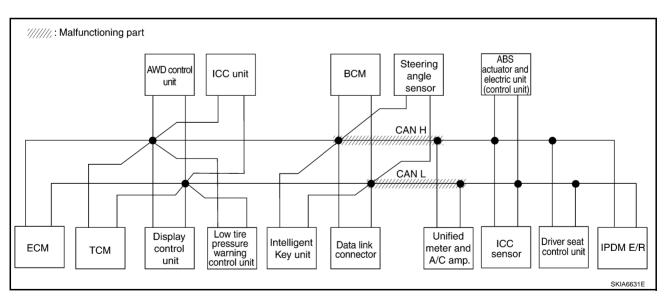
G

Н

Case 2

Check harness between data link connector and unified meter and A/C amp. Refer to <u>LAN-238</u>, "Circuit Check <u>Between Data Link Connector and Unified Meter and A/C Amp."</u>.

							(	CAN DIAC	SUPPOI							
SELECT SYST	ΓEM screen	Initial diagnosis	Transmit					AWD	Rece ICC	eive diagn	osis BCM		METER	ICC	VDC/TCS	IPDM
		ulagriosis	ulagriosis	ECM	TCM	DISPLAY	TIRE-P	/4WD	/e4WD	I-KEY	/SEC	STRG	/M&A	SENSOR		E/R
ENGINE	_	NG	UNKWN	-	UNKWN	_	_	_	UNKWN	_	UNKWN	-	UNIWN		UNKWN	
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	1	UNK WN	-	UNKVN	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	_	CAN CIRC 6	ı	_	ı	CAN CIRC 2	ı	CANORC 5	ı	_	CANORO
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	-	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNK/WN	_	<b>NAMAN</b>	_
ICC	-	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	-	UNKWN	-	_	UNKVN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	-	_	_	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	_	-	UNI WN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	UNKWN	_	-	-	UNYWN	-		_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN		_	_	-	_



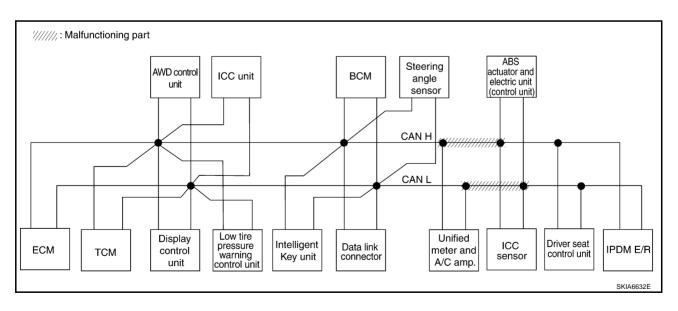
LAN

L

Case 3

Check harness between unified meter and A/C amp. and ABS actuator and electric unit (control unit). Refer to LAN-238, "Circuit Check Between Unified Meter and A/C Amp. and ABS Actuator and Electric Unit (Control Unit)".

							(	CAN DIAG	SUPPOI							
SELECT SYST	ΓEM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	eive diagn I-KEY	osis BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDI E/F
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	UNK
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-	UNKWN	-	UNKWN	
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	-	CAN CIRC 5	ı	_	CANO
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	-	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	1	1	UNK VN	n <b>иk</b> ₩и	_
INTELLIGENT KEY	No indication	_	UNKWN	ı	-	_	_	_	_	_	UNKWN	ı	ı	ı	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	ı	_	ı	1	_	UNKWN	1	ı	UNKWN	ı	-	UNK
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	1	1	-	UNK WN	_
ABS	_	NG	UNKWN	UNK <b>N</b> N	UNKWN	_	_	nuk wu	_	_	_	UNYWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	_	_	_	_	UNKWN	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	_	_



В

D

Е

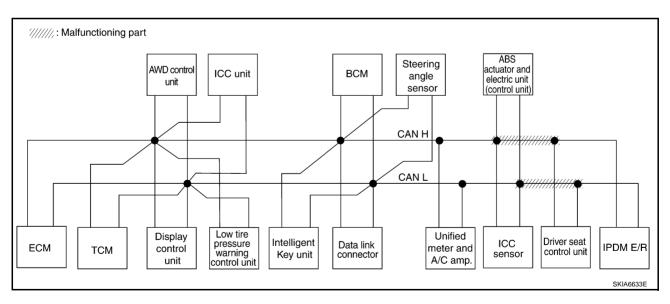
G

Н

Case 4

Check harness between ABS actuator and electric unit (control unit) and driver seat control unit. Refer to <u>LAN-239</u>, "Circuit Check Between ABS Actuator and Electric Unit (Control Unit) and Driver Seat Control Unit".

							(	CAN DIAC	SUPPO							
SELECT SYST	TEM screen	Initial diagnosis	Transmit					AWD	Rece ICC	eive diagn	osis BCM		METER	ICC	VDC/TCS	IPDM
		ulagriosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	/4WD	/e4WD	I-KEY	/SEC	STRG	/M&A	SENSOR	/ABS	E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	n <b>uk</b> wi
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	-	CAN CIRC 6	_	_	-	CAN CIRC 2	_	CAN CIRC 5	_	_	CANORO
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	-	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	_	-	_	-	_	UNKWN	-	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	-	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_

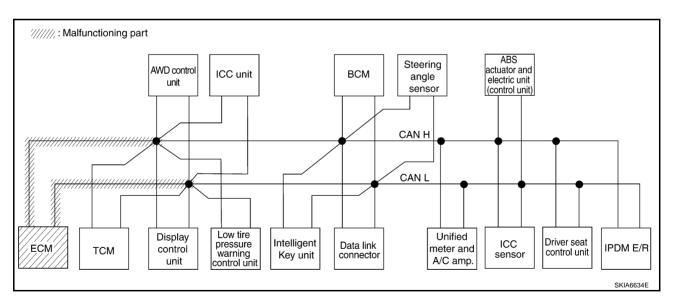


LAN

L

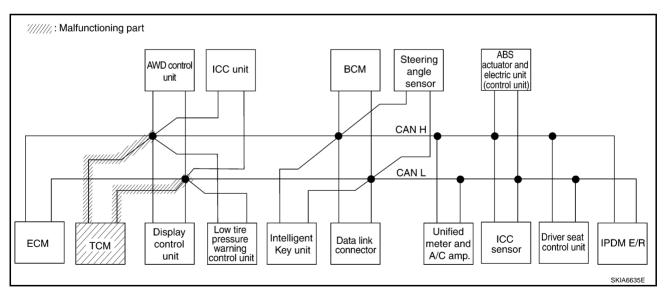
Case 5
Check ECM circuit. Refer to LAN-240, "ECM Circuit Check".

							(	CAN DIAC	3 SUPPO	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit						Rec	eive diagn			ı			ı
		diagnosis	diagnosis	ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	_	UNK WN	_	UNWWN	_	UNK WN	-	UNK/VN	n <b>uk</b> wi
A/T	-	NG	UNKWN	UNKWN	-	_	-	_	UNKWN	_	ı	_	UNKWN	ı	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CANCAC 3	_	-	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	-	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	_	_	UNKWN	-	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	<b>NIN</b> WN	_	_	_	_	_	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	∩ <b>NR</b> WN	UNKWN	_	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	1	_	_	-	_	_	_	UNKWN	_	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	ı		ı	ı	_	UNKWN	1	-	UNKWN	ı	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNK WN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	-	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	-	_	_



Case 6
Check TCM circuit. Refer to LAN-240, "TCM Circuit Check".

							(	CAN DIAC	SUPPO	RT MNTR						
SELECT SYST	ΓEM screen	Initial	Transmit			ı			Rec	eive diagn						
		diagnosis		ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	_	_	_	UNKWN	_	UNKWN	-	UNKWN	1	UNKWN	UNKW
A/T	_	NG	UNK <b>W</b> N	UNKWN	_	_	_	_	UNK WN	_	ı	-	UNKWN	ı	UNK <b>N</b> N	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	ı	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	_	_	UNKWN	-	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN		UNKWN	-
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	_	UNKWN	-	_	UNKWN	UNKWN	-
INTELLIGENT KEY	No indication	_	UNKWN	-	_	_	-	_	_	_	UNKWN	_	-	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	_	ı	_	UNKWN	1	_	UNKWN	ı	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	1	1	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	-	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	-	_	_



А

В

С

D

Е

F

G

Н

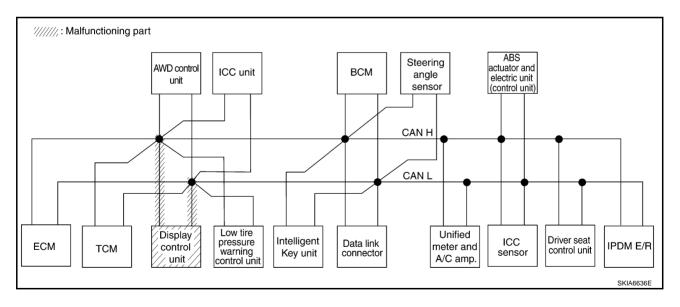
LAN

L

\/l

Case 7
Check display control unit circuit. Refer to <u>LAN-241</u>, "<u>Display Control Unit Circuit Check"</u>.

								CAN DIAC	SUPPO							
SELECT SYST	ΓEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	eive diagn	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CANCIAC 1	CANCAC 3	_	_	CANCIAC 6	_	_	_	CANCAC 2	_	CANCAC 5	_	_	CANCAC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	_	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	ı	-	_	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	_	_	_	UNKWN	_	_	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	Π <b>ΜΑ</b> ΜΝ	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_



В

D

Е

F

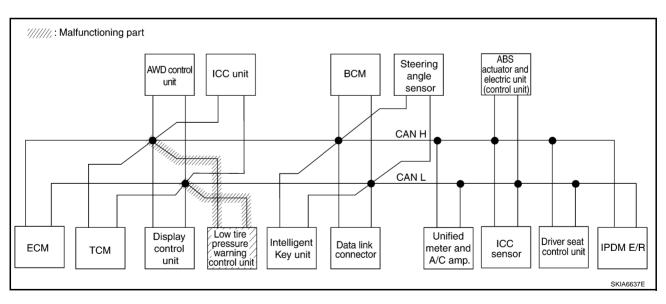
G

Н

Case 8

Check low tire pressure warning control unit circuit. Refer to <u>LAN-241</u>, "<u>Low Tire Pressure Warning Control Unit Circuit Check"</u>.

							(	CAN DIAC	SUPPO							
SELECT SYST	ΓEM screen	_Initial _	Transmit							eive diagn	osis BCM		LIETER	ICC	VDC/TCS	IPDM
		diagnosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	/SEC	STRG	METER /M&A	SENSOR	/ABS	E/R
ENGINE	_	NG	UNKWN	-	UNKWN	-	_	_	UNKWN	-	UNKWN	-	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	1	ı	_	ı	UNKWN	ı	ı	ı	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	ı	CANCIAC 6	ı	_	ı	CAN CIRC 2	١	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	1		1	_	_	-	1	-	-	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	1	_	_	-	_	_	-	UNKWN	-	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	-
INTELLIGENT KEY	No indication	_	UNKWN	-	_	_	_	_	_	_	UNKWN	-	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	1	_	_	_	-	UNKWN	1	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_



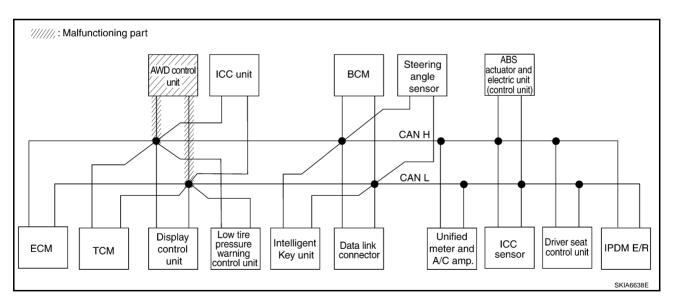
LAN

J

L

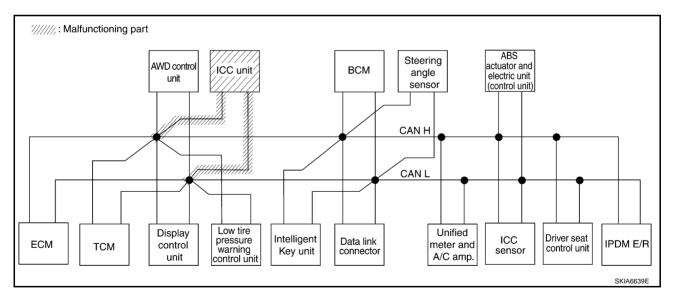
Case 9
Check AWD control unit circuit. Refer to <u>LAN-242</u>, "AWD Control Unit Circuit Check" .

			I				(	CAN DIAC	SUPPO							
SELECT SYST	ΓEM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	eive diagr I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDI E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	-	UNKWN	-	UNKWN	UNKV
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN	-	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	ı	_	CAN CIRC 6	ı	_	_	CAN CIRC 2	_	CAN CIRC 5	1	_	CAN CIF
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	ı	_	_	ı	_	_	_	-	UNKWN	ı	_	_
ALL MODE AWD/4WD	_	NG	n <b>uk</b> wu	UNYWN	ı	_	_		-	_	_	_	UNKWN	-	UNK <b>V</b> N	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	-	-	-	_	UNKWN	1	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	ı	_	_	_	_	_	UNKWN	_	_	1	_	_
BCM	No indication	NG	UNKWN	UNKWN	ı	_	_	ı		UNKWN	_	_	UNKWN	ı	_	UNKV
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	1	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	Ω <b>ΝΚ</b> ₩Ν	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	-	_	UNKWN	_	_	-	_	-



Case 10
Check ICC unit circuit. Refer to LAN-242, "ICC Unit Circuit Check".

			ı	-				CAN DIAC	SUPPO							
SELECT SYST	ΓEM screen	Initial	Transmit					AVA/D	Reci ICC	eive diagn	osis BCM		METER	ICC	VDC/TCS	IPDM
		diagnosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	/e4WD	I-KEY	/SEC	STRG	/M&A	SENSOR		E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	_	UNYWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNK WN	_	-	_	UNKWN	ı	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	ı	_	_	CAN CIRC 2	_	CAN CIRC 5	ı	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	_	_	UNKWN	-	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN		UNKWN	-
ICC	_	NG	n <b>uk</b> wu	∩ <b>/k</b> \w	n <b>uk</b> wu	_	_	_	-	_	Ω <b>ΝΚ</b> ₩Ν	-	_	UNKWN	UNKVN	-
INTELLIGENT KEY	No indication	_	UNKWN	-	_	_	-	_	_	_	UNKWN	_	-	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	-	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	-
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_		_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	-	_	_



В

Α

С

D

Е

F

G

Н

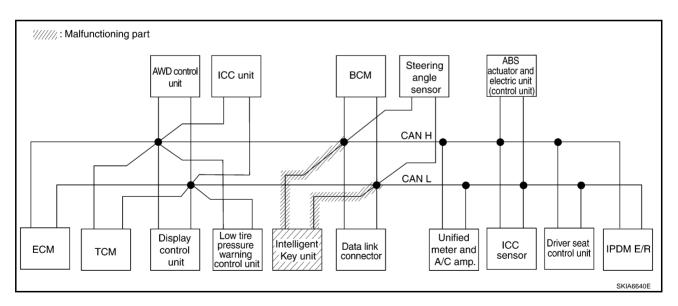
ı

LAN

\_ \_

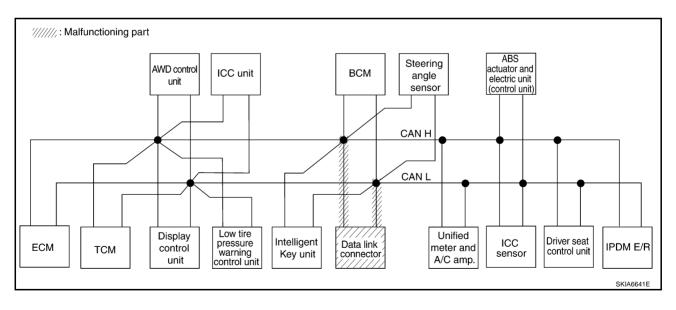
Case 11
Check Intelligent Key unit circuit. Refer to <u>LAN-243</u>, "Intelligent Key Unit Circuit Check".

								CAN DIAC	3 SUPPOI	RT MNTR						
SELECT SYST	ΓEM screen	Initial	Transmit						Rece	eive diagr	osis		ı		1	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	-	UNKWN	ı	_	ı	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	-	_	-	UNKWN	_	ı	_	UNKWN	_	UNKWN	-
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	-	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	_	_	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	-
INTELLIGENT KEY	No indication	_	UNKWN	-	-	_	-	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_



Case 12
Check data link connector circuit. Refer to LAN-243, "Data Link Connector Circuit Check".

							(	CAN DIAC	3 SUPPOI	RT MNTR						
SELECT SYST	ΓEM screen	Initial	Transmit						Rece	eive diagn	osis		ı	ı		
		diagnosis		ECM	ТСМ	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	_	ı	UNKWN	ı	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	1	ı	-	-	UNKWN	ı	1	-	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	1	CAN CIRC 6	_	_	-	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	_	-	_	_	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_		_	_	_	-	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	-
INTELLIGENT KEY	No indication	_	UNKWN	-	-	1	-	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_



В

Α

D

Е

F

G

Н

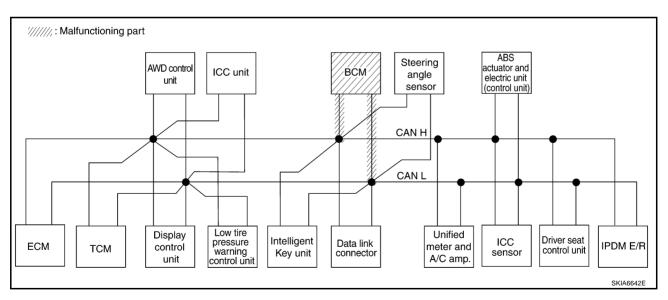
LAN

L

NЛ

Case 13
Check BCM circuit. Refer to <u>LAN-244, "BCM Circuit Check"</u>.

							(	CAN DIAC	SUPPOI							
SELECT SYST	ΓEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	eive diagr I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN		UNKWN	_	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	-	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	-	_	CANCIAC 2	_	CAN CIRC 5	1	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	-	NG	UNKWN	UNKWN	_	_	_	_	-	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNK WN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	-	-	_	_	_	_	_	UNKWN	_	_	-	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNK <b>W</b> N	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	_	_	_	_	UNK WN	_	UNKWN	-	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNK WN	_	_	1	_	_



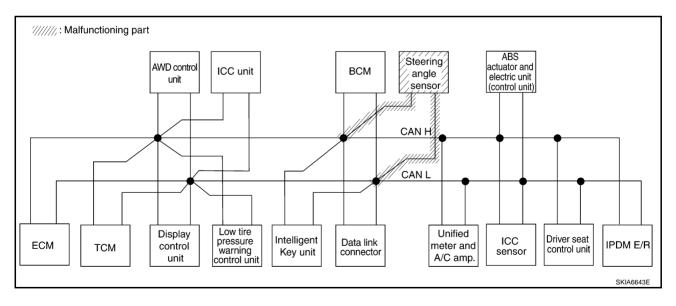
В

D

Е

Case 14
Check steering angle sensor circuit. Refer to <u>LAN-244</u>, "Steering Angle Sensor Circuit Check".

							(	CAN DIAC	SUPPO							
SELECT SYST	ΓEM screen	Initial	Transmit							eive diagn				100	уро тоо	LIDDA
		diagnosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	I	ı	ı	UNKWN	ĺ	UNKWN	ı	UNKWN	1	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	ı	-	_	-	UNKWN	ı	ı	ı	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	-	_	_	_	_	-	_	-	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	-	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	-	-	_	_	_	_	_	UNKWN	-	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	_		UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNK/VN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_	_	_	_	_	UNKWN	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	_	_



Н

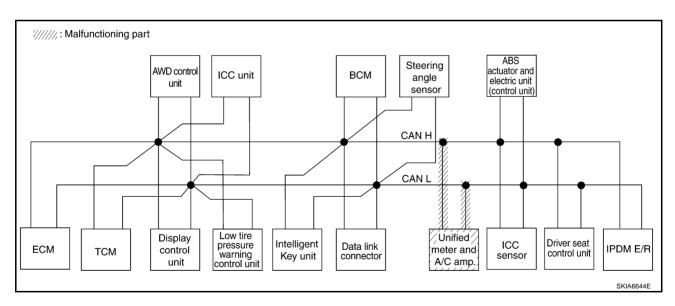
G

LAN

L

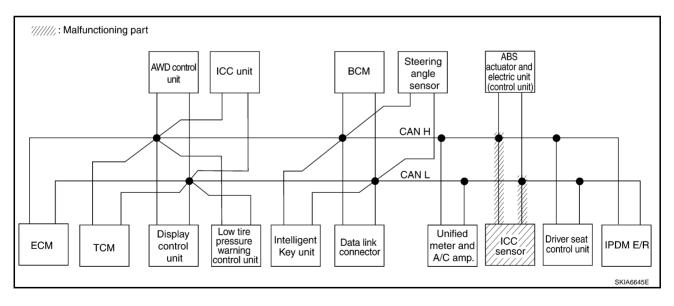
Case 15
Check unified meter and A/C amp. circuit. Refer to LAN-245, "Unified Meter and A/C Amp. Circuit Check".

							(	CAN DIAG	SUPPO	RT MNTR						
SELECT SYS	ΓEM screen	Initial	Transmit							eive diagn			I			1
		diagnosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	-		1	UNKWN	1	UNKWN	ı	UNKWN	1	UNKWN	UNKWI
A/T	_	NG	UNKWN	UNKWN	ı	_	_	-	UNKWN	_	ı	ı	UNKWN	ı	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 6	_	-	_	CAN CIRC 2	-	CANCIAC 5	-	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	-	_	-	-	UNK WN	-	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	-	_	_	-	UNK WN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	-	_	UNKWN	-	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	1	-	_	-	_	-	_	UNKWN	-	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	-	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	-	_	_	_	_	UNKWN	-	UNKWN	1	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	-	_	UNKWN	-	_	-	_	_



Case 16
Check ICC sensor circuit. Refer to LAN-245, "ICC Sensor Circuit Check".

							(	CAN DIAC	SUPPO							
SELECT SYST	TEM screen	Initial	Transmit					NA/D	Rece ICC	eive diagn	osis BCM		METER	ICC	VDC/TCS	IPDM
		diagnosis	diagnosis	ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	/e4WD	I-KEY	/SEC	STRG		SENSOR	/ABS	E/R
ENGINE	_	NG	UNKWN	ı	UNKWN	ı	_	-	UNKWN	ı	UNKWN	ı	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	-	-	ı	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 6	_	_	-	CAN CIRC 2	-	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	_	_	_	-	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	-	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	-	-	_	_	_	_	_	UNKWN	-	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	-	_	_	UNKWN	_	-	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	1	UNKWN	_	_	_	_	_	UNKWN	-	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	_	_



\_ A

В

С

D

Е

F

G

Н

1

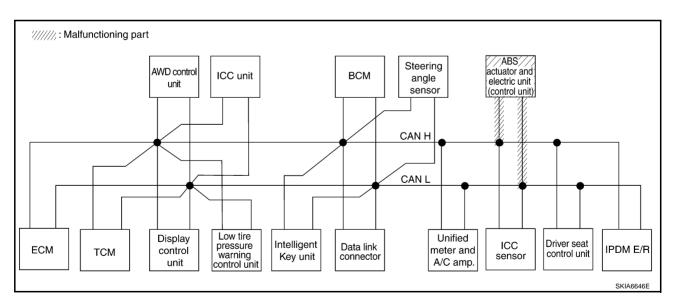
LAN

//

Case 17

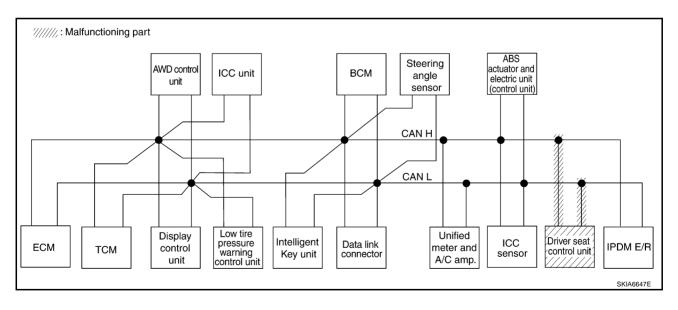
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-246</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

							(	CAN DIAC	3 SUPPOI	RT MNTR						
SELECT SYST	ΓEM screen	Initial	Transmit						Rece	eive diagn	osis			ı		
		diagnosis		ECM	TCM	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	1	UNKWN	_	_	_	UNKWN	_	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	_	UNKWN	_	UNK <b>W</b> N	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	-	_	_	_	_	-	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	n <b>uk</b> ‰ν	-
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	UNKWN	UNK WN	_
INTELLIGENT KEY	No indication	_	UNKWN	-	_	_	_	_	_	_	UNKWN	_	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	_	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKVN	_
ABS	_	NG	UNKWN	UNK <b>W</b> N	UNKWN	_	_	UNKVN	_	_	_	UNKVN	_	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_



Case 18
Check driver seat control unit circuit. Refer to LAN-246, "Driver Seat Control Unit Circuit Check".

							(	CAN DIAC	3 SUPPOI	RT MNTR						
SELECT SYST	ΓEM screen	Initial	Transmit						Rece	eive diagn	osis					
		diagnosis		ECM	ТСМ	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	_	UNKWN	ı	_	ı	UNKWN	ı	UNKWN	_	UNKWN	_	UNKWN	UNKW
A/T	_	NG	UNKWN	UNKWN	1	ı	-	-	UNKWN	ı	1	-	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	1	CAN CIRC 6	_	_	-	CAN CIRC 2	_	CAN CIRC 5	_	_	CAN CIR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	-	_	_	_	_	_	_	UNKWN	_	_	-
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	_	UNKWN	_	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	-	-	_	_	_	_	UNKWN	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKW
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	-
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	1	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	-	_	_	_	_	UNKWN	_	_	_	_	_



В

C

D

Е

F

G

Н

ı

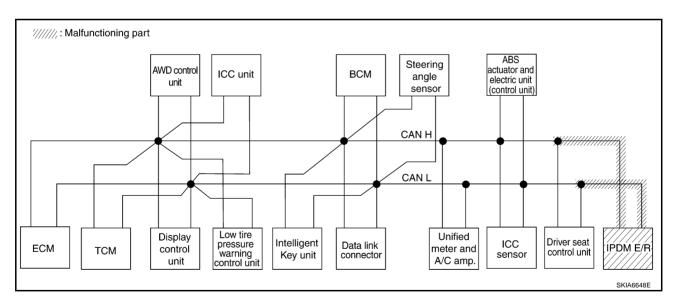
LAN

L

//

Case 19
Check IPDM E/R circuit. Refer to LAN-247, "IPDM E/R Circuit Check".

							(	CAN DIAC	3 SUPPO	RT MNTR						
SELECT SYST	ΓEM screen	Initial	Transmit				1		Rec	eive diagn			ı	ı	1	
		diagnosis	diagnosis	ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDN E/R
ENGINE	_	NG	UNKWN	1	UNKWN	I	_	ı	UNKWN	_	UNKWN	ı	UNKWN	_	UNKWN	UNIM
A/T	_	NG	UNKWN	UNKWN	-	-	_	_	UNKWN	_	-	_	UNKWN	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 6	_	_	_	CAN CIRC 2	_	CAN CIRC 5	_	_	CANOR
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	_	_	_	_	_	UNKWN	_	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	_	UNKWN	-	_	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	-	-	_	_	_	_	_	UNKWN	_	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	-		_	-	_	UNKWN	_	_	UNKWN	_	_	UNK
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	_	_	_	_	_



# **CAN SYSTEM (TYPE 6)**

[CAN]

Α

В

С

D

Е

F

G

Н

Case 20

Check CAN communication circuit. Refer to LAN-248, "CAN Communication Circuit Check" .

				1			(	CAN DIAG	SUPPOI	RT MNTR						
SELECT SYST	EM screen	Initial	Transmit							eive diagn						1
		diagnosis	diagnosis	ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNYWN	_	UNKWN	_	_	_	UN WN	1	UNYWN	-	UNKWN	_	UNKWN	UNIM
A/T	-	NG	UNK WN	UNIVAN	_	_	_	-	UNK WN	-	ı	ı	UNK <b>W</b> N	_	UNK <b>W</b> N	_
Display control unit	ı	CAN COMM	CANORC 1	CANORC 3	ı	ı	CANORC 6	ı	_	ı	CANORC 2	ı	CANORC 5	_	ı	CANORC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	-	_	-	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNI WN	_	_	_	_	_	_	_	-	UNKWN	_	Π <b>ΛΚ</b> ΜΝ	_
ICC	_	NG	n <b>uk</b> wu	UNK <b>W</b> N	UNK <b>W</b> N	_	_	_	_	_	UNKWN	-	_	UNK WN	n <b>иk</b> ‰и	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	_	UNKWN	1	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKWI
METER A/C AMP	No incleation	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	_	UNKWN	_
ABS	_	NG	n <b>uk</b> wu	UNK <b>∕</b> NN	UNKWN	_	_	<b>UMA</b> MN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	_	_	_	_	UNKWN		UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	-	_

LAN

ı

### Case 21

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to  $\underline{\text{LAN-253, "IPDM E/R Ignition Relay Circuit Check"}}$ .

								CAN DIAC	3 SUPPOI	RT MNTR						
SELECT SYST	TEM screen	Initial	Transmit						Rece	eive diagn	osis					
		diagnosis		ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	I-KEY	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	Ω <b>ΝΚ</b> ₩Ν	_	_	_	UNKWN	_	UNKWN	-	UNKWN	1	UNK WN	UNKW
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	UNKWN	_	_	1	UNKWN	-	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	ı	CAN CIRC 5	ı	_	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	ı	_	_	1	ı	UNKWN	ı	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	_	_	ı	_	_	ı	ı	UNKWN	ı	UNKWN	_
ICC	_	NG	UNKWN	UNKWN	n <b>ικ</b> ₩и	_	_	_	_	_	UNKWN	-	_	UNKWN	UNK VN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	_	_	_	_	_	UNKWN	1	1	1	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	-	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	UNKWN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	_	_

#### Case 22

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-253, "IPDM E/R Ignition Relay Circuit Check" .

			I				(	CAN DIAG	SUPPOR							
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	TIRE-P	AWD /4WD	ICC /e4WD	eive diagn	BCM /SEC	STRG	METER /M&A	ICC SENSOR	VDC/TCS /ABS	IPDM E/R
ENGINE	_	NG	UNKWN	_	UNKWN	_	_	_	UNKWN	_	UNKWN	-	UNKWN	_	UNKWN	UNKWN
A/T	_	NG	UNKWN	UNWN	_	-	_	_	UNKWN	_	_	_	UNK <b>W</b> N	_	UNKWN	_
Display control unit	_	CAN COMM	CAN CIRC 1	CAN CIRC 3	_	_	CAN CIRC 6	_	_	_	CAN CIRC 2	-	CAN CIRC 5	_	-	CAN CIRC
AIR PRESSURE MONITOR	No indication	NG	UNKWN	_	_	_	_	_	_	_	_	_	UNKWN	_	_	_
ALL MODE AWD/4WD	_	NG	UNKWN	UNKWN	_	-	_	_	-	_	-	-	UNKWN	_	UNKWN	_
ICC	1	NG	UNKWN	UNKWN	UNKWN	1	_	ı	_	ı	UNKWN	1	ı	UNKWN	UNKWN	_
INTELLIGENT KEY	No indication	_	UNKWN	_	_	-	_	_	_	-	UNKWN	1	1	-	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	_	_	_	UNKWN	_	-	UNKWN	_	_	UNKWI
METER A/C AMP	No indication	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	-	_	_	UNKWN	_
ABS	_	NG	UNKWN	Ω <b>ΝΚ∕</b> ΝΝ	UNKWN	_	_	<b>UMA</b> MN	_	_	_	UNKWN	_	_	_	_
AUTO DRIVE POS.	No indication	NG	UNKWN	_	UNKWN	_	-	_	_	_	UNKWN	_	UNKWN	_	_	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	_	_	_	_	_	UNKWN	-	_	_	_	_

## **Circuit Check Between TCM and Data Link Connector**

1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF.

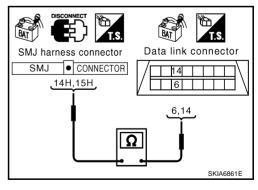
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and harness connector M82.
- Check continuity between harness connector M82 terminals 14H (L), 15H (R) and data link connector M5 terminals 6 (L), 14 (R).

14H (L) - 6 (L) : Continuity should exist. 15H (R) - 14 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-211, "Work Flow".

NG >> Repair harness.



В

Α

D

Е

G

Н

-

AKS007TS

LAN

L

## Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.

# 1. CHECK HARNESS FOR OPEN CIRCUIT

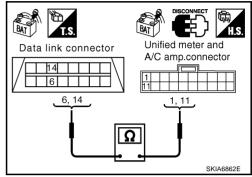
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector and unified meter and A/C amp. connector.
- Check continuity between data link connector M5 terminals 6 (L), 14 (R) and unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R).

6 (L) - 1 (L) : Continuity should exist. 14 (R) - 11 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-211, "Work Flow" .

NG >> Repair harness.



# Circuit Check Between Unified Meter and A/C Amp. 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 M41
- Harness connector E211

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

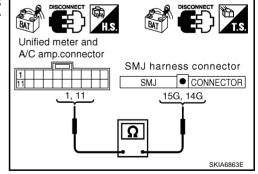
## 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect unified meter and A/C amp. connector and harness connector M41.
- Check continuity between unified meter and A/C amp. harness connector M55 terminals 1 (L), 11 (R) and harness connector M41 terminals 15G (L), 14G (R).

1 (L) - 15G (L) : Continuity should exist. 11 (R) - 14G (R) : 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 E211 terminals 15G (L), 14G (R) and ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R).

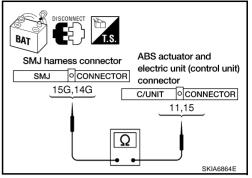
15G (L) - 11 (L) 14G (R) - 15 (R) : Continuity should exist.

: Continuity should exist.

### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-211. "Work Flow".

NG >> Repair harness.



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

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector E205
- Harness connector B5

### 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 and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and harness connector E205 terminals 3 (L), 10 (R).

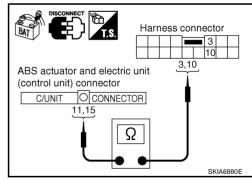
11 (L) - 3 (L) 15 (R) - 10 (R) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



2004.5 FX35/FX45

Α

В

F

Н

LAN

L

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

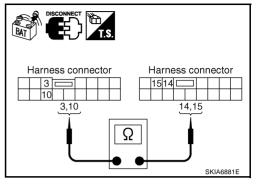
- 1. Disconnect harness connector B8.
- 2. Check continuity between harness connector B5 terminals 3 (L), 10 (R) and harness connector B8 terminals 14 (L), 15 (R).

3 (L) - 14 (L) : Continuity should exist. 10 (R) - 15 (R) : Continuity should exist.

#### OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-211, "Work Flow".

NG >> Repair harness.



AKS007TW

### **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

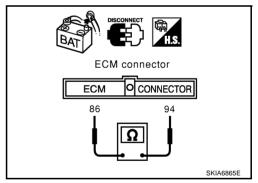
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector M90 terminals 94 (L) and 86 (R).

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

#### OK or NG

OK >> Replace ECM.
NG >> Repair harnes

>> Repair harness between ECM and harness connector M82.



AKS007TX

#### **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).
- A/T assembly 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

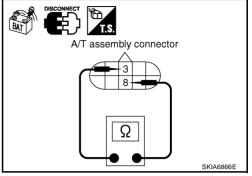
- Disconnect A/T assembly connector.
- 2. Check resistance between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

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

#### OK or NG

OK >> Replace control valve with TCM.

NG >> Repair harness between A/T assembly and display control unit.



## **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 M76 terminals 25 (L) and 26 (R).

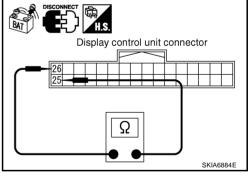
**25 (L) - 26 (R)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

NG

OK >> Replace display control unit.

> >> Repair harness between display control unit and harness connector M82.



# **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.

AKS007TY

В

Н

LAN

AKS007TZ

# $\overline{2}$ . 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 M74 terminals 9 (L) and 21 (R).

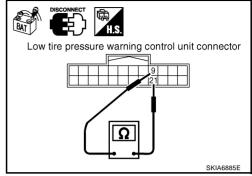
**9 (L) - 21 (R)** : Approx. 
$$54 - 66\Omega$$

#### OK or NG

OK >> Replace low tire pressure warning control unit.

NG

>> Repair harness between low tire pressure warning control unit and harness connector M82.



AKS007UF

### **AWD Control Unit Circuit Check**

### 1. CHECK CONNECTOR

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

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect AWD control unit connector.
- Check resistance between AWD control unit harness connector M92 terminals 8 (L) and 16 (R).

**8 (L) - 16 (R)** : Approx. 54 - 
$$66\Omega$$

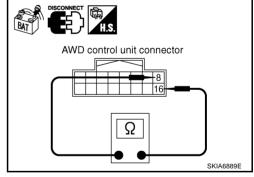
#### OK or NG

OK >> R

>> Replace AWD control unit.

NG

>> Repair harness between AWD control unit and harness connector M82.



AKS007U0

### **ICC Unit Circuit Check**

#### 1. CHECK CONNECTOR

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

### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

AKS007U1

Α

В

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

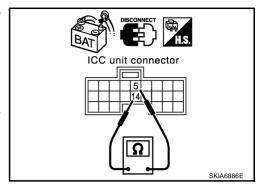
- 1. Disconnect ICC unit connector.
- Check resistance between ICC unit harness connector M88 terminals 14 (L) and 5 (R).

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

#### OK or NG

OK >> Replace ICC unit.

NG >> Repair harness between ICC unit and harness connector M82.



## **Intelligent Key Unit Circuit Check**

### 1. CHECK CONNECTOR

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

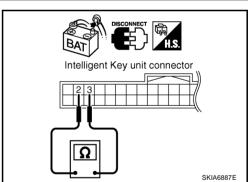
- 1. Disconnect Intelligent Key unit connector.
- Check resistance between Intelligent Key unit harness connector M34 terminals 2 (L) and 3 (R).

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

#### OK or NG

OK >> Replace Intelligent Key unit.

NG >> Repair harness between Intelligent Key unit and data link connector.



### **Data Link Connector Circuit Check**

### 1. CHECK CONNECTOR

- 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.

LAN

Н

AKS007U2

2004.5 FX35/FX45

# 2. CHECK HARNESS FOR OPEN CIRCUIT

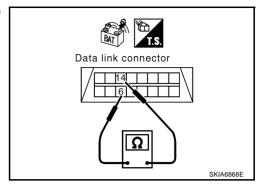
Check resistance between data link connector M5 terminals 6 (L) and 14 (R).

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

#### OK or NG

OK >> Diagnose again. Refer to LAN-211, "Work Flow".

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



#### AKS007U3

### **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

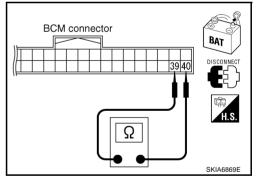
- Disconnect BCM connector.
- Check resistance between BCM harness connector M3 terminals 39 (L) and 40 (R).

**39** (L) - **40** (R) : Approx. **54** - **66**
$$\Omega$$

#### OK or NG

OK >> Replace BCM. Refer to BCS-15, "Removal and Installation of BCM" .

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



#### AKS007U4

# **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.

В

# 2. CHECK HARNESS FOR OPEN CIRCUIT

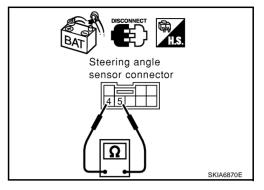
- 1. Disconnect steering angle sensor connector.
- 2. Check resistance between steering angle sensor harness connector M14 terminals 4 (L) and 5 (R).

**4 (L) - 5 (R)** : Approx. **54 - 66**
$$\Omega$$

#### OK or NG

OK >> Replace steering angle sensor.

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



## 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

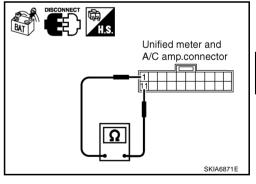
- 1. Disconnect unified meter and A/C amp. connector.
- Check resistance between unified meter and A/C amp. harness connector M55 terminals 1 (L) and 11 (R).

1 (L) - 11 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

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

NG >> Repair harness between unified meter and A/C amp. and harness connector M41.



#### AKS007U6

### **ICC Sensor Circuit Check**

#### 1. CHECK CONNECTOR

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

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. Н

AKS007U5

LAN

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

- 1. Disconnect ICC sensor connector.
- 2. Check resistance between ICC sensor harness connector E39 terminals 3 (L) and 6 (R).

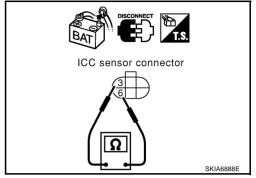
**3 (L)** - 6 (R) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace ICC sensor.

NG

>> Repair harness between ICC sensor and ABS actuator and electric unit (control unit).



## **ABS Actuator and Electric Unit (Control Unit) Circuit Check**

AKS007U7

### 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 E56 terminals 11 (L) and 15 (R).

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

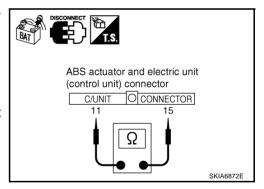
#### OK or NG

OK

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

NG

>> Repair harness between ABS actuator and electric unit (control unit) and ICC sensor.



#### AKS007U8

### **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 B151
- Harness connector B8

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

F

Н

# 2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect driver seat control unit connector.
- Check resistance between driver seat control unit harness connector B152 terminals 14 (OR) and 15 (SB).

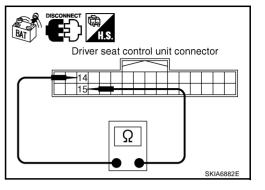
14 (OR) - 15 (SB) : Approx. 54 - 
$$66\Omega$$

#### OK or NG

OK >> Replace driver seat control unit.

NG

>> Repair harness between driver seat control unit and harness connector B5.



AKS007U9

### **IPDM E/R 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 module side and harness side).
- IPDM E/R connector
- Harness connector E205
- Harness connector B5

#### 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 (R).

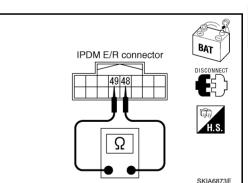
48 (L) - 49 (R) : Approx. 
$$108 - 132\Omega$$

#### OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and harness connector B8.





LAN

## **CAN SYSTEM (TYPE 6)**

[CAN]

## **CAN Communication Circuit Check**

## 1. CHECK CONNECTOR

AKS007UA

- 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, sensor side, meter side and harness side).
- ECM
- A/T assembly
- Display control unit
- AWD control unit
- Low tire pressure warning control unit
- ICC unit
- Intelligent Key unit
- BCM
- Steering angle sensor
- Unified meter and A/C amp.
- ICC sensor
- ABS actuator and electric unit (control unit)
- Driver seat control unit
- IPDM E/R
- Between ECM and IPDM E/R
- Between ECM and A/T assembly

#### OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

В

F

# 2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector M82
- Display control unit connector
- Low tire pressure warning control unit connector
- AWD control unit connector
- ICC unit connector
- Intelligent Key unit connector
- BCM connector
- Steering angle sensor connector
- Unified meter and A/C amp. connector
- Harness connector M41
- 2. Check continuity between data link connector M5 terminals 6 (L) and 14 (R).

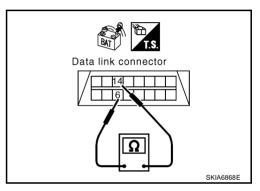
6 (L) - 14 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 3.

NG >> Check th

- >> 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 low tire pressure warning control unit
  - Harness between data link connector and AWD control unit
  - Harness between data link connector and ICC unit
  - Harness between data link connector and Intelligent Key unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41



Н

LAN

# 3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M5 terminals 6 (L), 14 (R) and ground.

6 (L) - Ground : Continuity should not exist. 14 (R) - 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 low tire pressure warning control unit
  - Harness between data link connector and AWD control unit
  - Harness between data link connector and ICC unit
  - Harness between data link connector and Intelligent Key unit
  - Harness between data link connector and BCM
  - Harness between data link connector and steering angle sensor
  - Harness between data link connector and unified meter and A/C amp.
  - Harness between data link connector and harness connector M41

# 4. CHECK HARNESS FOR SHORT CIRCUIT

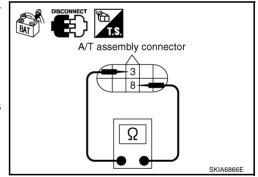
- 1. Disconnect A/T assembly connector.
- 2. Check continuity between A/T assembly harness connector F44 terminals 3 (L) and 8 (R).

3 (L) - 8 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 5.

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



Data link connector

14

6, 14,

## 5. CHECK HARNESS FOR SHORT CIRCUIT

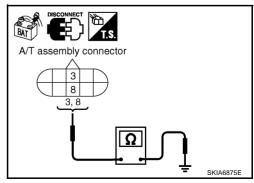
Check continuity between A/T assembly harness connector F44 terminals 3 (L), 8 (R) and ground.

3 (L) - Ground : Continuity should not exist. 8 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 6.

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



В

F

# 6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector, ICC sensor connector and harness connector E205.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L) and 15 (R).

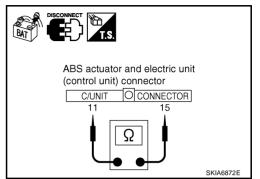
: Continuity should not exist. 11 (L) - 15 (R)

#### OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205
  - Harness between ABS actuator and electric unit (control unit) and ICC sensor



# 7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E56 terminals 11 (L), 15 (R) and ground.

> 11 (L) - Ground : Continuity should not exist. 15 (R) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between ABS actuator and electric unit (control unit) and harness connector E211
  - Harness between ABS actuator and electric unit (control unit) and harness connector E205
  - Harness between ABS actuator and electric unit (control unit) and ICC sensor

# 8. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect harness connector B8.
- Check continuity between harness connector B5 terminals 3 (L) and 10 (R).

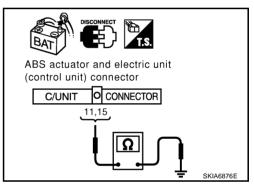
3 (L) - 10 (R) : Continuity should not exist.

#### OK or NG

OK >> GO TO 9.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
  - Harness between harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8



LAN

SKIA6878E

# 9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B5 terminals 3 (L), 10 (R) and ground.

> : Continuity should not exist. 3 (L) - Ground 10 (R) - 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 harness connector B5 and harness connector B5
  - Harness between harness connector B5 and harness connector B8

# 10. CHECK HARNESS FOR SHORT CIRCUIT

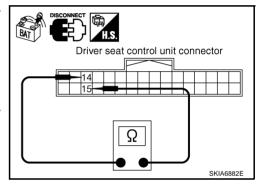
- Disconnect driver seat control unit connector.
- Check continuity between driver seat control unit harness connector B152 terminals 14 (OR) and 15 (SB).

#### OK or NG

OK >> GO TO 11.

NG

>> Repair harness between driver seat control unit and harness connector B151.



Harness connector

3,10

10

# 11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between driver seat control unit harness connector B152 terminals 14 (OR), 15 (SB) and ground.

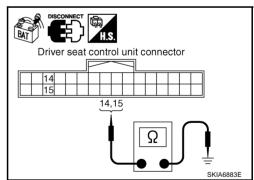
> 14 (OR) - Ground : Continuity should not exist. 15 (SB) - Ground : Continuity should not exist.

#### OK or NG

OK >> GO TO 12.

NG

>> Repair harness between driver seat control unit and harness connector B151.



# 12. CHECK HARNESS FOR SHORT CIRCUIT

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

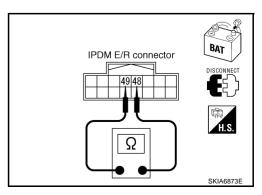
: Continuity should not exist. 48 (L) - 49 (R)

#### OK or NG

OK >> GO TO 13.

NG

>> Repair harness between IPDM E/R and harness connector E205.



# 13. CHECK HARNESS FOR SHORT CIRCUIT

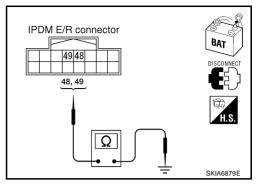
Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (R) and ground.

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

#### OK or NG

OK >> GO TO 14.

NG >> Repair harness between IPDM E/R and harness connector E205.



# 14. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to  $\underline{\sf LAN-253},\,"{\sf ECM/IPDM}\;{\sf E/R}\;{\sf INTERNAL}\;{\sf CIRCUIT}\;{\sf INSPECTION"}$  . OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-211</u>, "Work Flow".

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

## IPDM E/R Ignition Relay Circuit Check

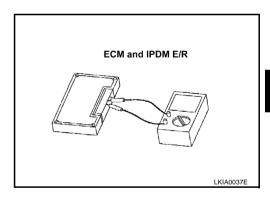
Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-28, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12, "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



В

Α

С

F

D

AKS007UB G

Н

AKS007UC

LAN