SECTION LAN

LAN SYSTEM

CONTENTS

CAN

PRECAUTIONS 3
Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER” 3
Precautions When Using CONSULT-II 3
CHECK POINTS FOR USING CONSULT-II 3
Precautions For Trouble Diagnosis 3
CAN SYSTEM 3
Precautions For Harness Repair 4
CAN SYSTEM 4
CAN COMMUNICATION 5
System Description 5
CAN Communication Unit 5
TYPE1 5
TYPE2 8
TYPE 3 10
TYPE 4 13
CAN SYSTEM (TYPE 1) 16
System Description 16
Component Parts and Harness Connector Location 16
Schematic 17
Wiring Diagram - CAN - 18
Work Flow 21
CHECK SHEET 23
CHECK SHEET RESULTS (EXAMPLE) 25
Circuit Check Between TCM and Driver Seat Control Unit 40
Circuit Check Between Driver Seat Control Unit and Data Link Connector 41
Circuit Check Between Data Link Connector and IPDM E/R 42
ECM Circuit Check 43
TCM Circuit Check 43
Driver Seat Control Unit Circuit Check 44
Combination Meter Circuit Check 44
Display Control Unit Circuit Check 45
BCM Circuit Check 45
Data Link Connector Circuit Check 46
Steering Angle Sensor Circuit Check 46
Front Air Control Circuit Check 47
ABS Actuator and Electric Unit (Control Unit) Circuit Check 47
IPDM E/R Circuit Check 48
CAN Communication Circuit Check 48
IPDM E/R Ignition Relay Circuit Check 49
Component Inspection 49
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION 49
CAN SYSTEM (TYPE 2) 50
System Description 50
Component Parts and Harness Connector Location 50
Schematic 51
Wiring Diagram - CAN - 52
Work Flow 55
CHECK SHEET 57
CHECK SHEET RESULTS (EXAMPLE) 59
Circuit Check Between TCM and ICC Sensor 78
Circuit Check Between ICC Sensor and ICC Unit 79
Circuit Check Between ICC Unit and Driver Seat Control Unit 80
Circuit Check Between Driver Seat Control Unit and Data Link Connector 80
Circuit Check Between Data Link Connector and IPDM E/R 81
ECM Circuit Check 82
TCM Circuit Check 82
ICC Sensor Circuit Check 83
ICC Unit Circuit Check 83
Driver Seat Control Unit Circuit Check 84
Combination Meter Circuit Check 84
Display Control Unit Circuit Check 85
BCM Circuit Check 85
Data Link Connector Circuit Check 86
Steering Angle Sensor Circuit Check 86
Front Air Control Circuit Check 87
ABS Actuator and Electric Unit (Control Unit) Circuit Check 87
IPDM E/R Circuit Check 88
CAN Communication Circuit Check 88

IPDM E/R Ignition Relay Circuit Check 89
Component Inspection 89
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION 89
CAN SYSTEM (TYPE 3) 90
System Description 90
Component Parts and Harness Connector Location 90
Schematic 91
Wiring Diagram - CAN - 92
Work Flow 95
CHECK SHEET 97
CHECK SHEET RESULTS (EXAMPLE) 99
Circuit Check Between TCM and Driver Seat Control Unit 115
Circuit Check Between Driver Seat Control Unit and Data Link Connector 116
Circuit Check Between Data Link Connector and IPDM E/R 117
ECM Circuit Check 118
TCM Circuit Check 118
Driver Seat Control Unit Circuit Check 119
Combination Meter Circuit Check 119
Display Control Unit Circuit Check 120
BCM Circuit Check 120
Data Link Connector Circuit Check 121
Steering Angle Sensor Circuit Check 121
Front Air Control Circuit Check 122
Transfer Control Unit Circuit Check 122
ABS Actuator and Electric Unit (Control Unit) Circuit Check 123
IPDM E/R Circuit Check 123
CAN Communication Circuit Check 124
IPDM E/R Ignition Relay Circuit Check 124
Component Inspection 125
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION 125
CAN SYSTEM (TYPE 4) 126
System Description 126
Component Parts and Harness Connector Location 126
Schematic 127
Wiring Diagram - CAN - 128
Work Flow 131
CHECK SHEET 133
CHECK SHEET RESULTS (EXAMPLE) 135
Circuit Check Between TCM and ICC Sensor 155
Circuit Check Between ICC Sensor and ICC Unit. 156
Circuit Check Between ICC Unit and Driver Seat Control Unit 157
Circuit Check Between Driver Seat Control Unit and Data Link Connector 157
Circuit Check Between Data Link Connector and IPDM E/R 158
ECM Circuit Check 159
TCM Circuit Check 159
ICC Sensor Circuit Check 160
ICC Unit Circuit Check 160
Driver Seat Control Unit Circuit Check 161
Combination Meter Circuit Check 161
Display Control Unit Circuit Check 162
BCM Circuit Check 162
Data Link Connector Circuit Check 163
Steering Angle Sensor Circuit Check 163
Front Air Control Circuit Check 164
Transfer Control Unit Circuit Check 164
ABS Actuator and Electric Unit (Control Unit) Circuit Check 165
IPDM E/R Circuit Check 165
CAN Communication Circuit Check 166
IPDM E/R Ignition Relay Circuit Check 166
Component Inspection 167
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION 167

PRECAUTIONS

PFP:00001

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

UKS0017I

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

UKS0017J

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.
3. 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.
5. Diagnose CAN communication system. Refer to LAN-5, "CAN Communication Unit" .

Precautions For Trouble Diagnosis

UKS0017K

CAN SYSTEM

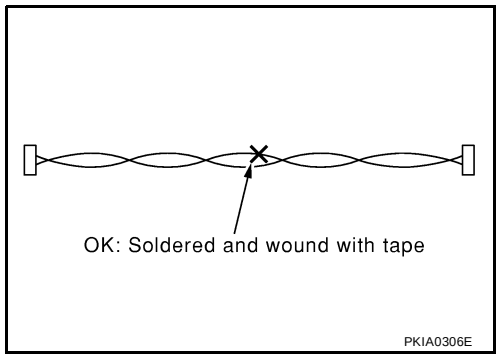
- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.
- Be sure to turn ignition switch off and disconnect negative battery terminal before checking the circuit.

Precautions For Harness Repair

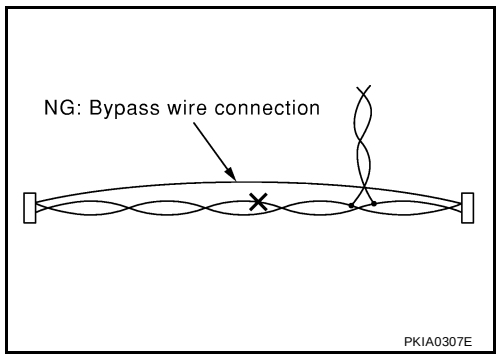
UKS0017L

CAN SYSTEM

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



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



CAN COMMUNICATION

PFP:23710

System Description

UKS000NU

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

UKS000NV

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

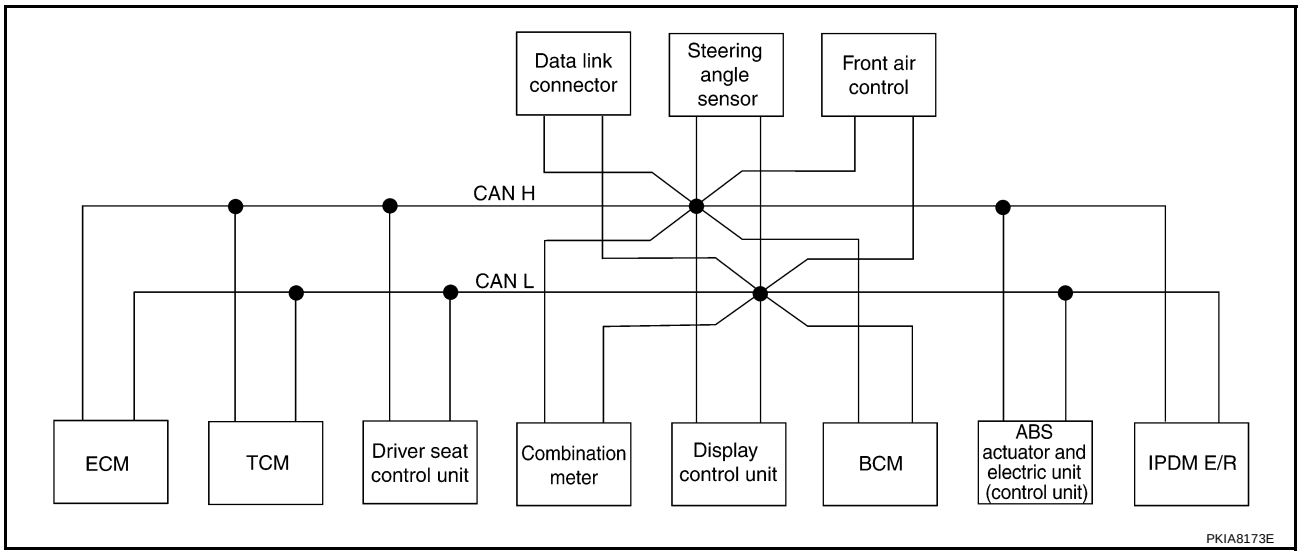
Body type	Wagon			
Axle	2WD		4WD	
Engine	VK56DE			
Transmission	A/T			
Brake control	VDC			
ICC system		×		×
CAN system type	1	2	3	4
CAN system trouble diagnosis	LAN-16	LAN-50	LAN-90	LAN-126

×: Applicable

TYPE1

System diagram

- Type1



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R				R	
Engine status signal	T					R		R		

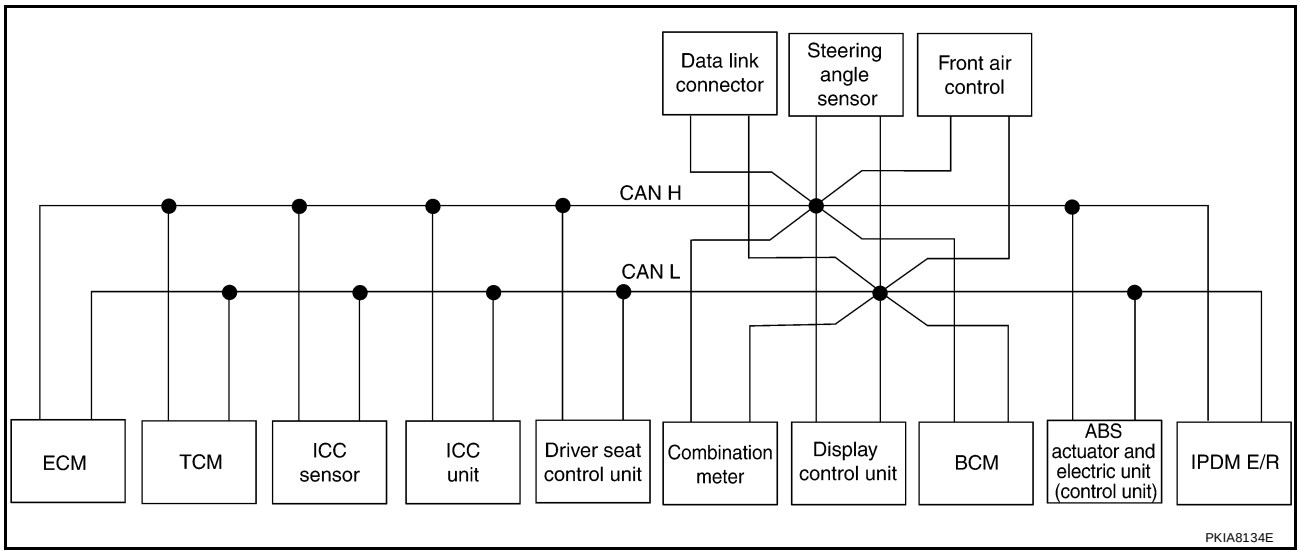
Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Engine coolant temperature signal	T	R		R				R		
A/T self-diagnosis signal	R	T								
Accelerator pedal position signal	T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

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Malfunction indicator lamp signal	T			R						
Front wiper request signal						T				R
Front wiper stop position signal						R				T
Rear window defogger switch signal						T		R		R
Rear window defogger control signal	R				R			R		T
Hood switch signal						R				T
Theft warning horn request signal						T				R
Horn chirp signal						T				R
Steering angle sensor signal							T		R	
ABS warning lamp signal				R					T	
VDC OFF indicator lamp signal				R					T	
SLIP indicator lamp signal				R					T	
Brake warning lamp signal				R					T	
System setting signal			R		T					
			T		R					
Distance to empty signal				T	R					
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T		R						
A/T position indicator lamp signal		T		R						
Tire pressure signal				R		T				
Tire pressure data signal					R	T				
1st position switch signal		R		T						
4th position switch signal		R		T						
Tow mode switch signal		R		T						
A/T fluid temperature sensor signal		T		R						

TYPE2

System diagram

- Type2



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ICC sensor	ICC unit	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R		R	R				R	
Engine status signal	T							R		R		
Engine coolant temperature signal	T	R				R				R		
A/T self-diagnosis signal	R	T										
Accelerator pedal position signal	T	R		R							R	
Closed throttle position signal	T	R		R								
Wide open throttle position signal	T	R										
Battery voltage signal	T	R										
Key switch signal					R			T				
Ignition switch signal					R			T				R
P range signal		T		R	R							
Stop lamp switch signal		R				T		R				
Parking brake switch signal						T		R				
Fuel consumption monitor signal	T					R						
						T	R					
Turbine revolution signal	R	T		R								
Output shaft revolution signal	R	T		R								
A/C switch signal	R							T				
A/C compressor request signal	T									R		R
Blower fan motor switch signal	R							T		R		

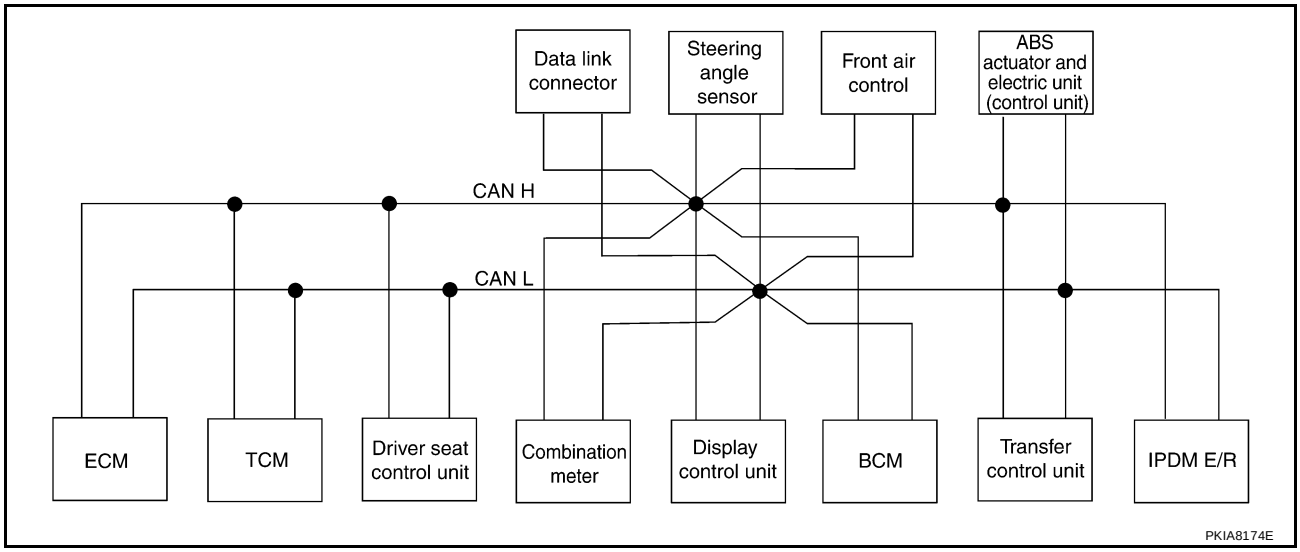
Signals	ECM	TCM	ICC sensor	ICC unit	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
A/C switch/indicator signal							T			R		
							R			T		
Cooling fan speed request signal	T									R		R
Position light request signal						R		T				R
Low beam request signal								T				R
Low beam status signal	R											T
High beam request signal						R		T				R
High beam status signal	R											T
Front fog light request signal								T				R
Day time running light request signal								T				R
Vehicle speed signal						R				R	T	
	R	R	R		R	T	R	R		R		
Sleep wake up signal						R		T				R
Door switch signal					R	R	R	T				R
Turn indicator signal						R		T				
Key fob ID signal					R			T				
Key fob door unlock signal					R			T				
Buzzer output signal						R		T				
				T		R						
Fuel level sensor signal	R					T						
Fuel level low warning signal						T	R					
Malfunction indicator lamp signal	T					R						
Front wiper request signal				R				T				R
Front wiper stop position signal								R				T
Rear window defogger switch signal								T		R		R
Rear window defogger control signal	R						R					T
Hood switch signal								R				T
Theft warning horn request signal								T				R
Horn chirp signal								T				R
Steering angle sensor signal									T		R	
ABS warning lamp signal						R					T	
VDC OFF indicator lamp signal				R		R					T	
SLIP indicator lamp signal						R					T	
Brake warning lamp signal						R					T	
VDC operation signal				R							T	
ABS malfunction signal				R							T	
TCS malfunction signal				R							T	
VDC malfunction signal				R							T	

Signals	ECM	TCM	ICC sensor	ICC unit	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
Brake pressure sensor signal				R							T	
System setting signal					R		T					
					T		R					
Distance to empty signal						T	R					
ASCD operation signal	T	R										
ASCD OD cancel request	T	R										
A/T CHECK indicator lamp signal		T				R						
A/T position indicator lamp signal		T		R		R						
Current gear position signal		T		R								
Tire pressure signal						R		T				
Tire pressure data signal							R	T				
1st position switch signal		R				T						
4th position switch signal		R				T						
Tow mode switch signal		R				T						
A/T fluid temperature sensor signal		T				R						
ICC operation signal	R	R		T								
ICC OD cancel request signal	R	R		T								
ICC sensor signal			T	R								
ICC system display signal				T		R						
ICC steering switch signal	T			R								

TYPE 3

System diagram

- Type3



Input/output signal chart

T: Transmit R: Receive

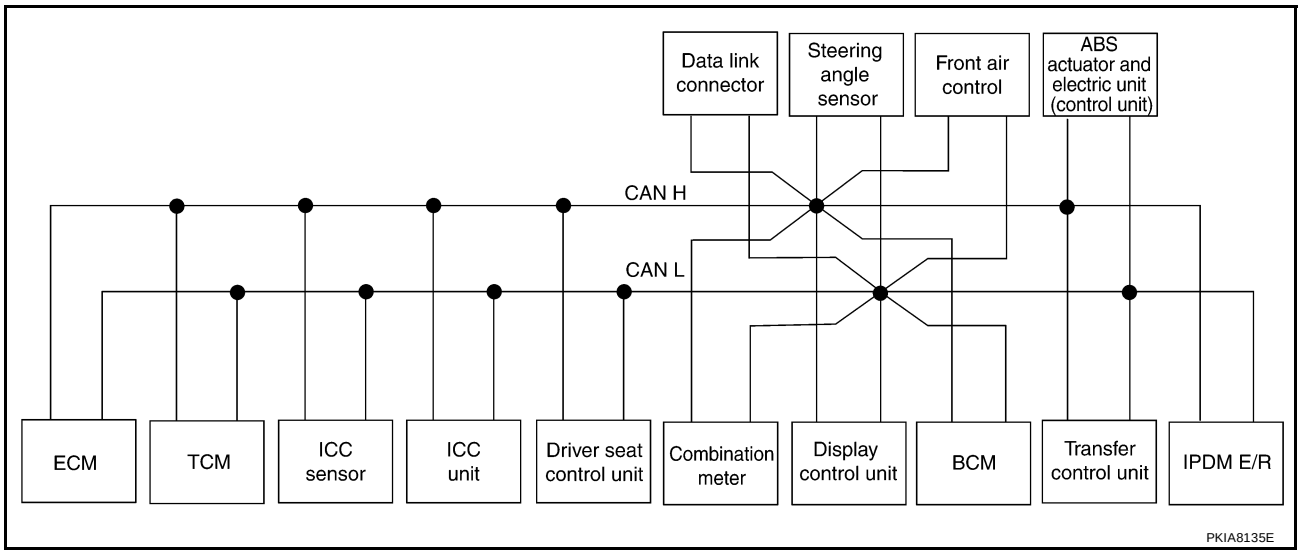
Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/R
A/T self-diagnosis signal	R	T									
Stop lamp switch signal		R		T		R					
Parking brake switch signal				T		R					
Battery voltage signal	T	R									
Key switch signal			R			T					
Ignition switch signal			R			T					R
P range signal		T	R								
Closed throttle position signal	T	R									
Wide open throttle position signal	T	R									
Engine speed signal	T	R		R	R				R	R	
Engine status signal	T					R		R			
Engine coolant temperature signal	T	R		R				R			
Accelerator pedal position signal	T	R							R	R	
Fuel consumption monitor signal	T			R							
				T	R						
Turbine revolution signal	R	T									
Output shaft revolution signal	R	T							R		
A/C switch signal	R					T					
A/C compressor request signal	T							R			R
Blower fan motor switch signal	R					T		R			
A/C switch/indicator signal					T			R			
					R			T			
Cooling fan speed request signal	T							R			R
Position light request signal				R		T					R
Low beam request signal						T					R
Low beam status signal	R										T
High beam request signal				R		T					R
High beam status signal	R										T
Front fog light request signal						T					R
Day time running light request signal						T					R
Vehicle speed signal				R				R	R	T	
	R	R	R	T	R	R		R			
Sleep wake up signal				R		T					R
Door switch signal			R	R	R	T					R
Turn indicator signal				R		T					
Key fob ID signal			R			T					
Key fob door unlock signal			R			T					

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Buzzer output signal				R		T					
Fuel level sensor signal	R			T							
ASCD SET lamp signal	T			R							
ASCD CRUISE lamp signal	T			R							
Malfunction indicator lamp signal	T			R							
Fuel level low warning signal				T	R						
Front wiper request signal						T					R
Front wiper stop position signal						R					T
Rear window defogger switch signal						T		R			R
Rear window defogger control signal	R				R			R			T
Hood switch signal						R					T
Theft warning horn request signal						T					R
Horn chirp signal						T					R
Steering angle sensor signal							T			R	
ABS warning lamp signal				R						T	
VDC OFF indicator lamp signal				R						T	
SLIP indicator lamp signal				R						T	
Brake warning lamp signal				R						T	
System setting signal			R		T						
			T		R						
Distance to empty signal				T	R						
ASCD operation signal	T	R									
ASCD OD cancel request	T	R									
A/T CHECK indicator lamp signal		T		R							
A/T position indicator lamp signal		T		R					R		
Tire pressure signal				R		T					
Tire pressure data signal					R	T					
1st position switch signal		R		T							
4th position switch signal		R		T							
Tow mode switch signal		R		T							
A/T fluid temperature sensor signal		T		R							

TYPE 4

System diagram

- Type4



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ICC sensor	ICC unit	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/R
A/T self-diagnosis signal	R	T											
Stop lamp switch signal		R				T		R					
Parking brake switch signal						T							R
Battery voltage signal	T	R											
Key switch signal					R			T					
Ignition switch signal					R			T					R
P range signal		T		R	R								
Closed throttle position signal	T	R		R									
Wide open throttle position signal	T	R											
Engine speed signal	T	R		R		R	R				R	R	
Engine status signal	T							R		R			
Engine coolant temperature signal	T	R				R				R			
Accelerator pedal position signal	T	R		R							R	R	
Fuel consumption monitor signal	T					R							
						T	R						
Turbine revolution signal	R	T		R									
Output shaft revolution signal	R	T		R							R		
A/C switch signal	R							T					
A/C compressor request signal	T									R			R
Blower fan motor switch signal	R							T		R			

Signals	ECM	TCM	ICC sensor	ICC unit	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/R
A/C switch/indicator signal							T			R			
							R			T			
Cooling fan speed request signal	T									R			R
Position light request signal						R		T					R
Low beam request signal								T					R
Low beam status signal	R												T
High beam request signal						R		T					R
High beam status signal	R												T
Front fog light request signal								T					R
Day time running light request signal								T					R
Vehicle speed signal						R				R	R	T	
	R	R	R		R	T	R	R		R			
Sleep wake up signal						R		T					R
Door switch signal					R	R	R	T					R
Turn indicator signal						R		T					
Key fob ID signal					R			T					
Key fob door unlock signal					R			T					
Buzzer output signal						R		T					
				T		R							
Fuel level sensor signal	R					T							
Malfunction indicator lamp signal	T					R							
Fuel level low warning signal						T	R						
Front wiper request signal				R				T					R
Front wiper stop position signal								R					T
Rear window defogger switch signal								T		R			R
Rear window defogger control signal	R						R			R			T
Hood switch signal								R					T
Theft warning horn request signal								T					R
Horn chirp signal								T					R
Steering angle sensor signal									T			R	
ABS warning lamp signal						R						T	
VDC OFF indicator lamp signal				R		R						T	
SLIP indicator lamp signal						R						T	
Brake warning lamp signal						R						T	
VDC operation signal				R								T	
ABS malfunction signal				R								T	

Signals	ECM	TCM	ICC sensor	ICC unit	Driver seat control unit	Combination meter	Display control unit	BCM	Steering angle sensor	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/R
TCS malfunction signal				R								T	
VDC malfunction signal				R								T	
Brake pressure sensor signal				R								T	
System setting signal					R		T						
					T		R						
Distance to empty signal						T	R						
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
A/T CHECK indicator lamp signal		T				R							
A/T position indicator lamp signal		T		R		R					R		
Current gear position signal		T		R									
Tire pressure signal						R		T					
Tire pressure data signal							R	T					
1st position switch signal		R				T							
4th position switch signal		R				T							
Tow mode switch signal		R				T							
A/T fluid temperature sensor signal		T				R							
ICC operation signal	R	R		T									
ICC OD cancel request signal	R	R		T									
ICC sensor signal			T	R									
ICC system display signal				T		R							
ICC steering switch signal	T			R									

CAN SYSTEM (TYPE 1)

PFP:23710

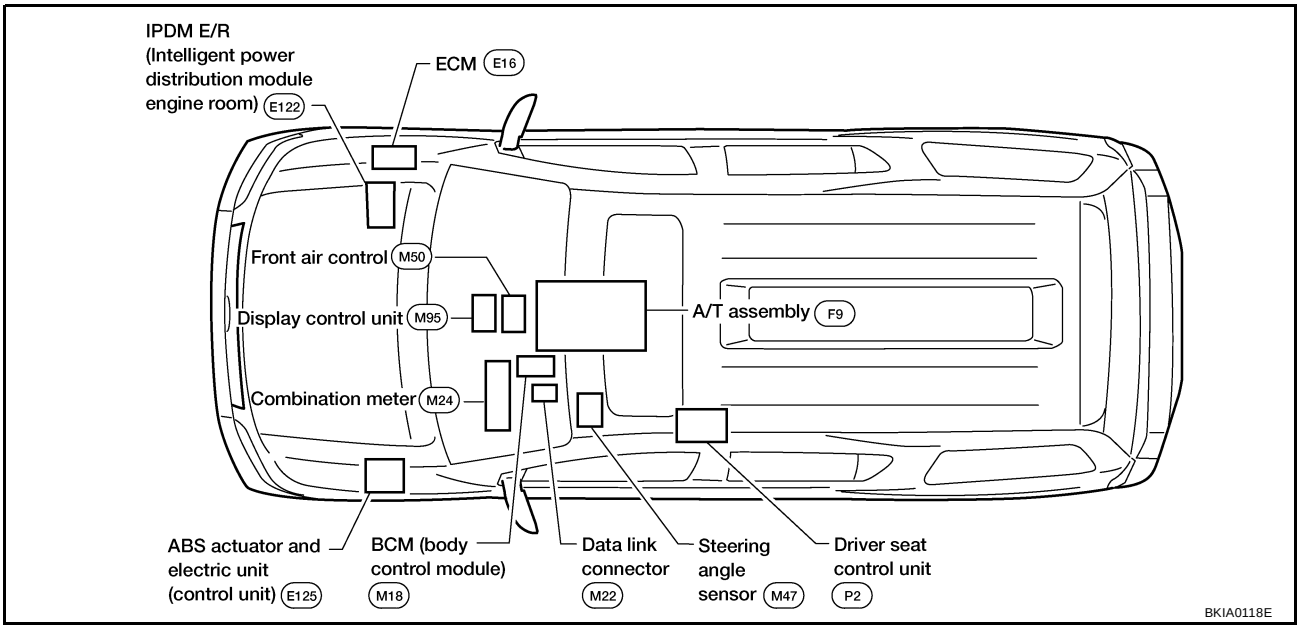
System Description

UKS000P0

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

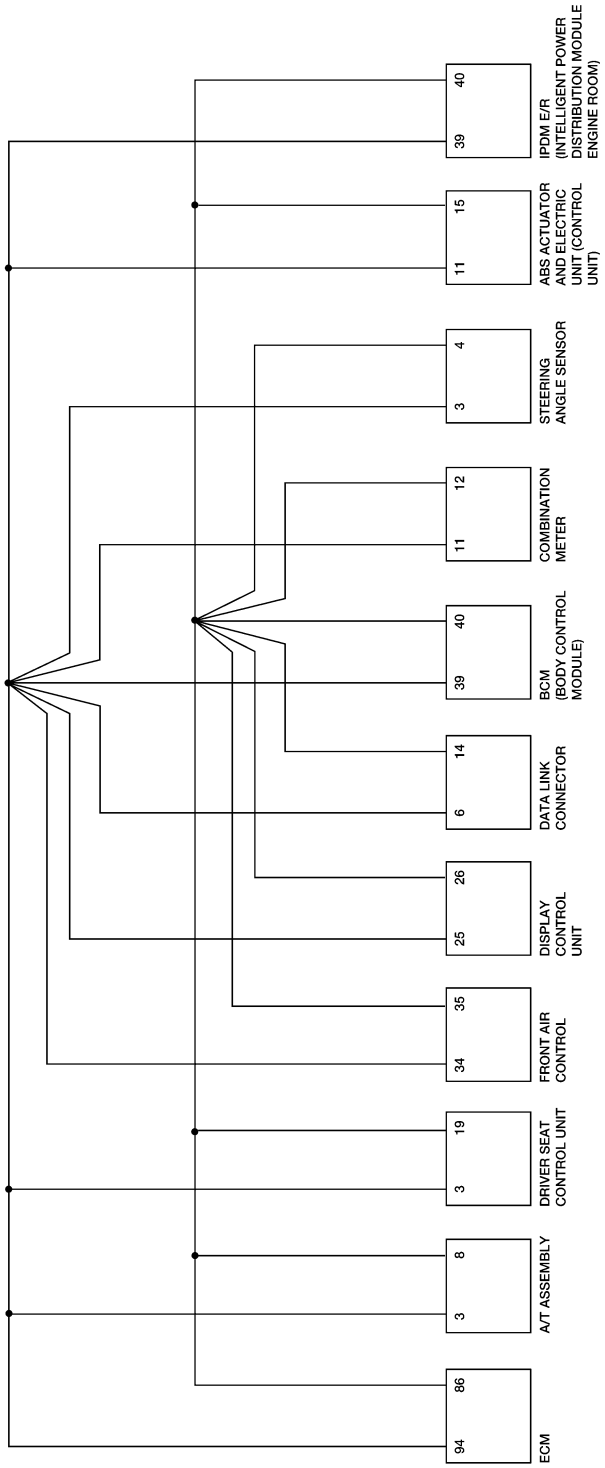
Component Parts and Harness Connector Location

UKS000P1



Schematic

UKS000P2



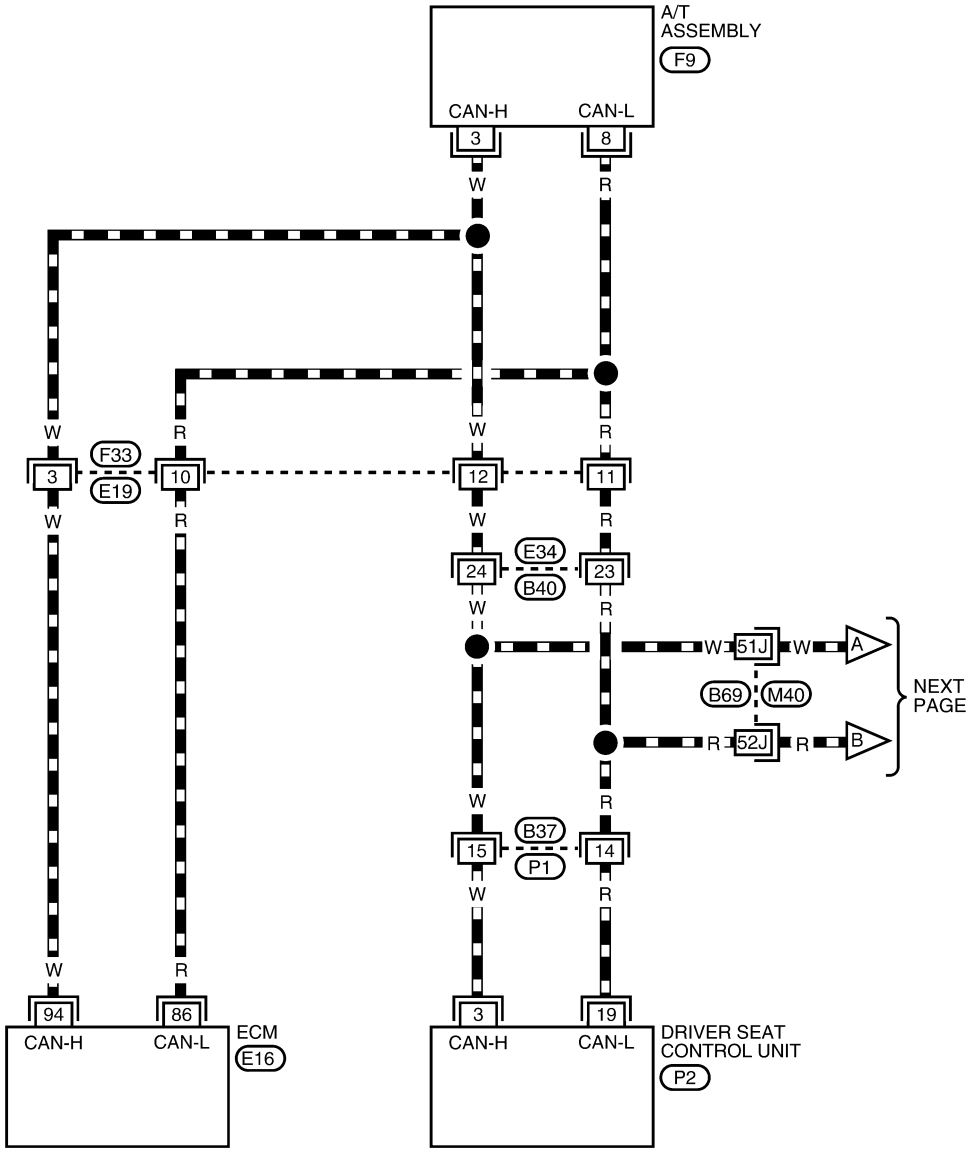
BKWA0078E

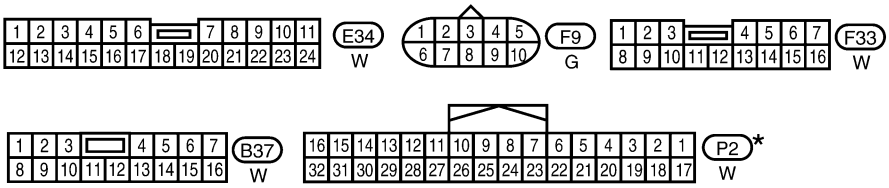
Wiring Diagram - CAN -

UKS000P3

LAN-CAN-01

: DATA LINE





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

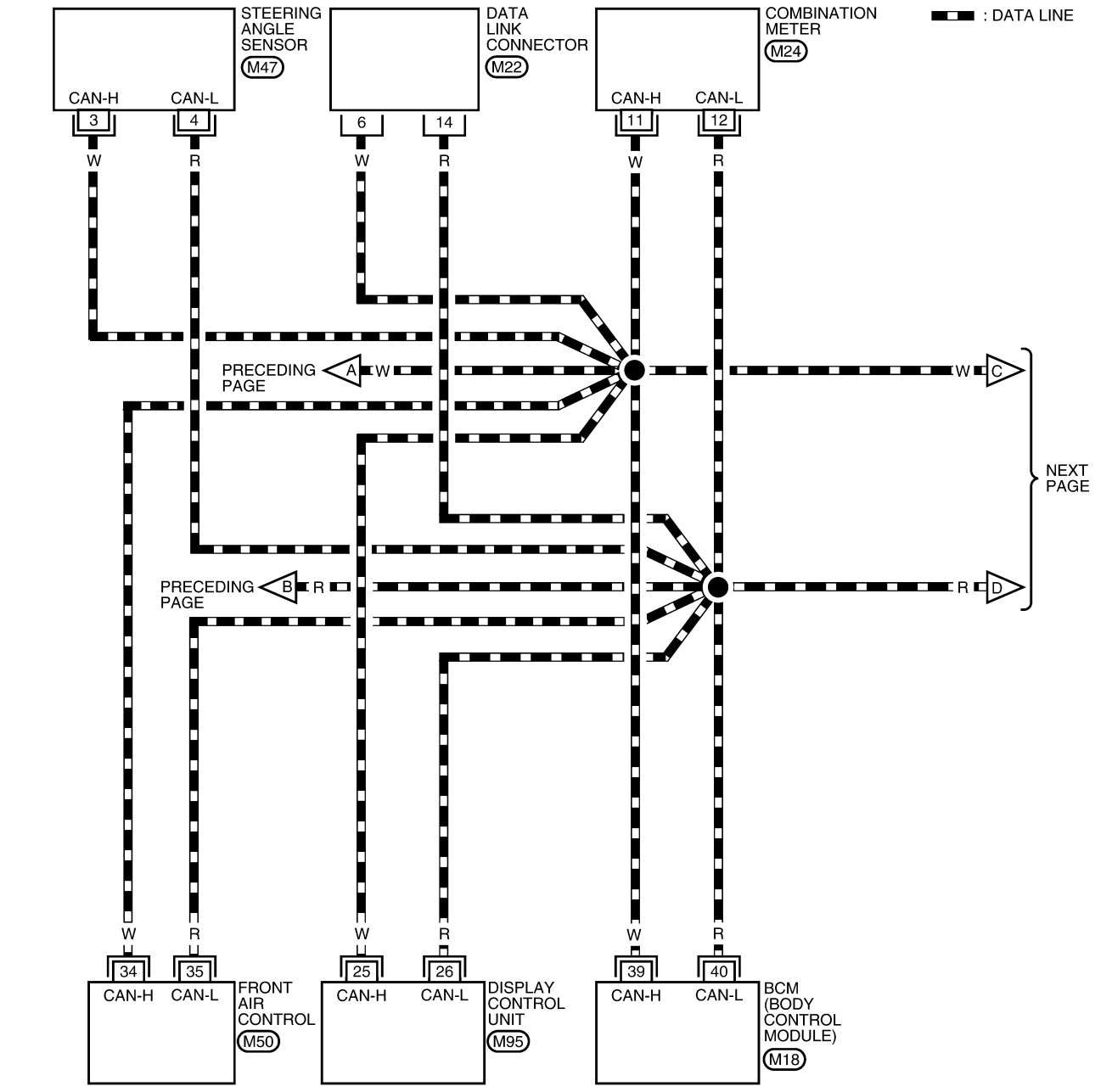
REFER TO THE FOLLOWING.

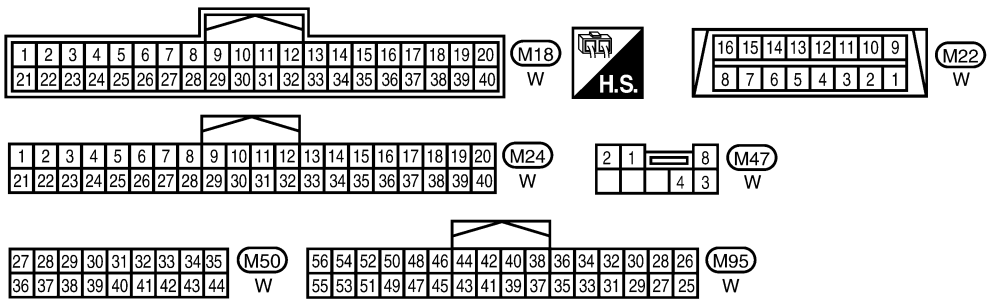
M40 - SUPER MULTIPLE JUNCTION (SMJ)

E16 - ELECTRICAL UNITS

BKWA0079E

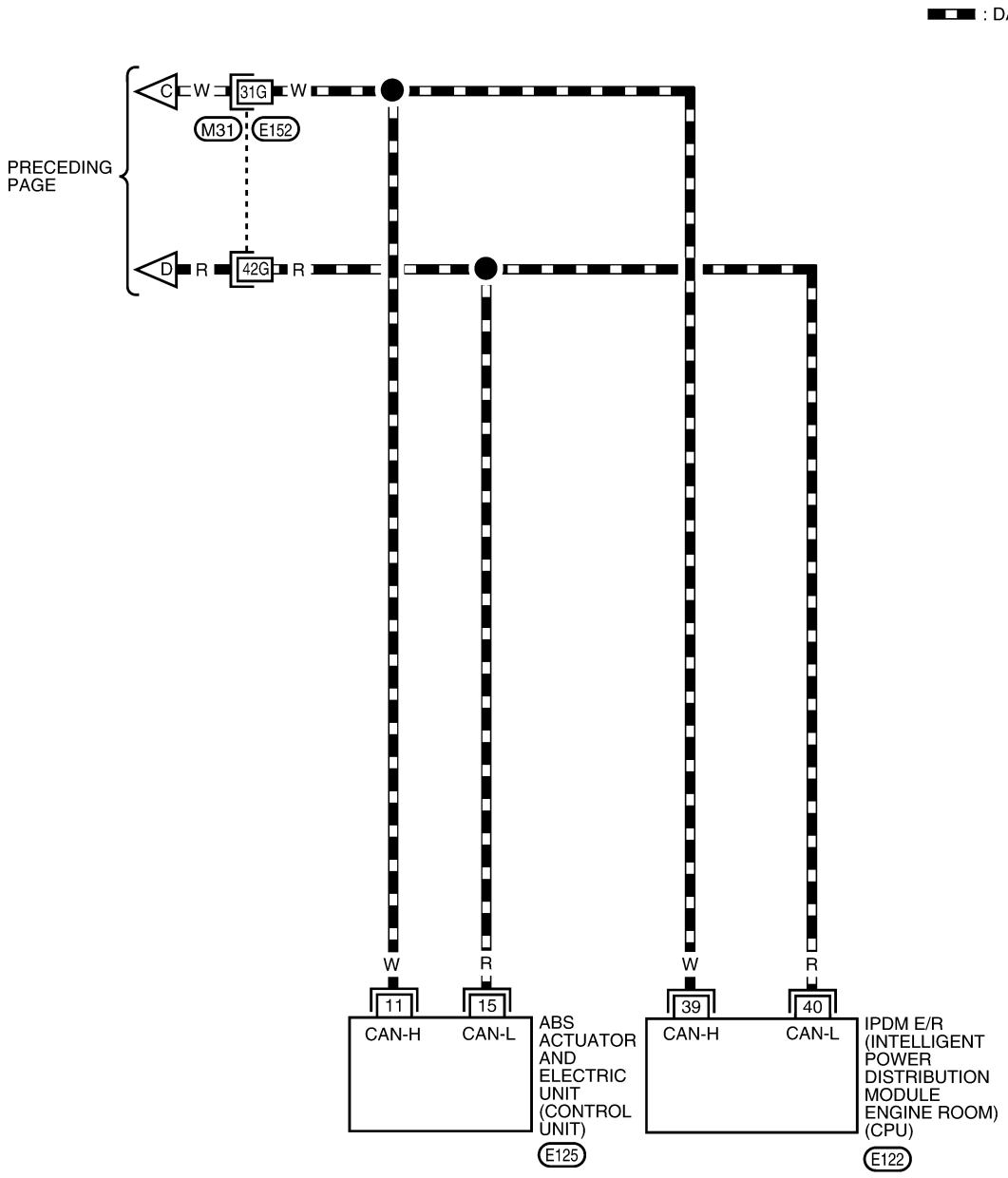
LAN-CAN-02

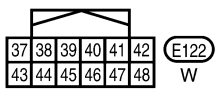


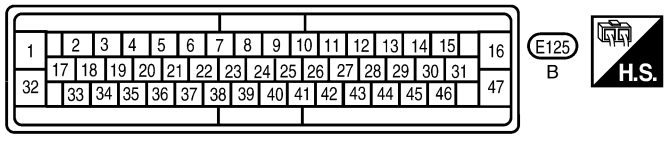


BKWA0080E

LAN-CAN-03







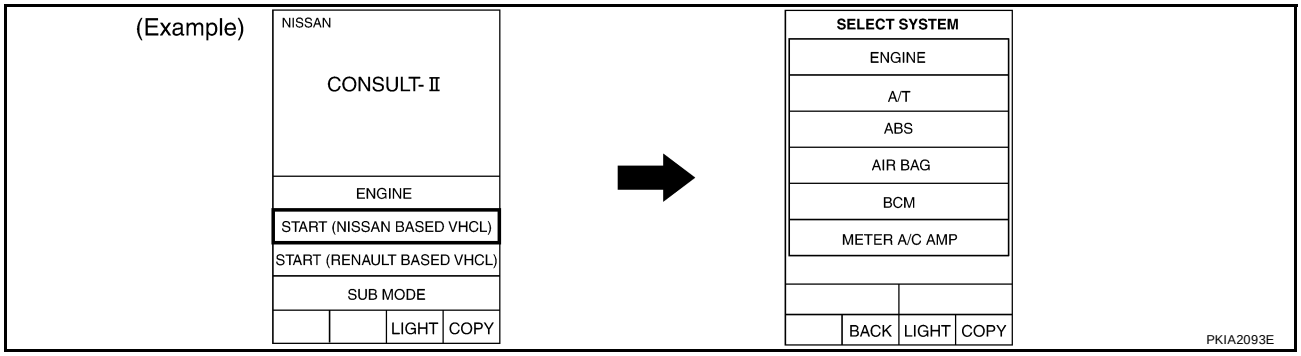
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0081E

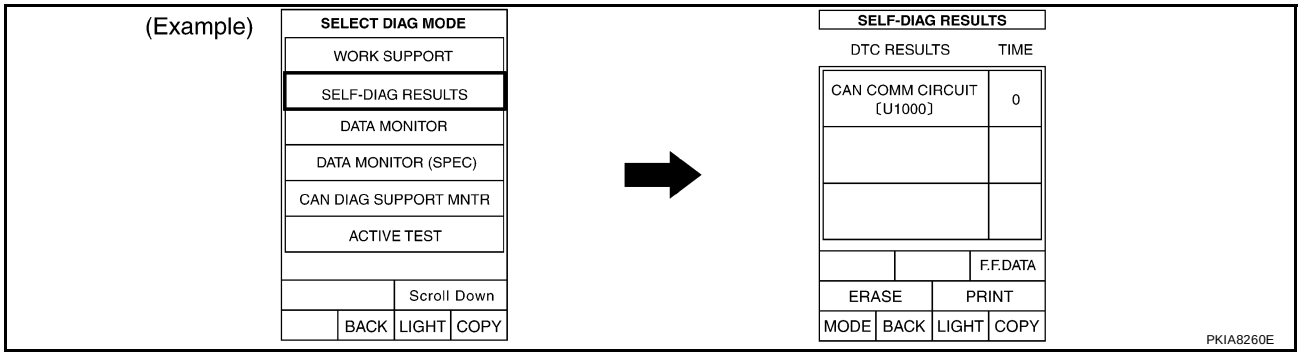
Work Flow

UKS0018G

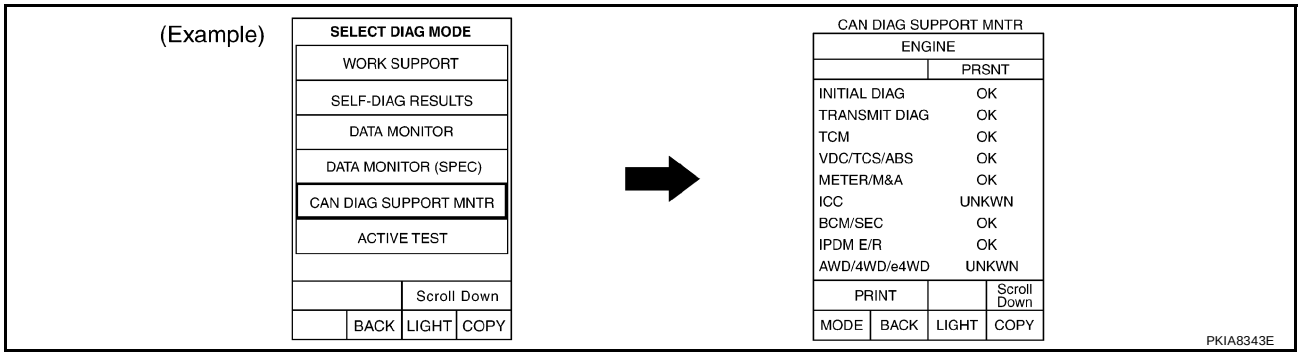
1. When there are no indications of “AUTO DRIVE POS.”, “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



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

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

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG SUPPORT MONITOR” for the diagnosed control unit, replace the control unit. Refer to AV-131, "CAN Communication Line Check" .

9. According to the check sheet results (example), start inspection. Refer to LAN-25, "CHECK SHEET RESULTS (EXAMPLE)" .

CHECK SHEET

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

Check sheet table

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

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

PKIA8048E

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
A/T
CAN DIAG SUPPORT
MNTR

Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA8049E

CHECK SHEET RESULTS (EXAMPLE)

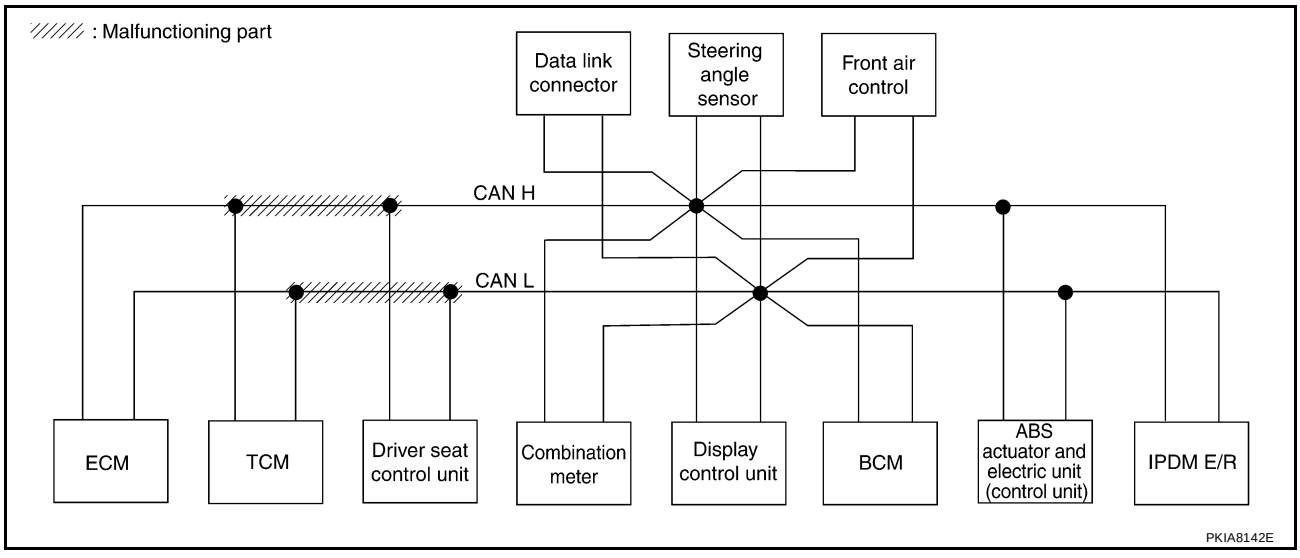
NOTE:
If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” for the diagnosed control unit, replace the control unit.

Case 1

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	—	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3 ✓	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—

PKIA8050E



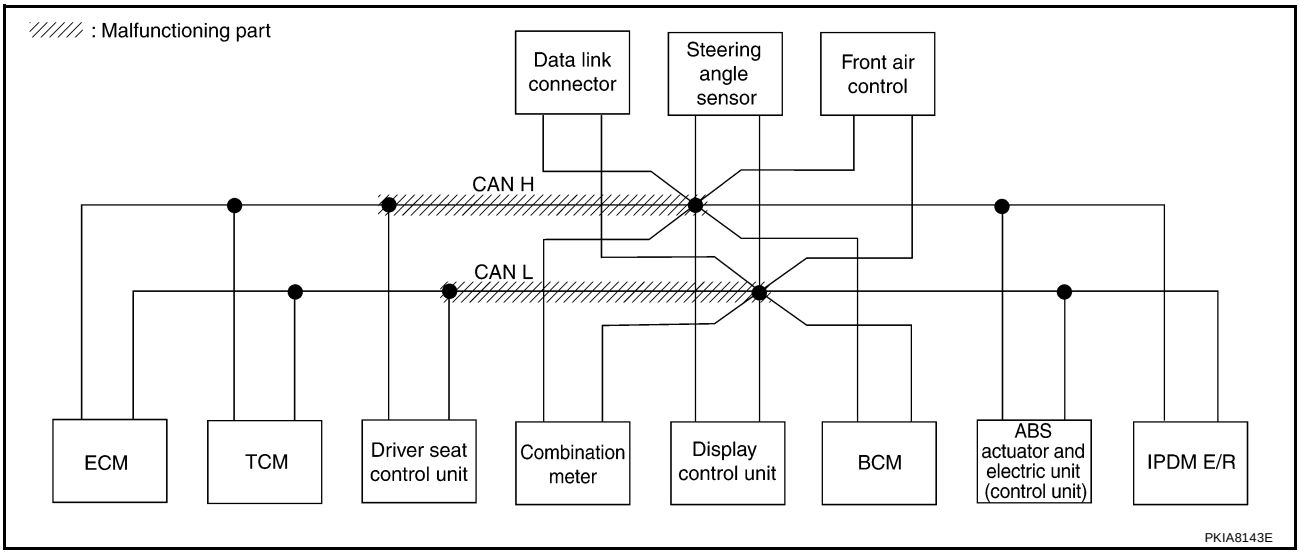
PKIA8142E

Case 2

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN ✓	UNKWN ✓	–	–	UNKWN ✓	UNKWN ✓
A/T	–	NG	UNKWN	UNKWN	–	UNKWN ✓	–	–	–	UNKWN ✓	–
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3 ✓	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN ✓	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN ✓	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN ✓	–	–	UNKWN	–	–	–	–

PKIA8051E



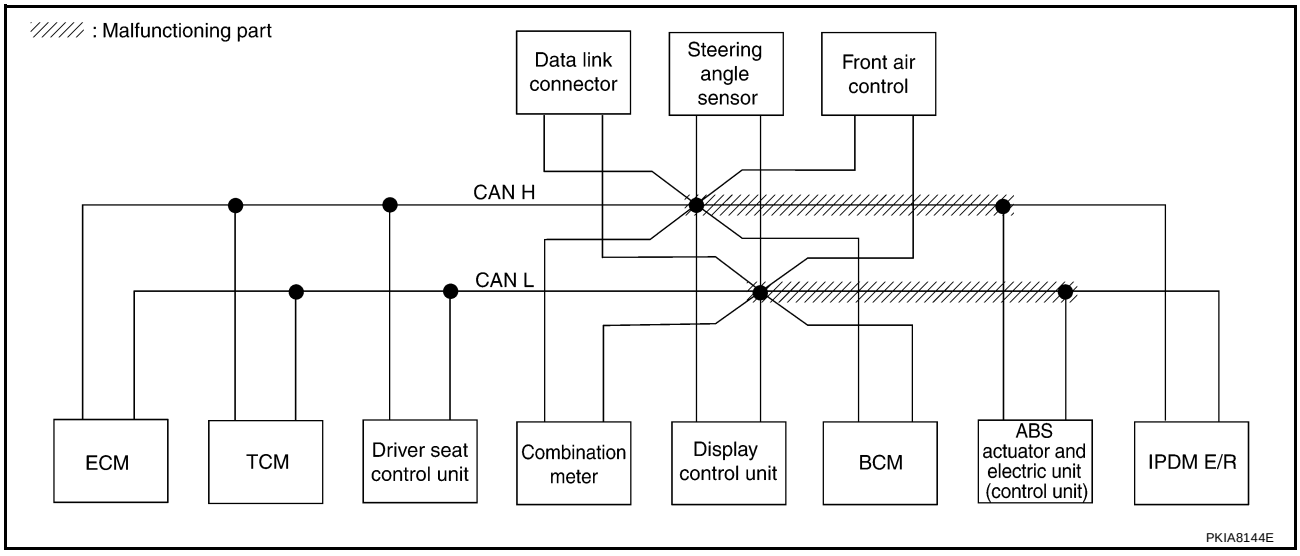
PKIA8143E

Case 3

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN ✓	UNKWN ✓
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN ✓	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN ✓
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN ✓	–	–	UNKWN ✓	–	–	–
IPDM E/R	No indication ✓	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8052E



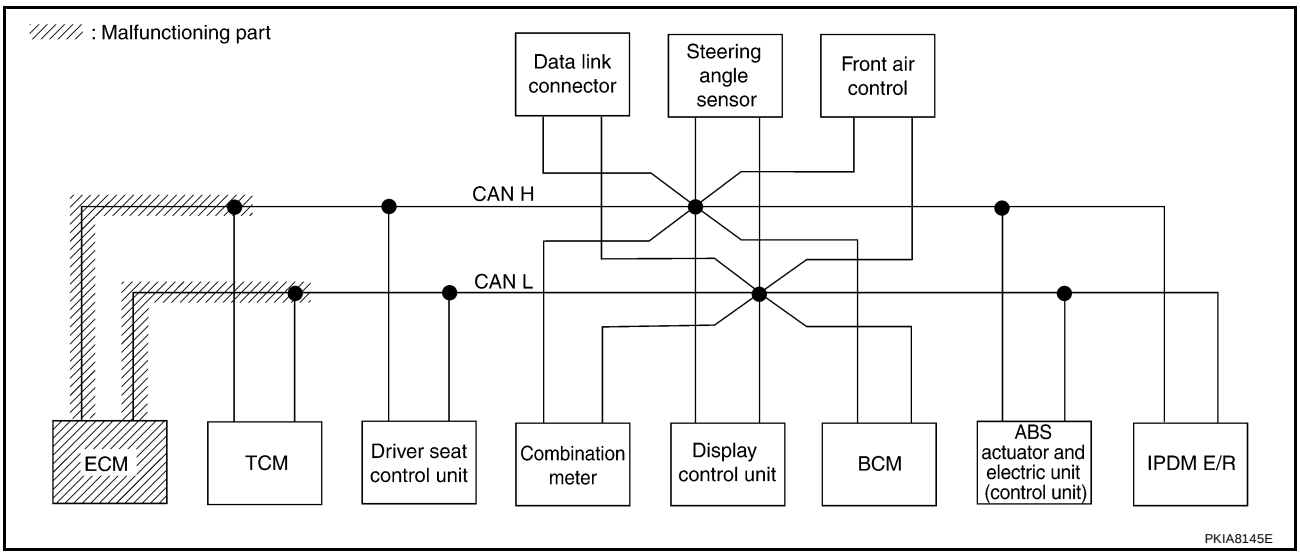
PKIA8144E

Case 4

Check ECM circuit. Refer to LAN-43, "ECM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8053E



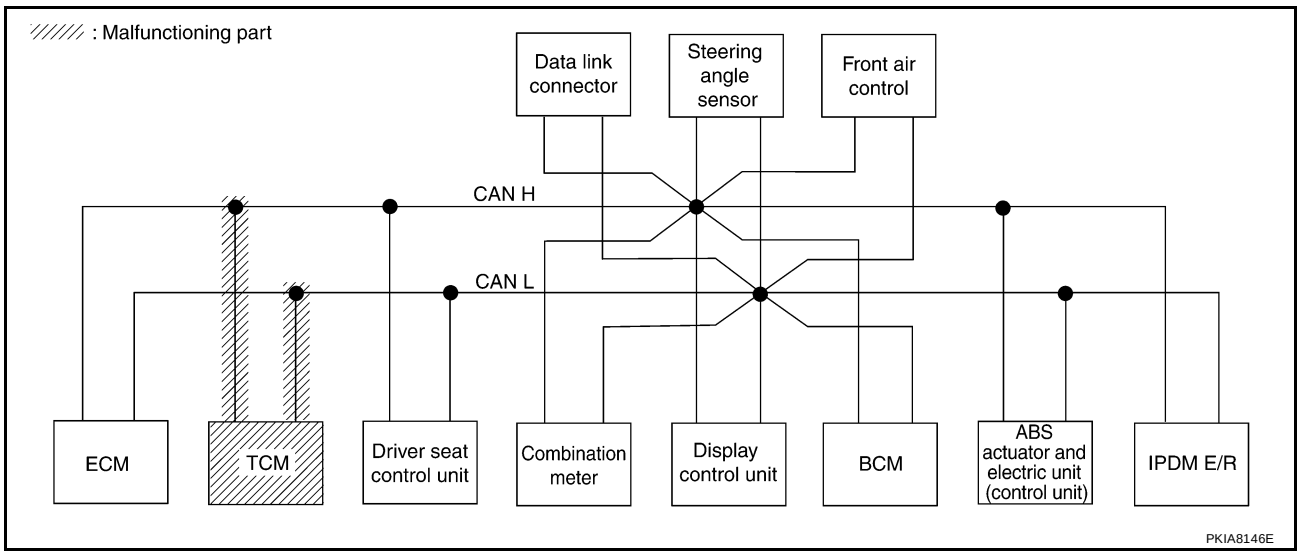
PKIA8145E

Case 5

Check TCM circuit. Refer to LAN-43, "TCM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN ✓	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN ✓	–	UNKWN ✓	–	–	–	UNKWN ✓	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN ✓	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN ✓	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8054E



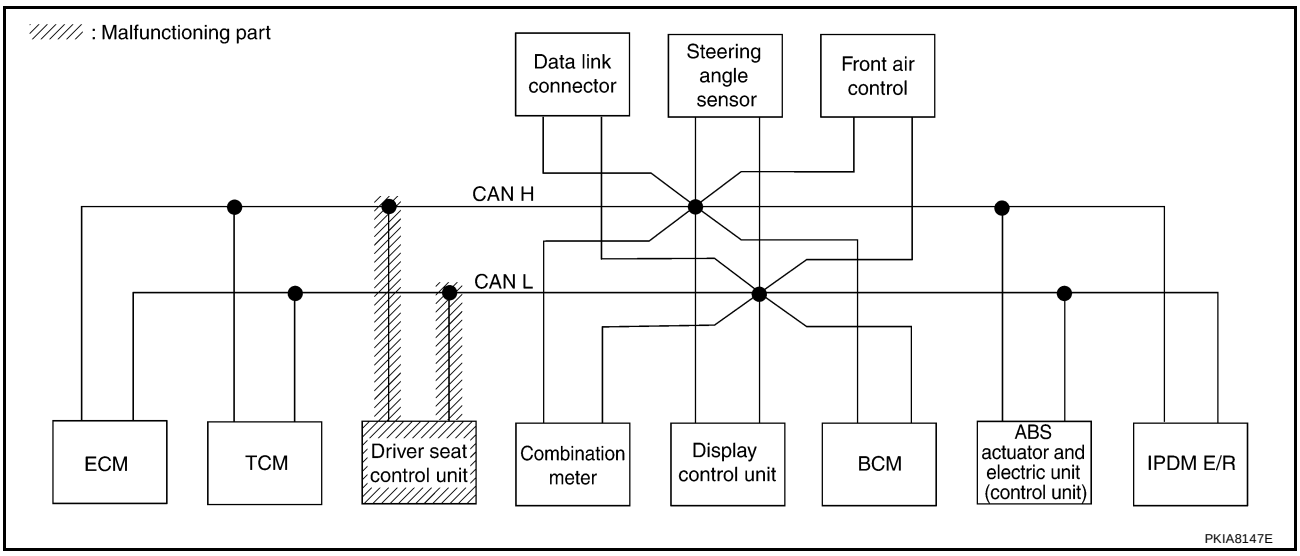
PKIA8146E

Case 6

Check driver seat control unit circuit. Refer to LAN-44, "Driver Seat Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8055E



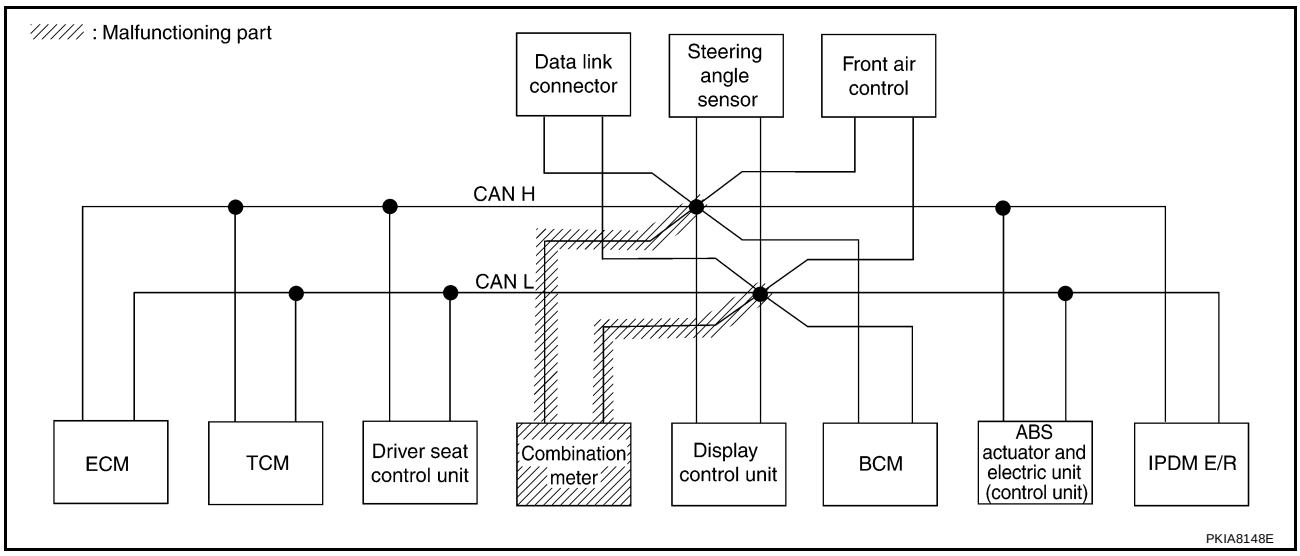
PKIA8147E

Case 7

Check combination meter circuit. Refer to LAN-44, "Combination Meter Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8056E



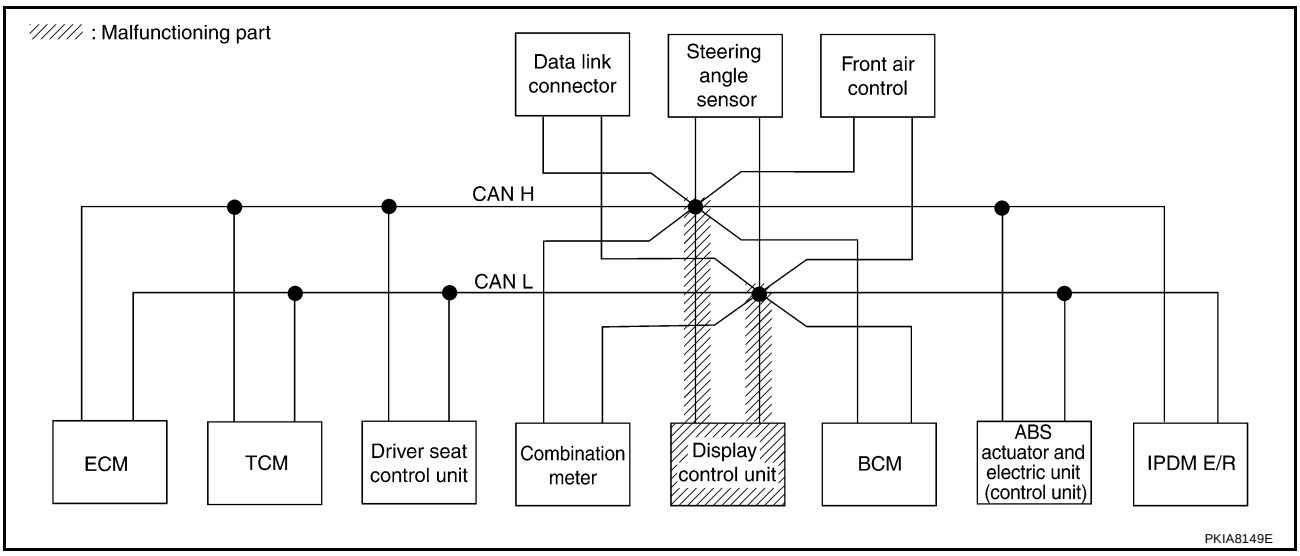
PKIA8148E

Case 8

Check display control unit circuit. Refer to LAN-45, "Display Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 3 ✓	—	CAN CIRC 5 ✓	CAN CIRC 2 ✓	—	CAN CIRC 4 ✓	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA8057E



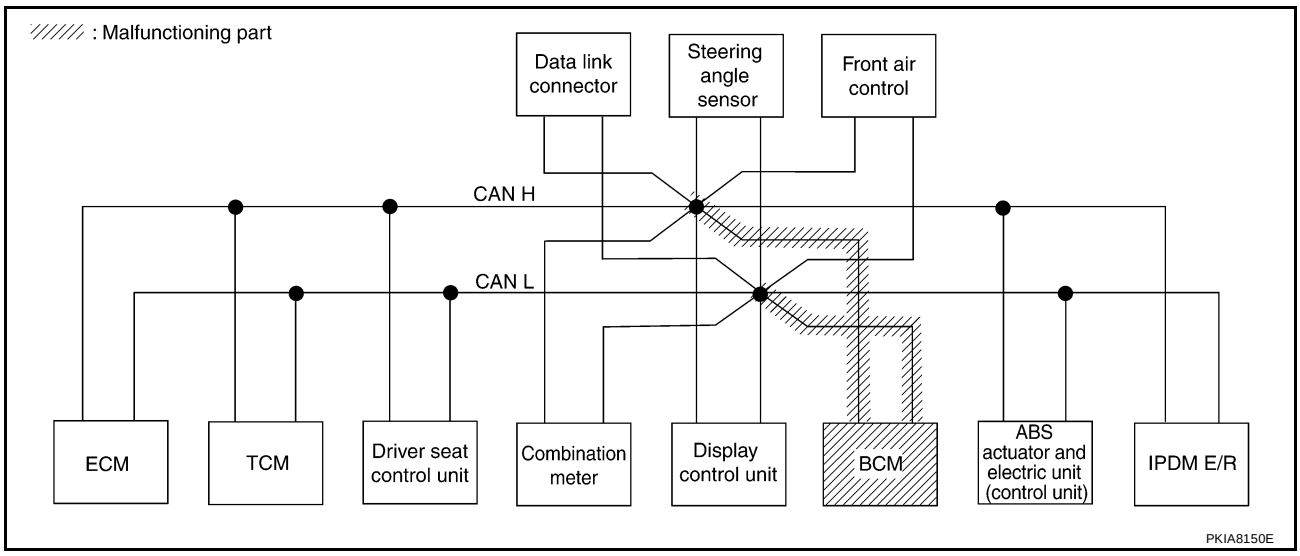
PKIA8149E

Case 9

Check BCM circuit. Refer to LAN-45, "BCM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8058E



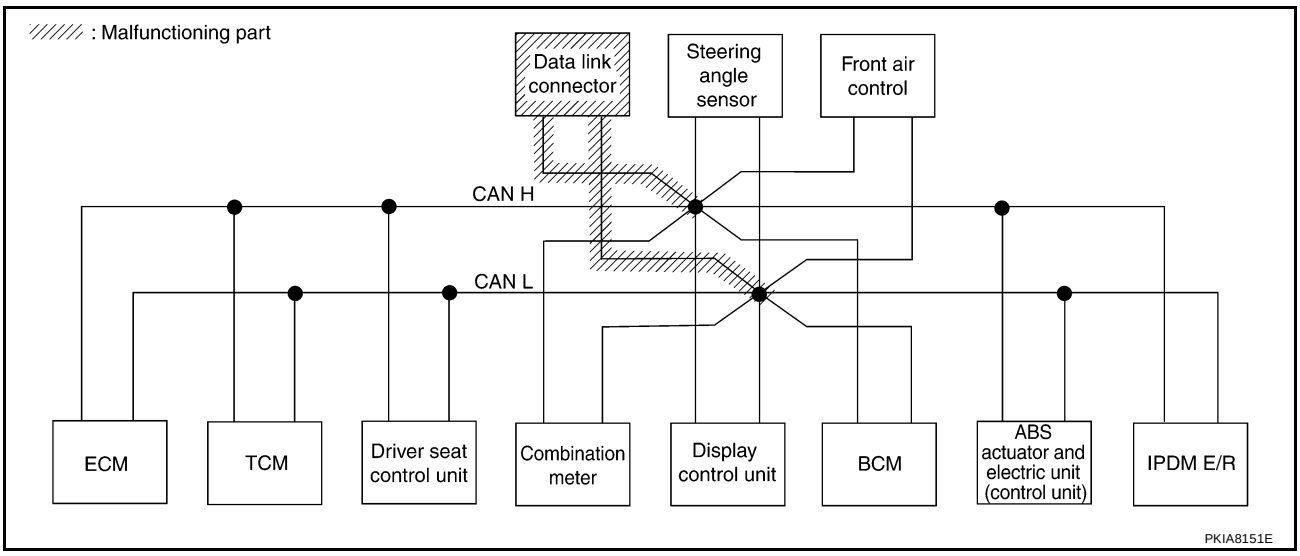
PKIA8150E

Case 10

Check data link connector circuit. Refer to LAN-46, "Data Link Connector Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8059E



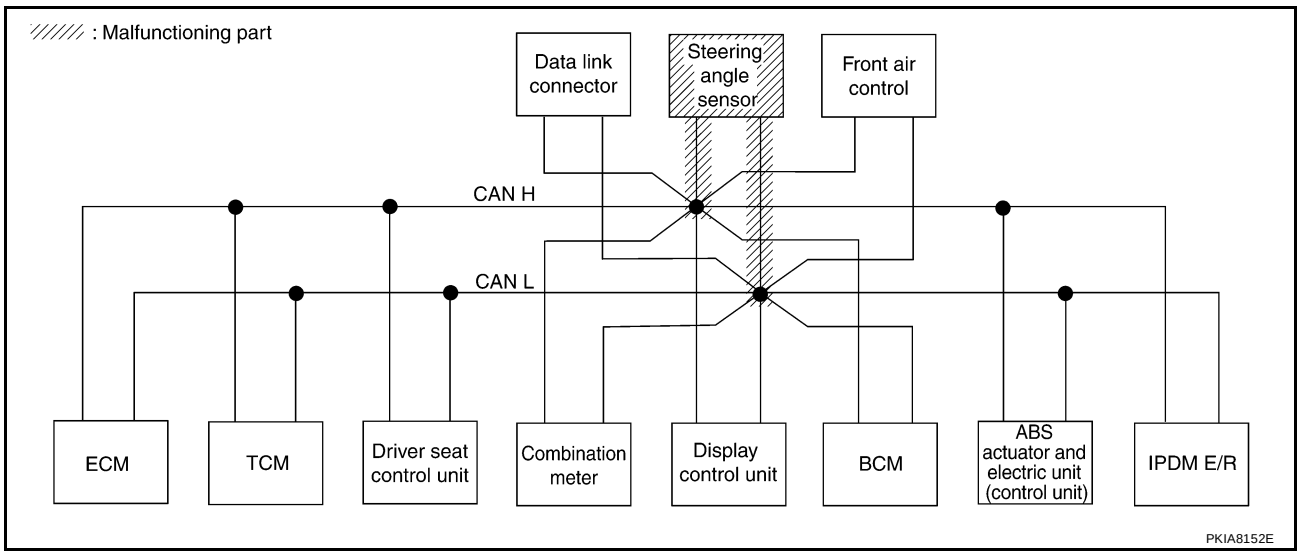
PKIA8151E

Case 11

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8060E



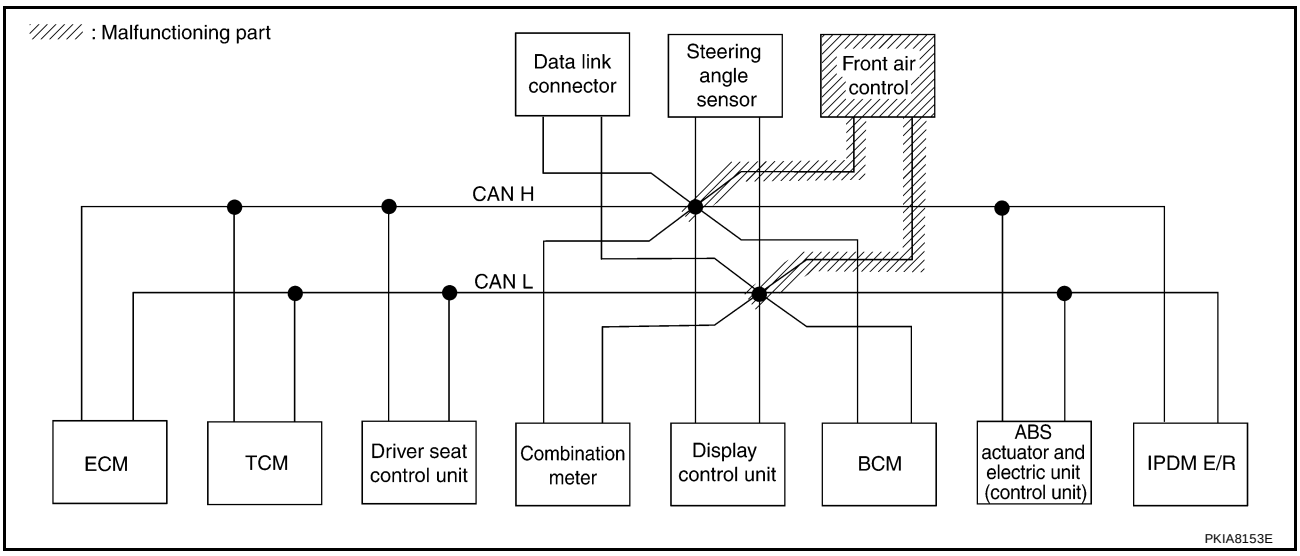
PKIA8152E

Case 12

Check front air control circuit. Refer to LAN-47, "Front Air Control Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8061E



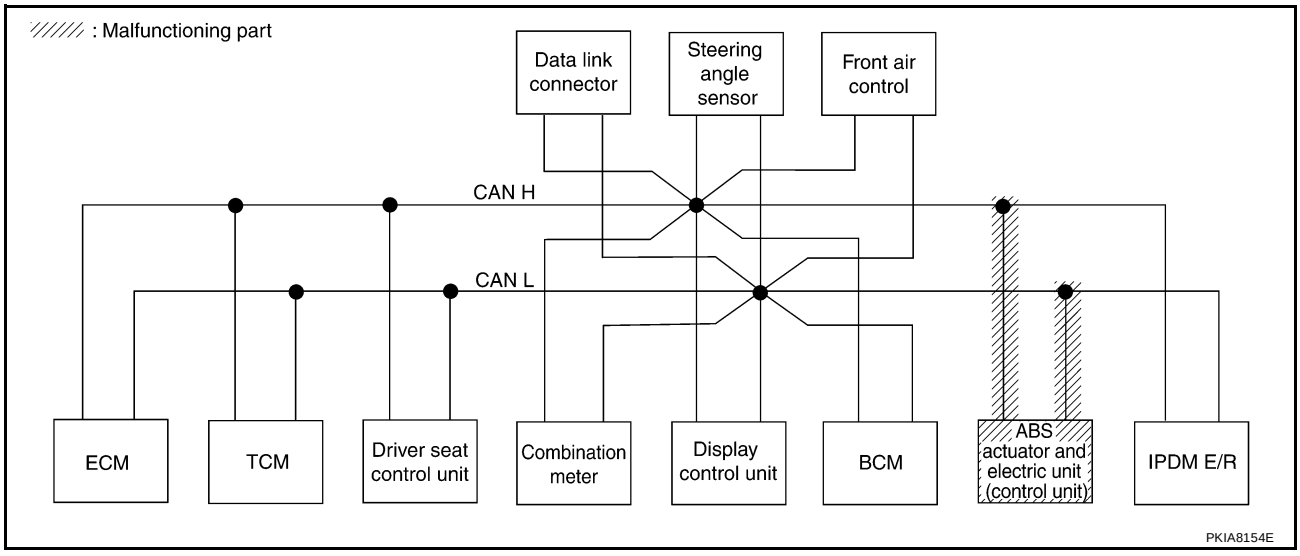
PKIA8153E

Case 13

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA8062E



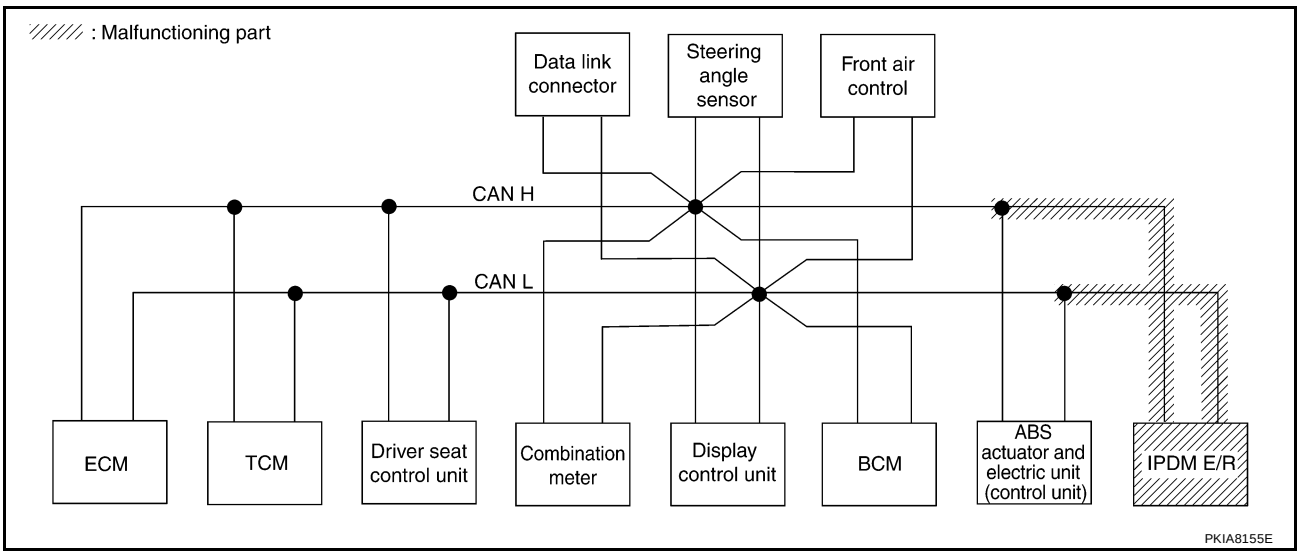
PKIA8154E

Case 14

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8063E



PKIA8155E

Case 15

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8064E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to LAN-49, "IPDM E/R Ignition Relay Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8065E

Case 17

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN ✓	–	UNKWN ✓	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN	–	–	UNKWN ✓	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	UNKWN	–	–	–	–

PKIA8066E

Circuit Check Between TCM and Driver Seat Control Unit

UKS0018I

1. CHECK CONNECTOR

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

- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40

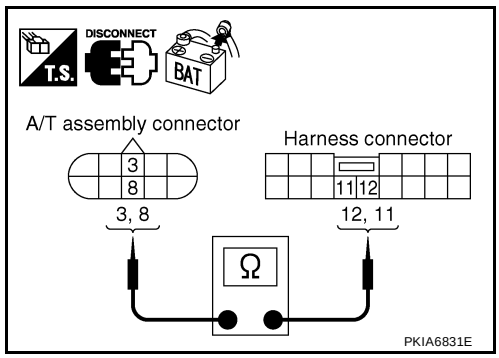
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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



OK or NG

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

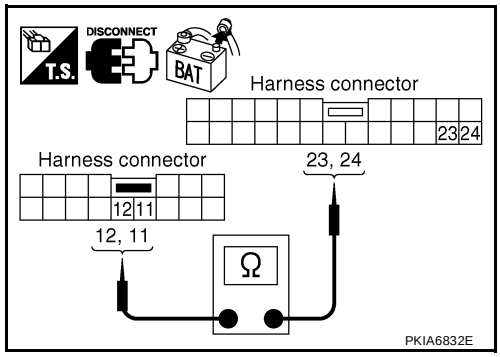
3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



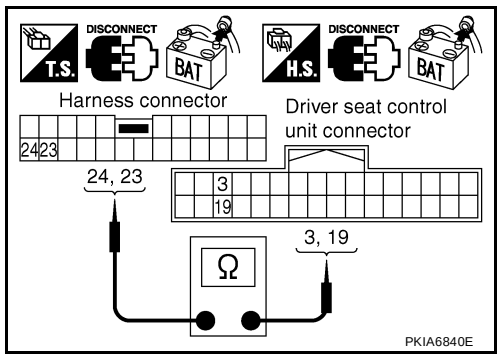
4. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0018J

1. CHECK CONNECTOR

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

- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

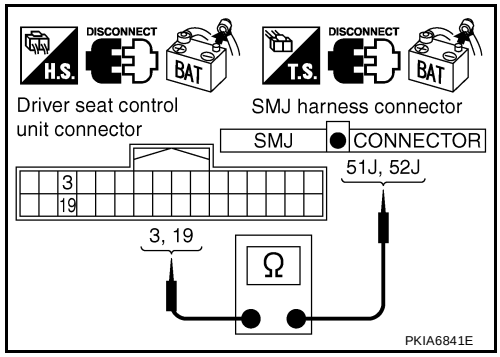
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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

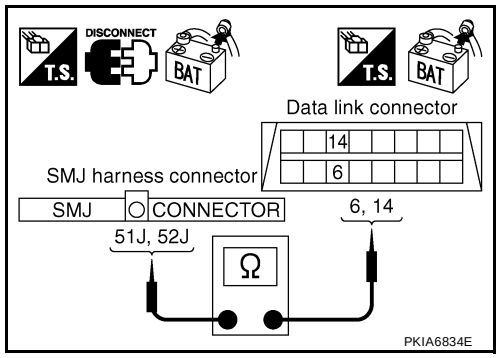


3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

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

NG >> Repair harness.

Circuit Check Between Data Link Connector and IPDM E/R

UKS0018K

1. CHECK CONNECTOR

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

- Harness connector M31
- Harness connector E152

OK or NG

OK >> GO TO 2.

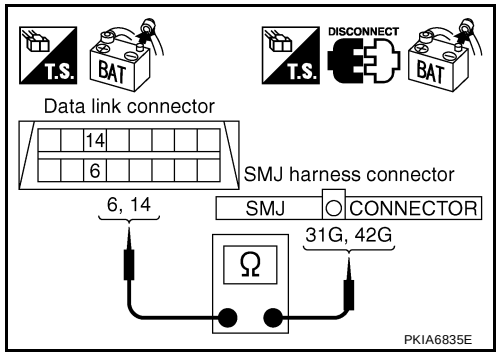
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

OK >> GO TO 3.

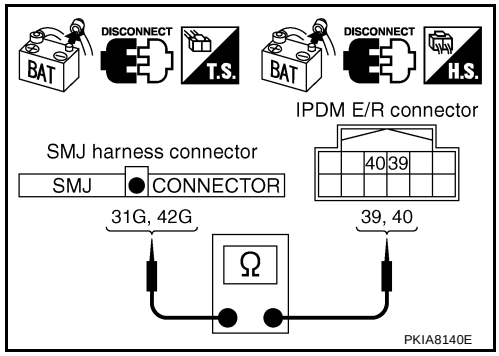
NG >> Repair harness.

3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

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

NG >> Repair harness.

ECM Circuit Check

UKS0018L

1. CHECK CONNECTOR

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

- ECM connector
- Harness connector E19
- Harness connector F33

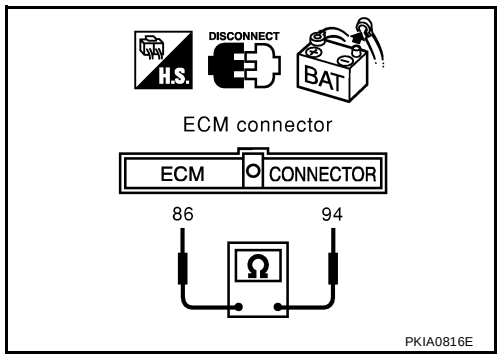
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

94 (W) - 86 (R) : Approx. 108 - 132Ω



OK or NG

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

TCM Circuit Check

UKS0018M

1. CHECK CONNECTOR

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

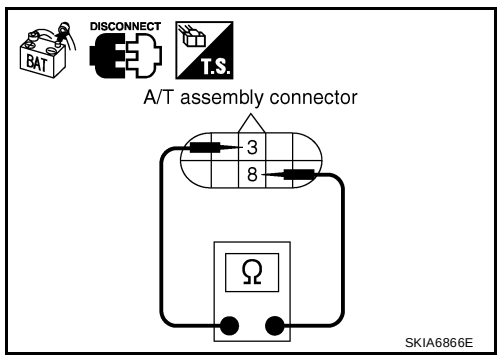
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 8 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace control valve with TCM.
NG >> Repair harness between A/T assembly and harness connector F33.

Driver Seat Control Unit Circuit Check

UKS0018N

1. CHECK CONNECTOR

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

- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

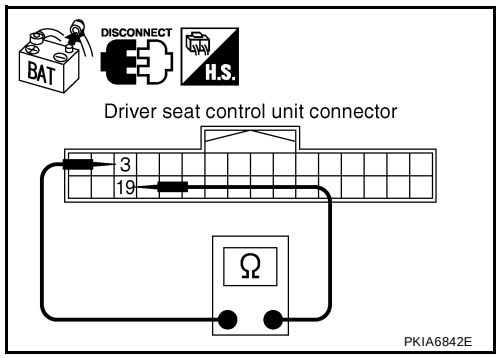
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 19 (R) : Approx. 54 - 66Ω



OK or NG

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

Combination Meter Circuit Check

UKS0018O

1. CHECK CONNECTOR

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

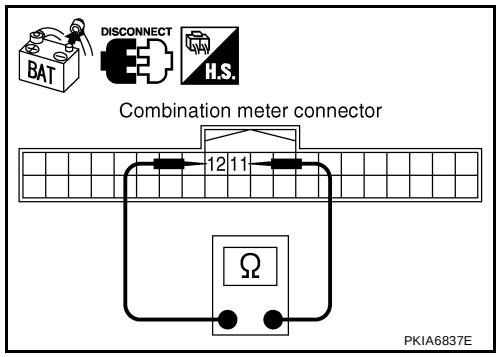
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 12 (R) : Approx. 54 - 66Ω



OK or NG

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

Display Control Unit Circuit Check

UKS0018P

1. CHECK CONNECTOR

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

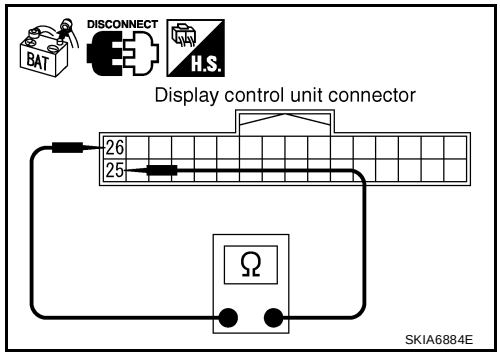
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

25 (W) - 26 (R) : Approx. 54 - 66Ω



OK or NG

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

BCM Circuit Check

UKS0018Q

1. CHECK CONNECTOR

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

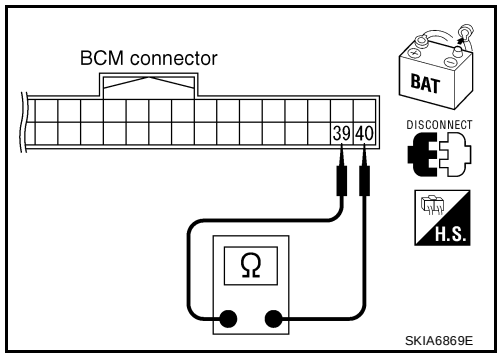
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness between BCM and data link connector.

Data Link Connector Circuit Check

UKS0018R

1. CHECK CONNECTOR

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

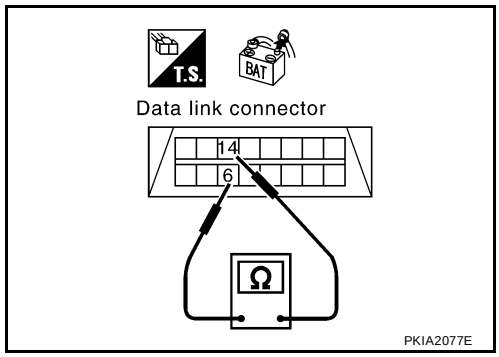
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Diagnose again. Refer to LAN-21, "Work Flow" .
NG >> Repair harness between data link connector and combination meter.

Steering Angle Sensor Circuit Check

UKS0018S

1. CHECK CONNECTOR

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

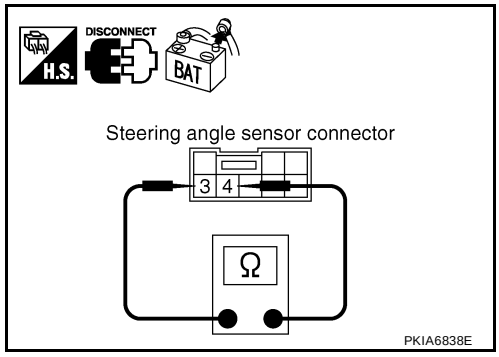
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 4 (R) : Approx. 54 - 66Ω



OK or NG

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

Front Air Control Circuit Check

UKS0018T

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

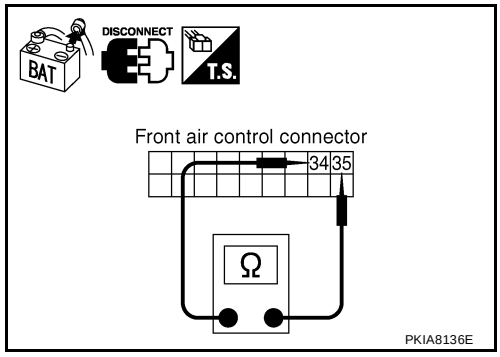
2. CHECK HARNESS FOR OPEN CIRCUIT

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

34 (W) - 35 (R) : Approx. 54 - 66Ω

OK or NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS0018U

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

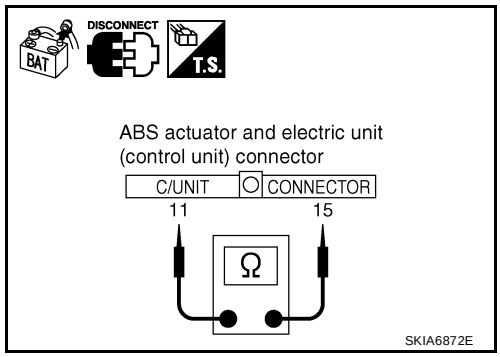
2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 15 (R) : Approx. 54 - 66Ω

OK or NG

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



IPDM E/R Circuit Check

UKS0018V

1. CHECK CONNECTOR

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

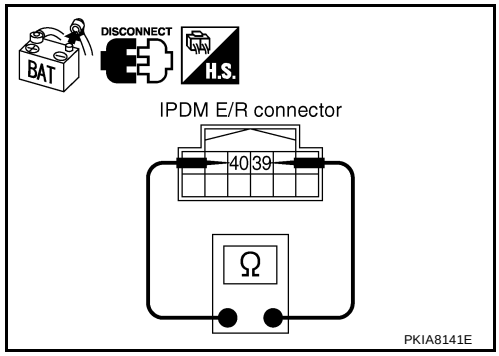
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 108 - 132Ω



OK or NG

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

CAN Communication Circuit Check

UKS0018W

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.

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

OK or NG

OK >> GO TO 2.
NG >> Repair or replace as necessary.

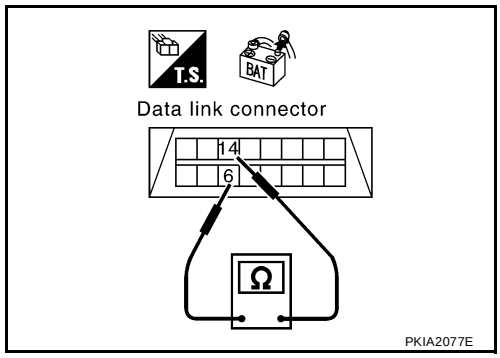
2. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

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



3. CHECK HARNESS FOR SHORT CIRCUIT

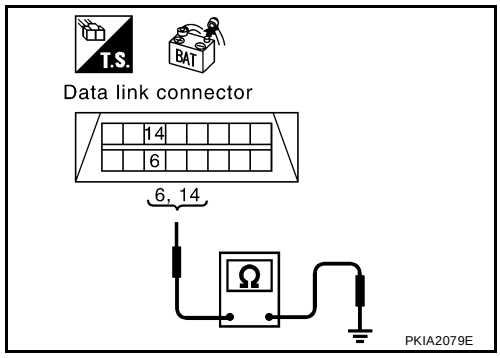
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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

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

OK or NG

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



IPDM E/R Ignition Relay Circuit Check

UKS0018X

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

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

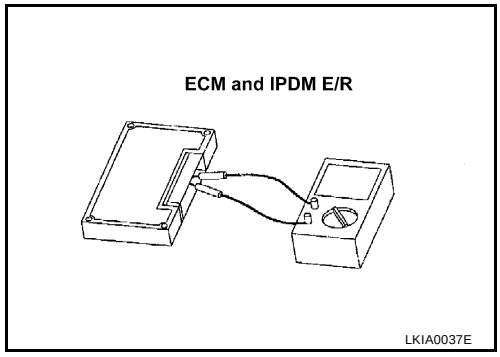
Component Inspection

UKS0018Y

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



CAN SYSTEM (TYPE 2)

PFP:23710

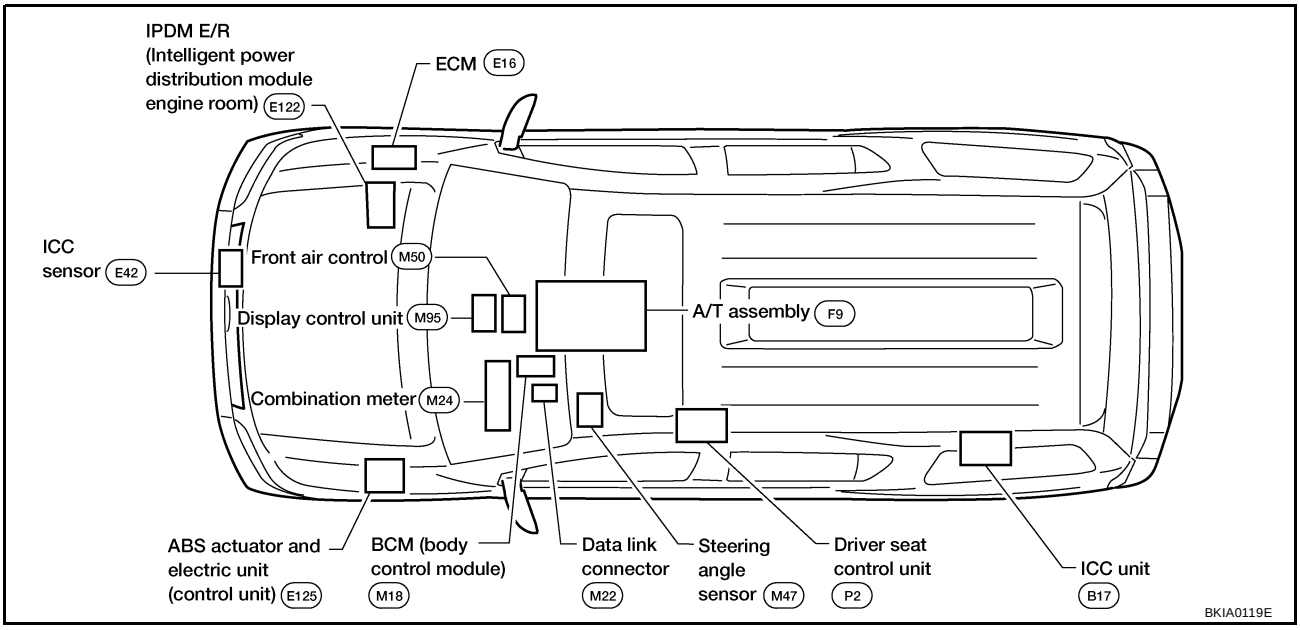
System Description

UKS001N3

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

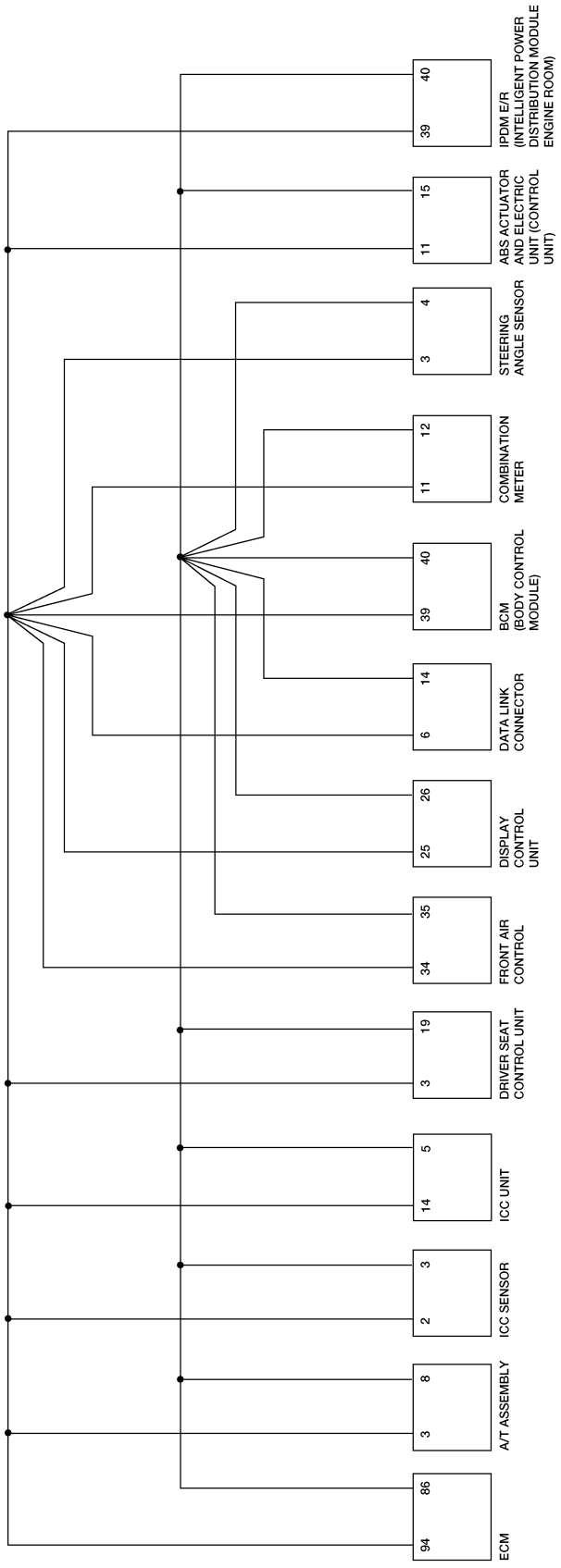
Component Parts and Harness Connector Location

UKS001N4



Schematic

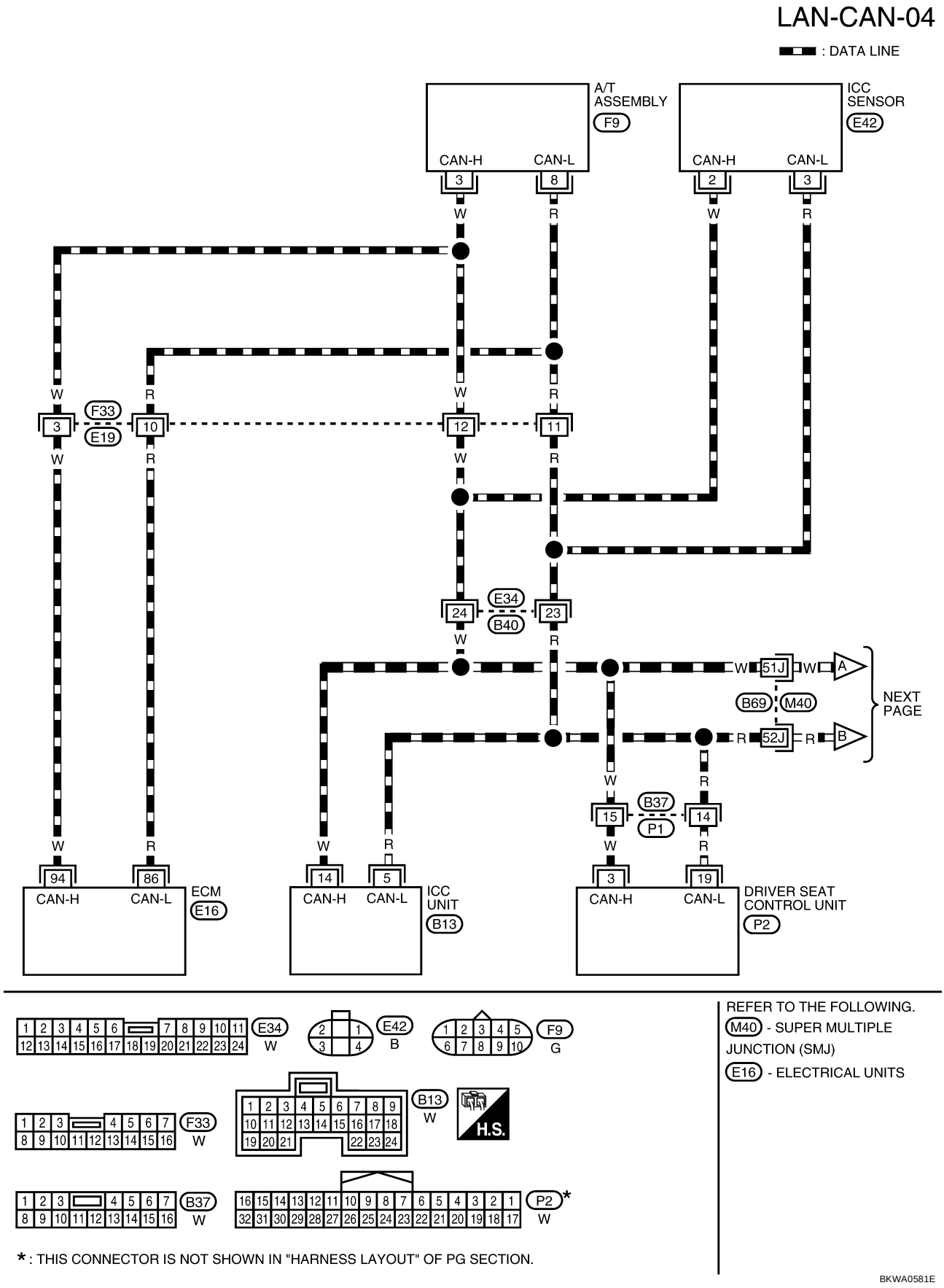
UKS001N5



BKWA0074E

Wiring Diagram - CAN -

UKS001N6

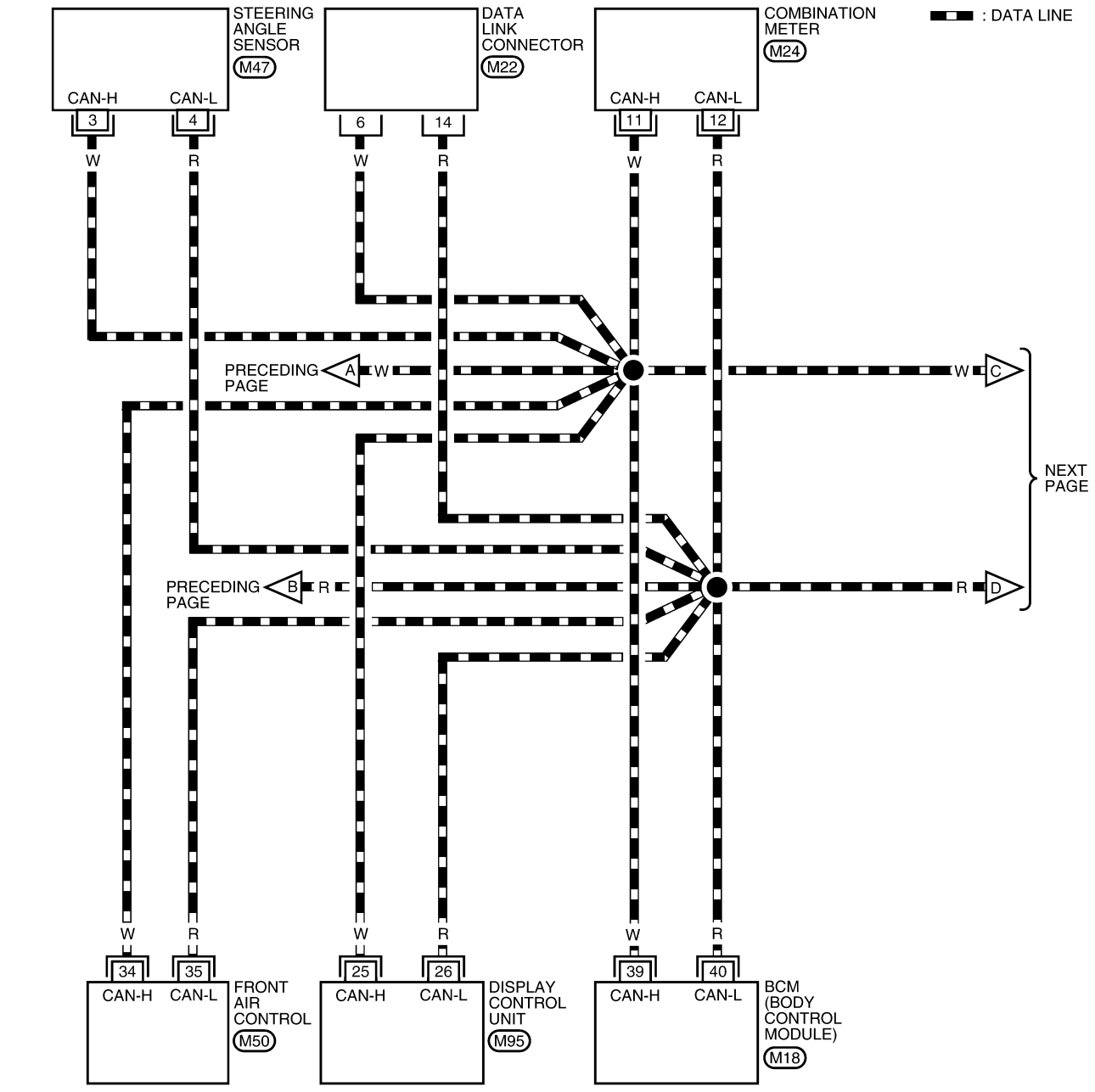


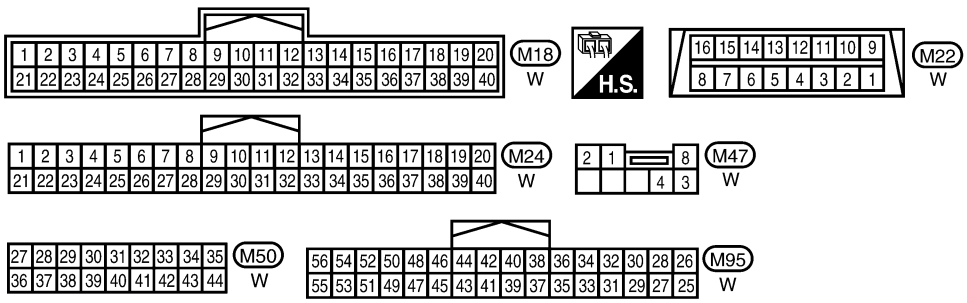
REFER TO THE FOLLOWING.
M40 - SUPER MULTIPLE JUNCTION (SMJ)
E16 - ELECTRICAL UNITS

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

BKWA0581E

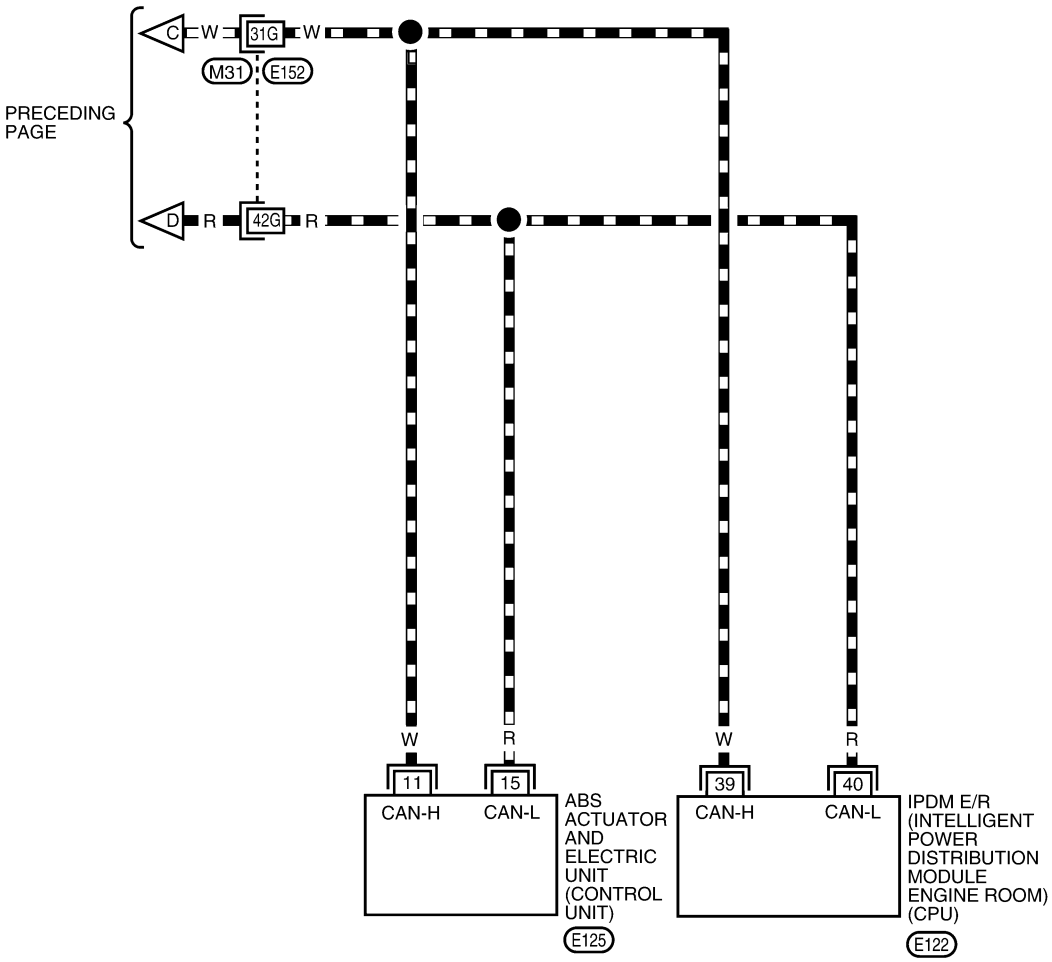
LAN-CAN-05

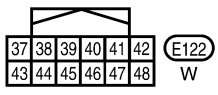


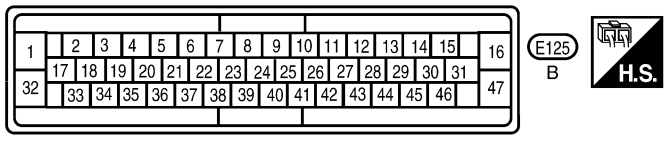


BKWA0076E

: DATA LINE







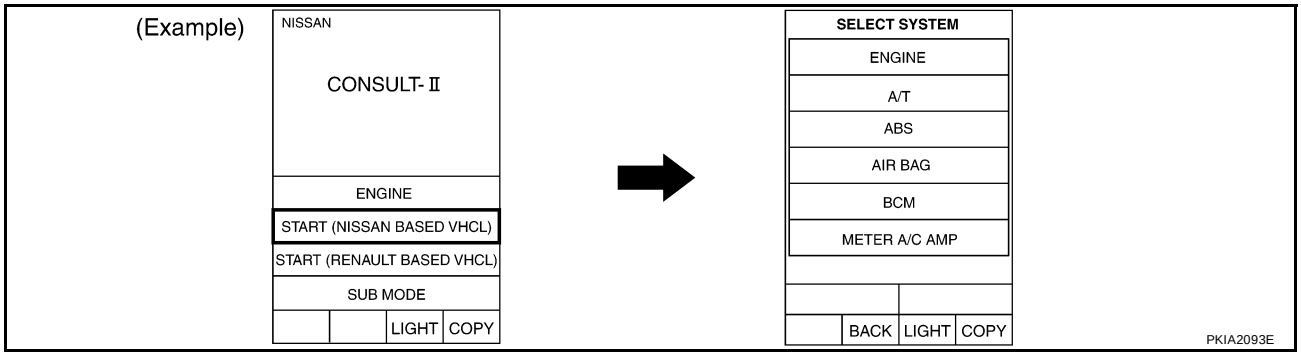
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0077E

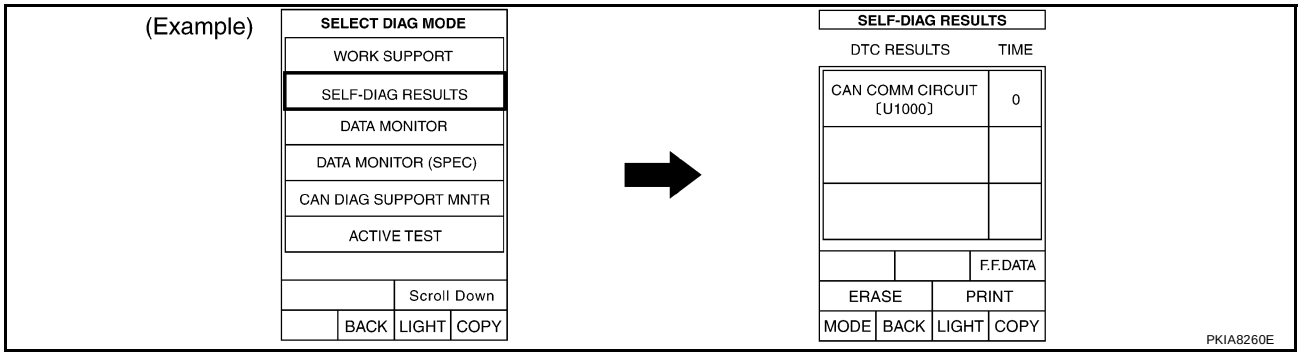
Work Flow

UKS001N7

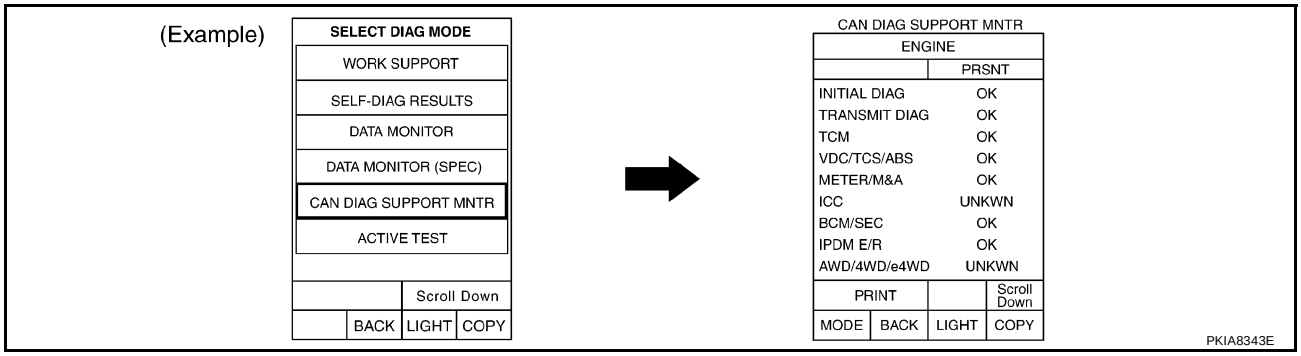
1. When there are no indications of “AUTO DRIVE POS.”, “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet. Refer to LAN-57, "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-57, "CHECK SHEET" .

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

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG SUPPORT MONITOR” for the diagnosed control unit, replace the control unit. Refer to AV-131, "CAN Communication Line Check" .

9. According to the check sheet results (example), start inspection. Refer to LAN-59, "CHECK SHEET RESULTS (EXAMPLE)" .

CHECK SHEET

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

Check sheet table

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

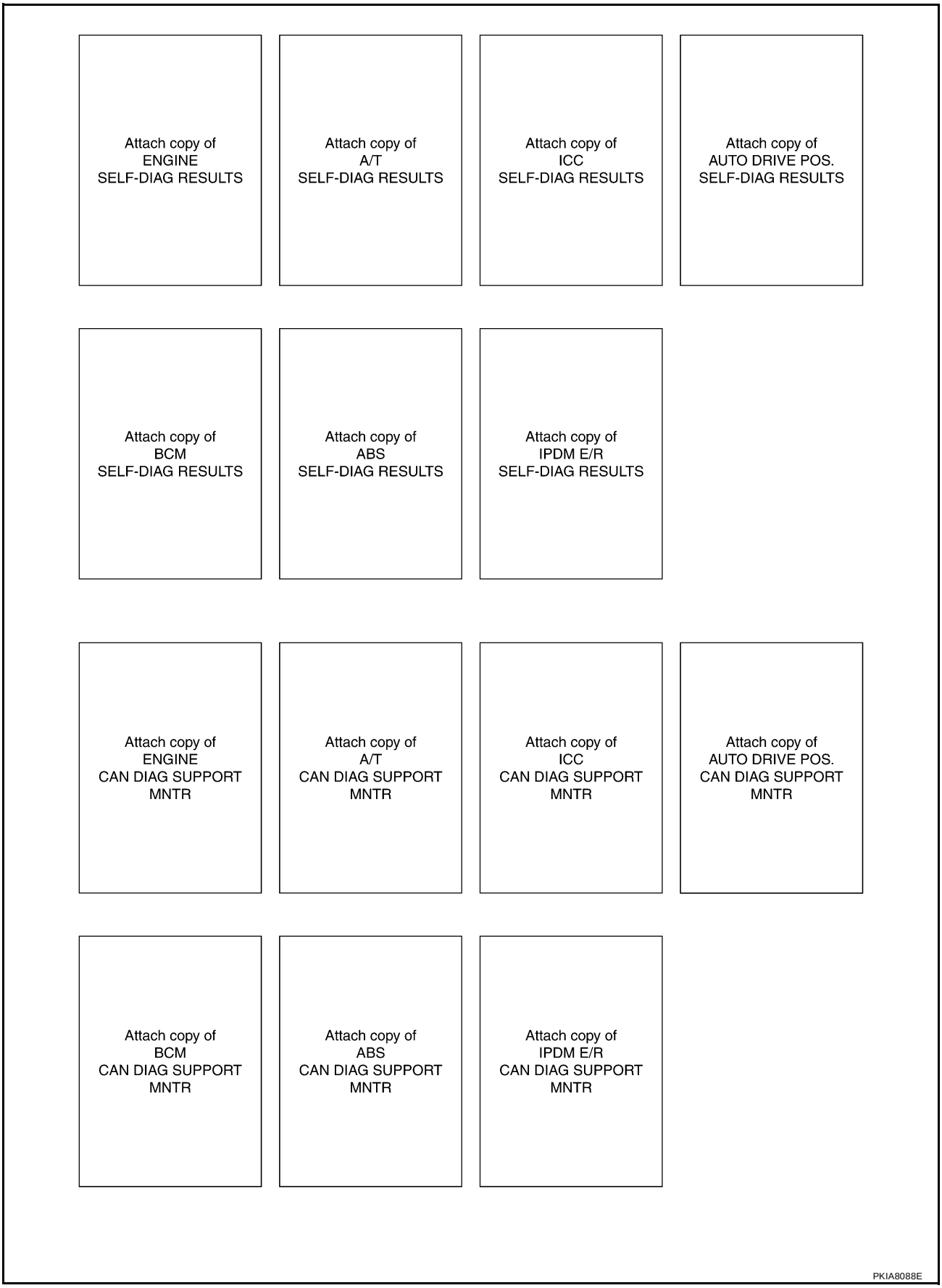
Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

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

PKIA8087E


Attach copy of
ENGINE
SELF-DIAG RESULTS
Attach copy of
A/T
SELF-DIAG RESULTS
Attach copy of
ICC
SELF-DIAG RESULTS
Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS
Attach copy of
BCM
SELF-DIAG RESULTS
Attach copy of
ABS
SELF-DIAG RESULTS
Attach copy of
IPDM E/R
SELF-DIAG RESULTS
Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR
Attach copy of
A/T
CAN DIAG SUPPORT
MNTR
Attach copy of
ICC
CAN DIAG SUPPORT
MNTR
Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR
Attach copy of
BCM
CAN DIAG SUPPORT
MNTR
Attach copy of
ABS
CAN DIAG SUPPORT
MNTR
Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR
PKIA8088E

CHECK SHEET RESULTS (EXAMPLE)

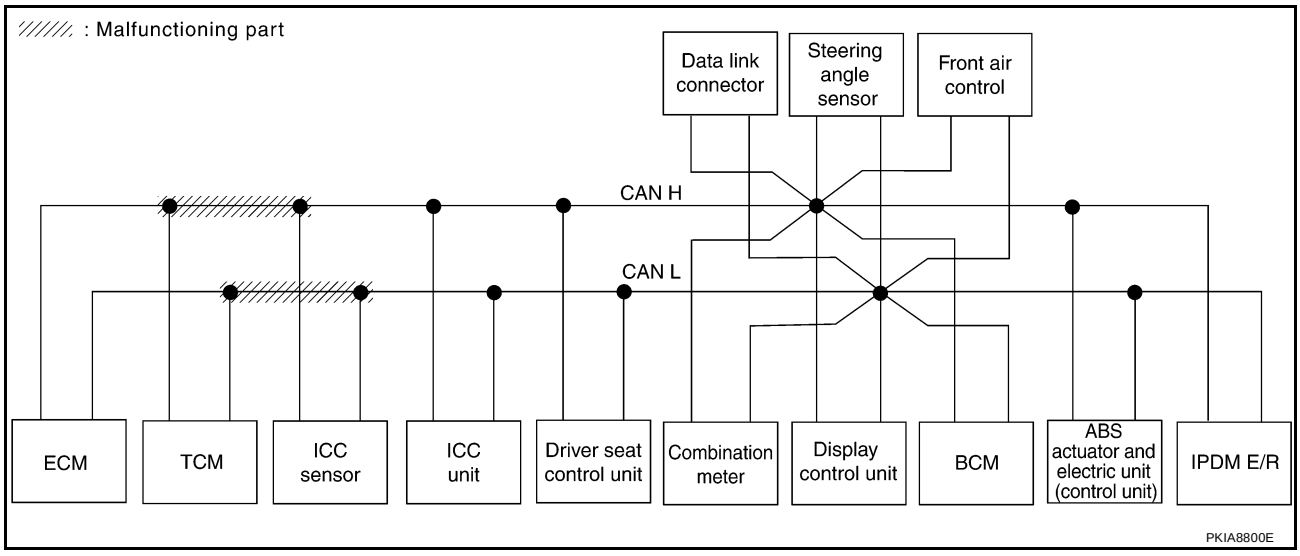
NOTE:
If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and ICC sensor. Refer to LAN-78, "Circuit Check Between TCM and ICC Sensor" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN ✓	—
ICC	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3 ✓	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	—	—	UNKWN	—	—	—	—

PKIA8089E



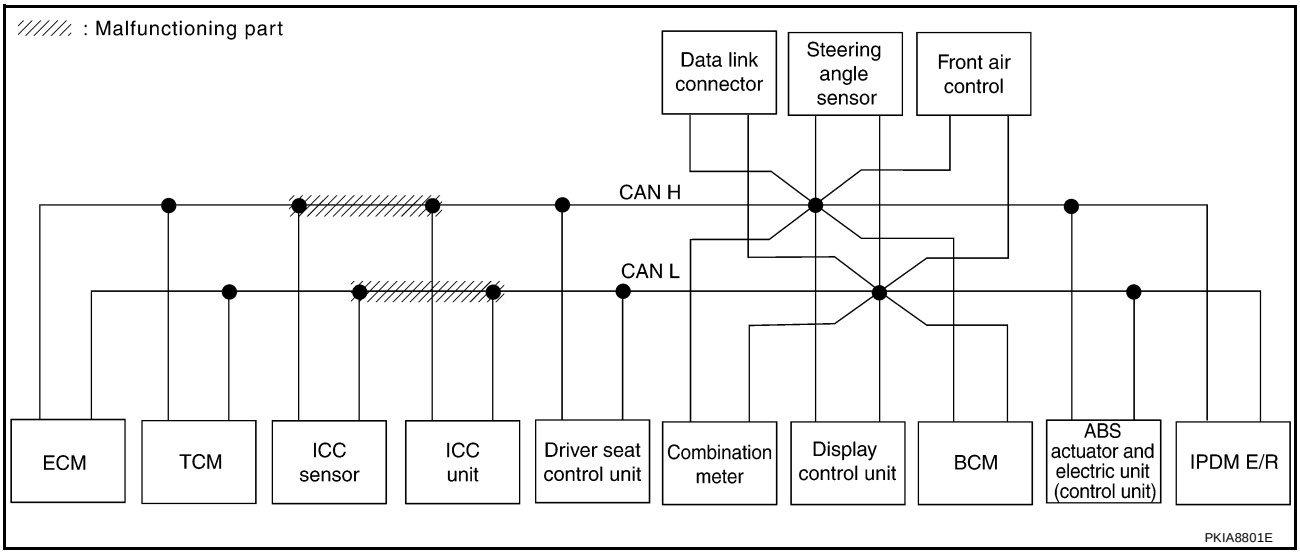
PKIA8800E

Case 2

Check harness between ICC sensor and ICC unit. Refer to LAN-79, "Circuit Check Between ICC Sensor and ICC Unit" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8090E

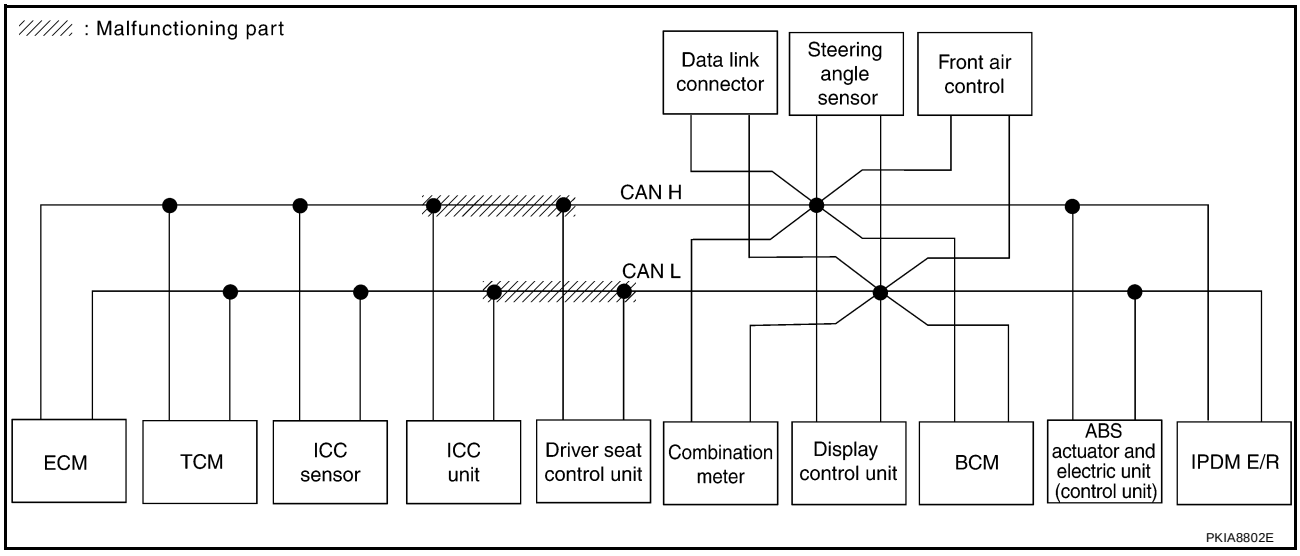


Case 3

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN ✓	UNKWN ✓	–	–	UNKWN ✓	UNKWN ✓
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN ✓	–	–	–	UNKWN ✓	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN ✓	–	–	UNKWN ✓	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN ✓	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3 ✓	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN ✓	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN ✓	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN ✓	–	–	–	–	UNKWN	–	–	–	–

PKIA8091E

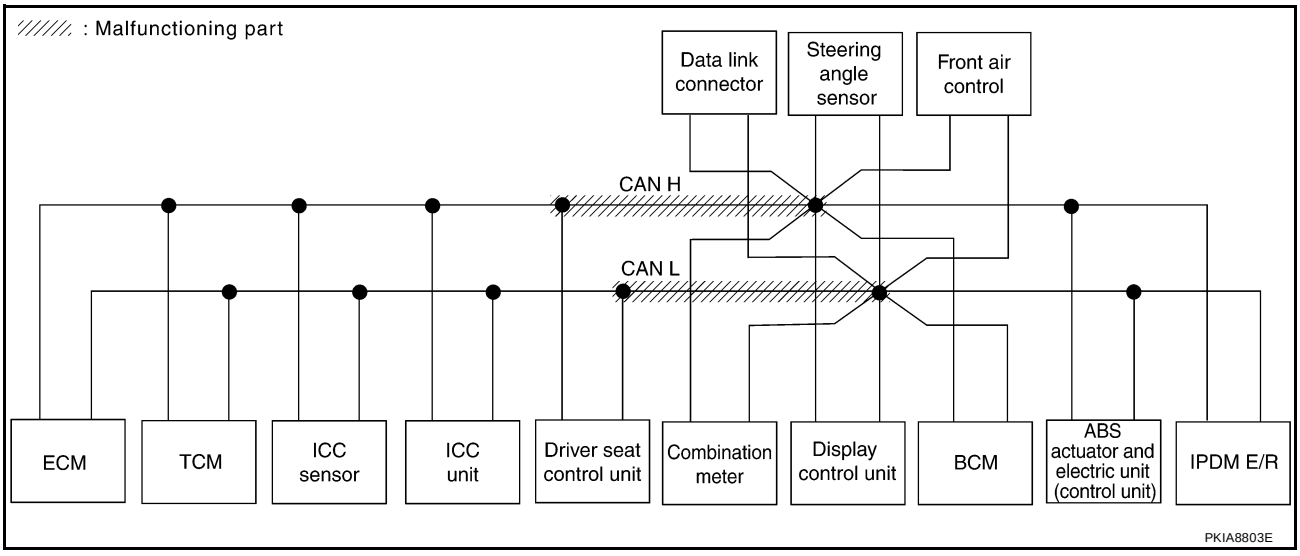


Case 4

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8092E

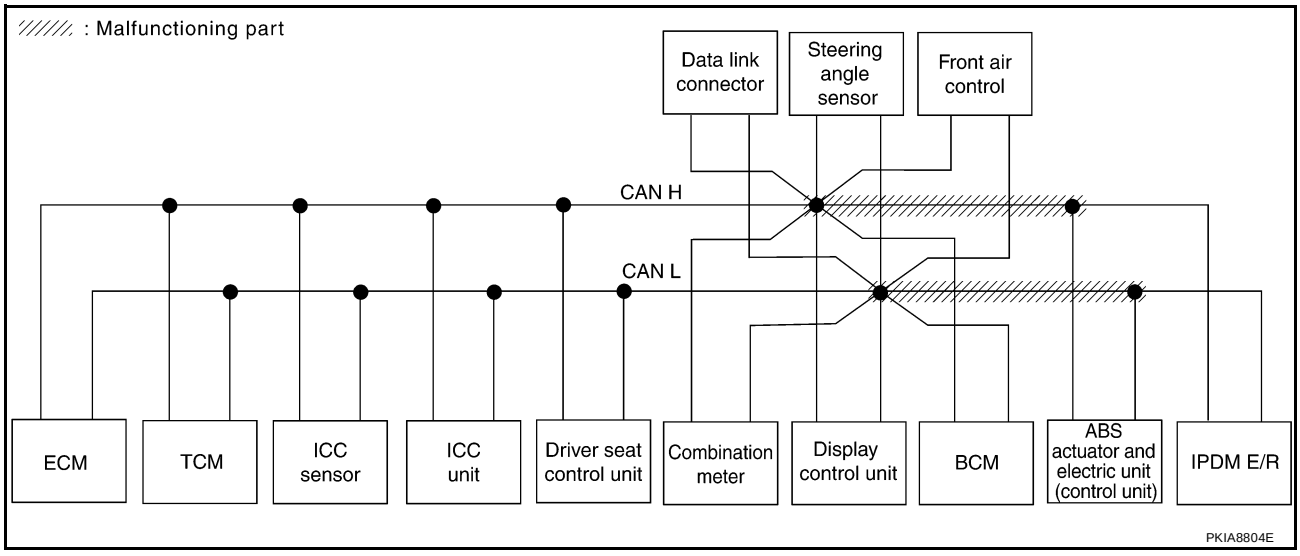


Case 5

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN ✓	UNKWN ✓
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN ✓	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN ✓	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN ✓
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN ✓	–	–	–	–	UNKWN ✓	–	–	–
IPDM E/R	No indication ✓	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8093E

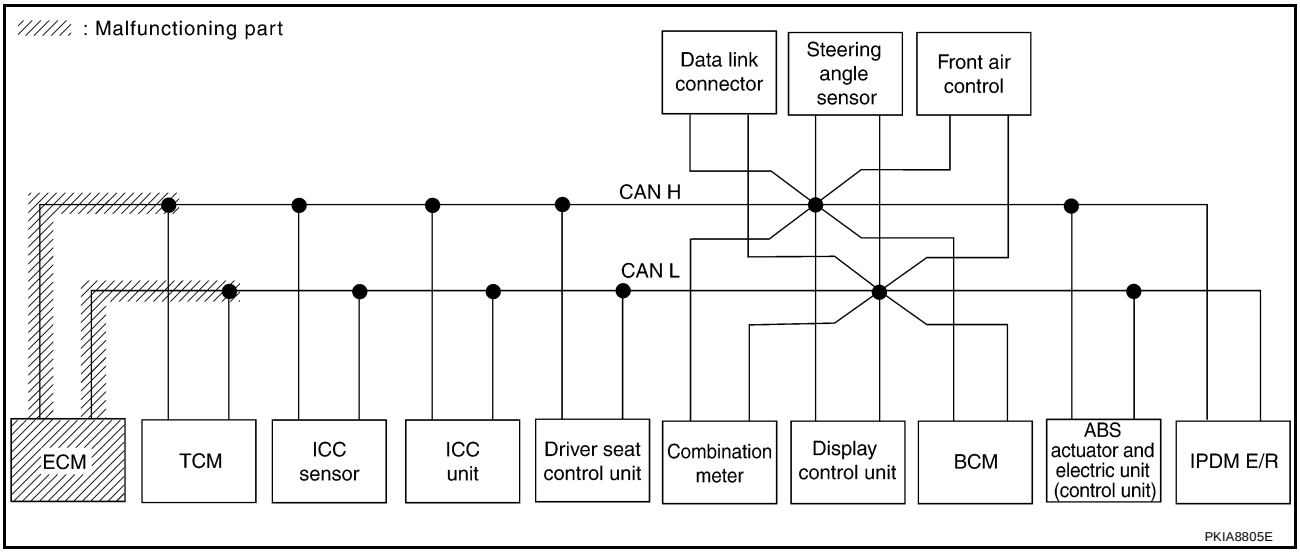


Case 6

Check ECM circuit. Refer to LAN-82, "ECM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8094E



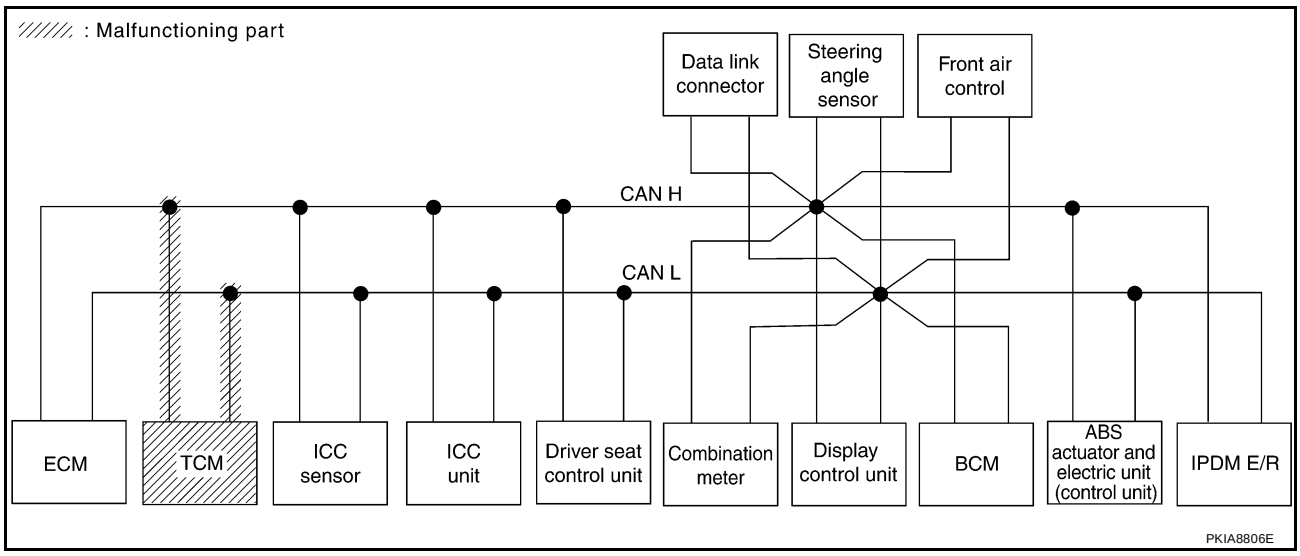
PKIA8805E

Case 7

Check TCM circuit. Refer to LAN-82, "TCM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8095E



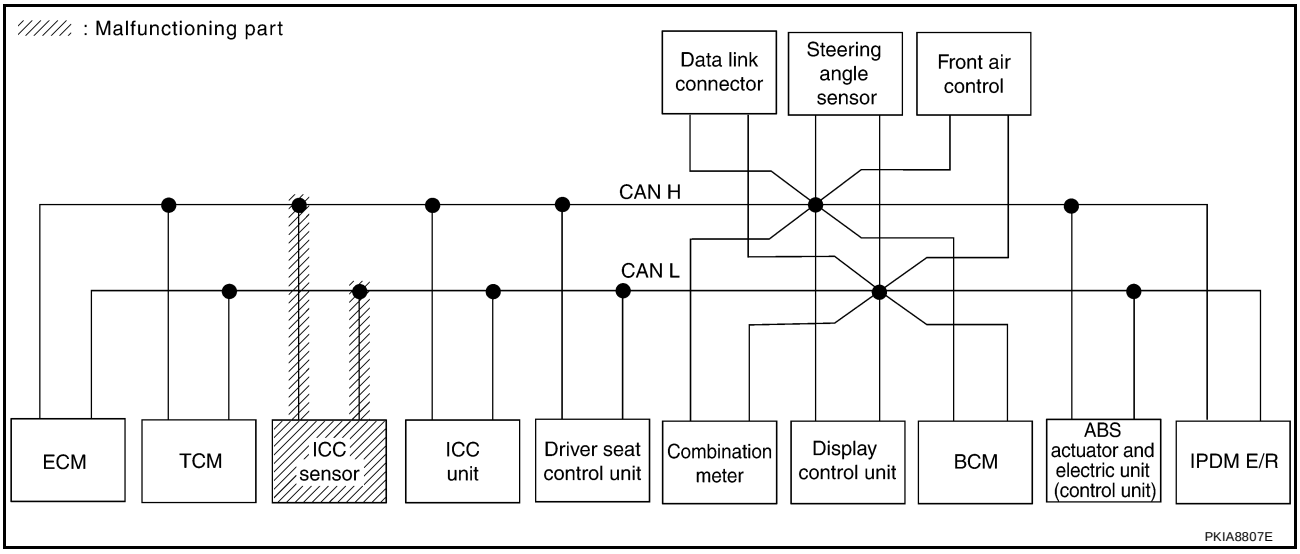
PKIA8806E

Case 8

Check ICC sensor circuit. Refer to LAN-83, "ICC Sensor Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8096E



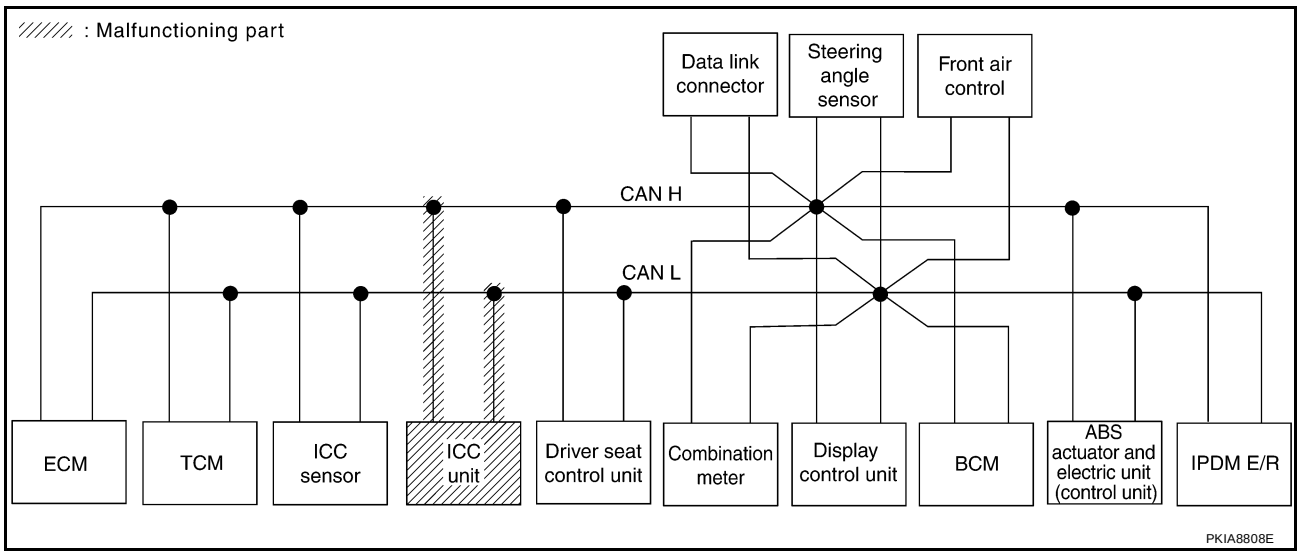
PKIA8807E

Case 9

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8097E



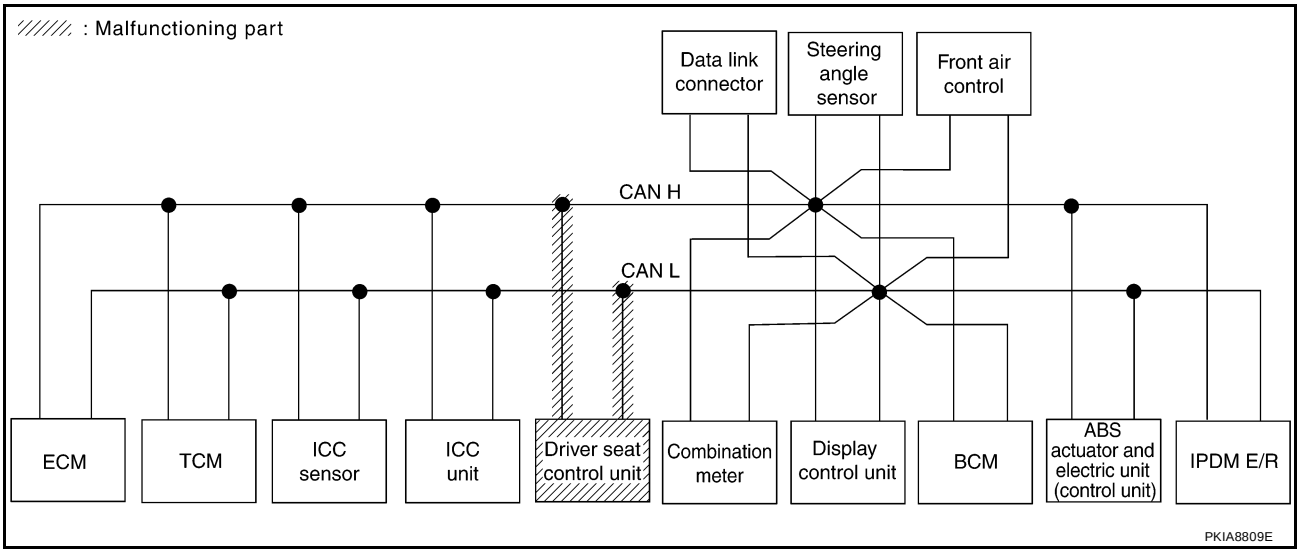
PKIA8808E

Case 10

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8098E



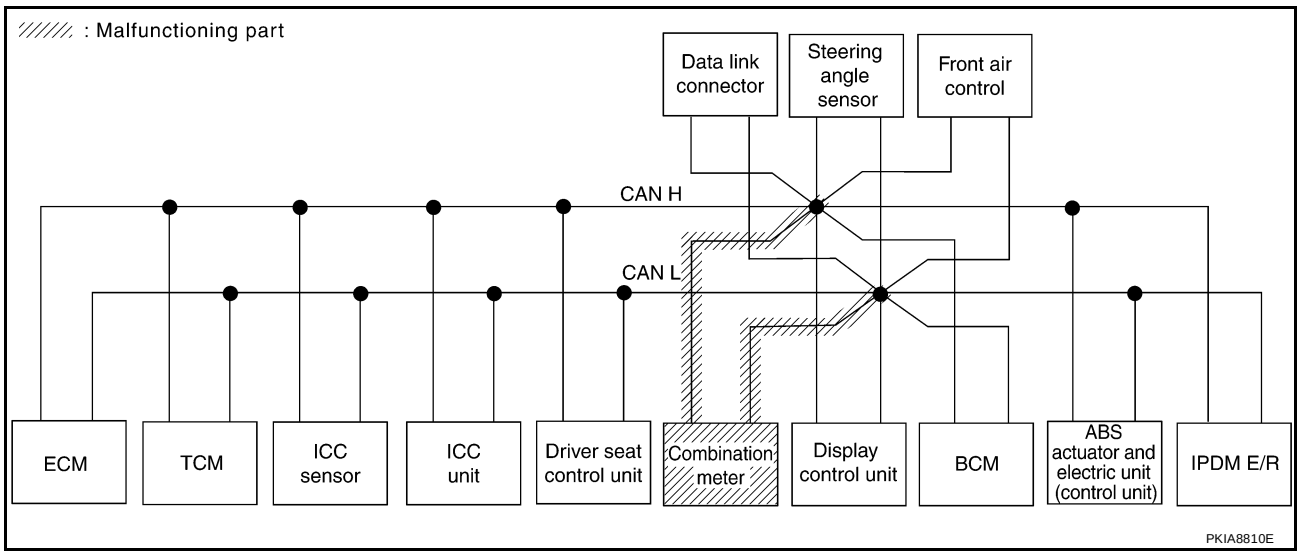
PKIA8809E

Case 11

Check combination meter circuit. Refer to LAN-84, "Combination Meter Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8099E



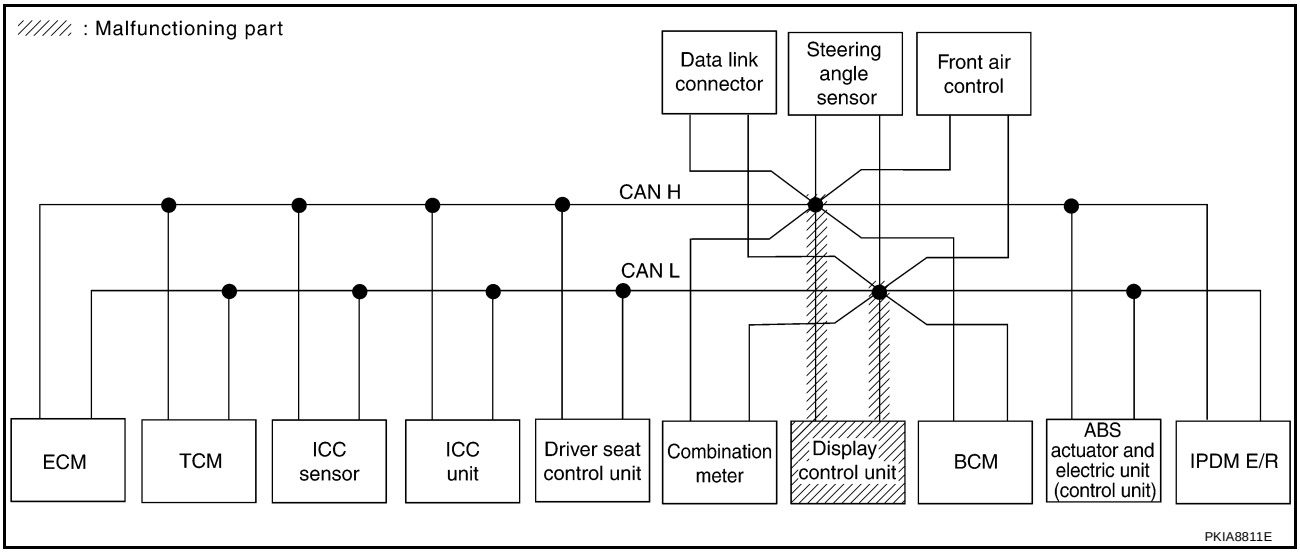
PKIA8810E

Case 12

Check display control unit circuit. Refer to LAN-85, "Display Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8100E



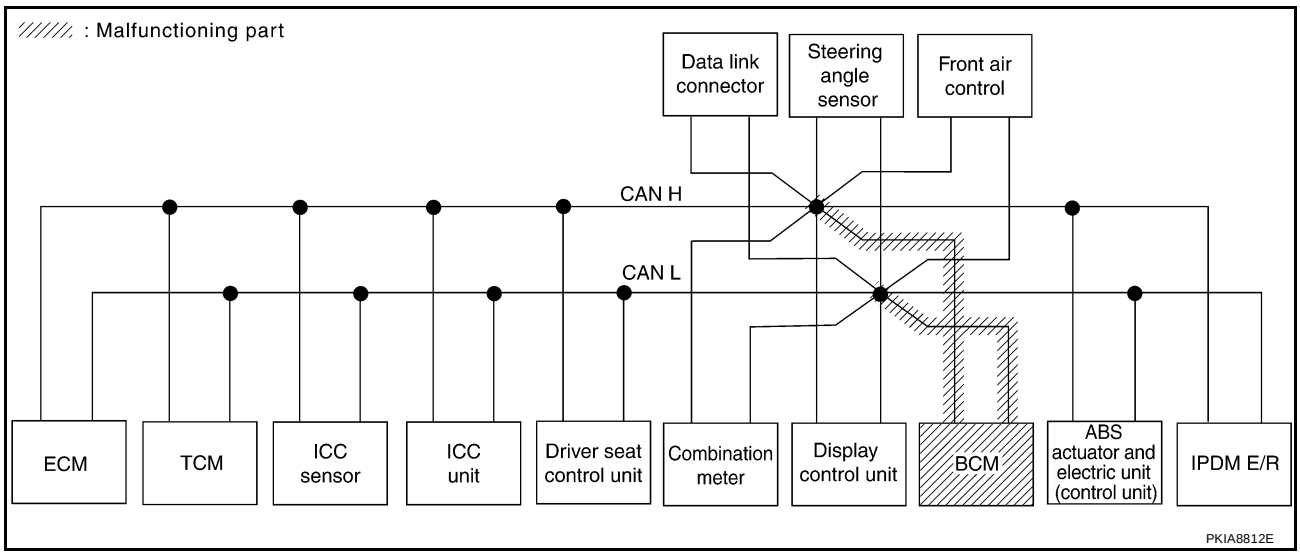
PKIA8811E

Case 13

Check BCM circuit. Refer to LAN-85, "BCM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN ✓	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN ✓	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN ✓	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2 ✓	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication ✓	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN ✓	–	–	–	–

PKIA8101E



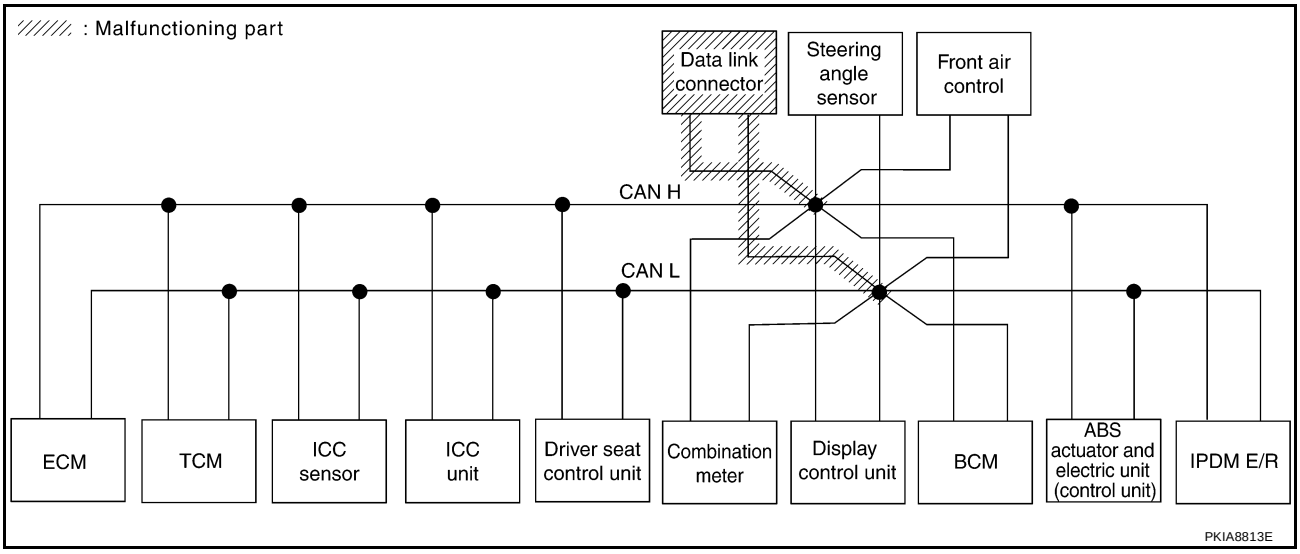
PKIA8812E

Case 14

Check data link connector circuit. Refer to LAN-86, "Data Link Connector Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8102E



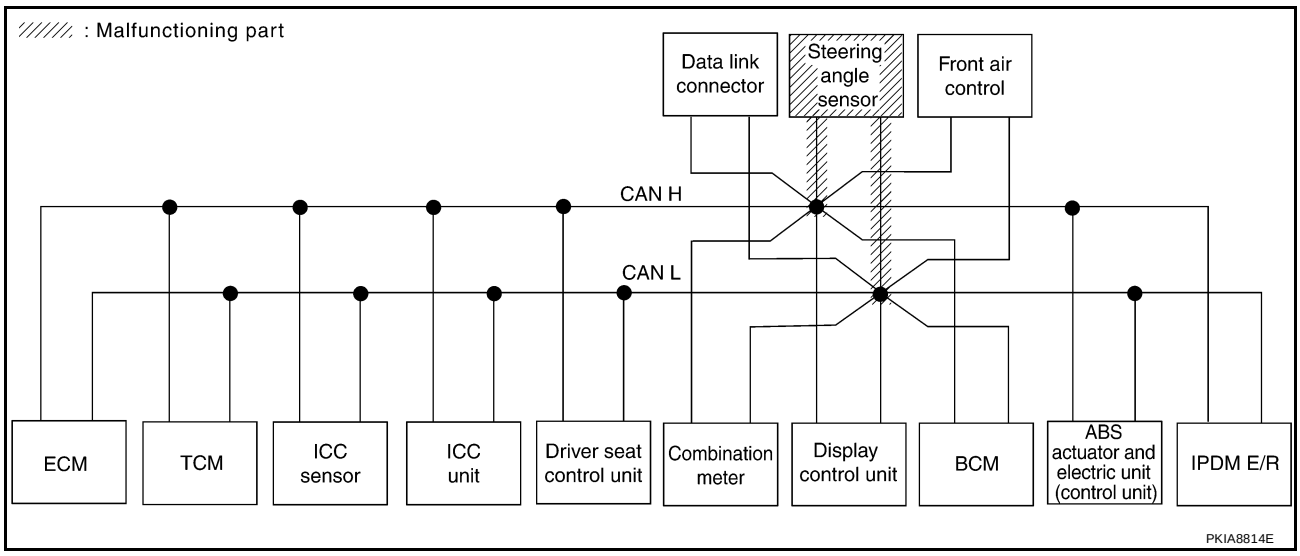
PKIA8813E

Case 15

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8103E



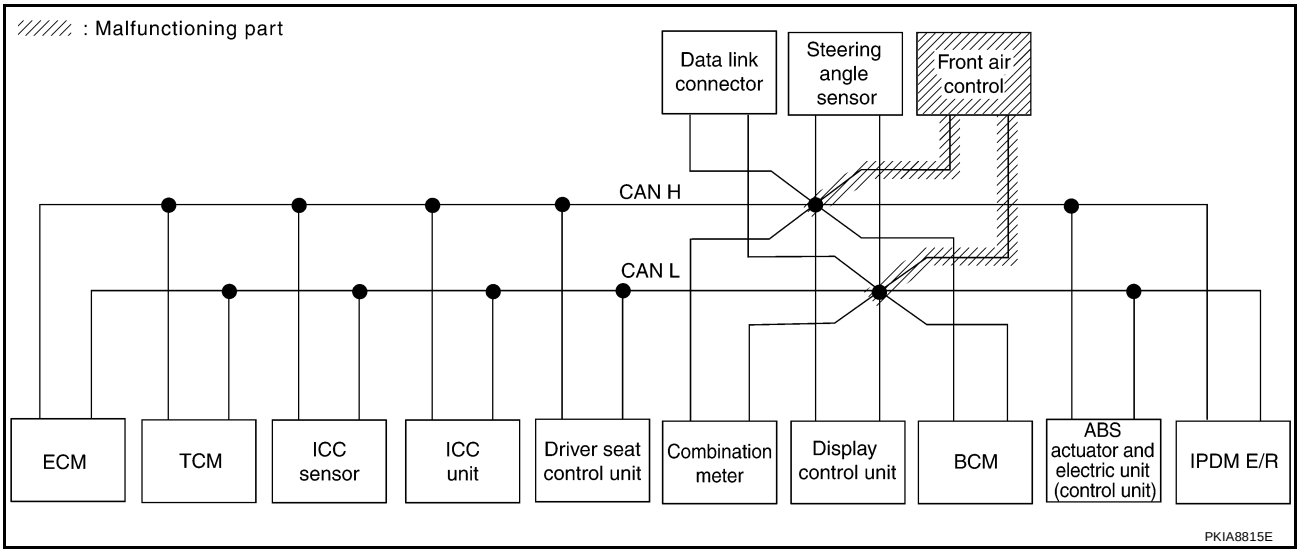
PKIA8814E

Case 16

Check front air control circuit. Refer to LAN-87, "Front Air Control Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8104E



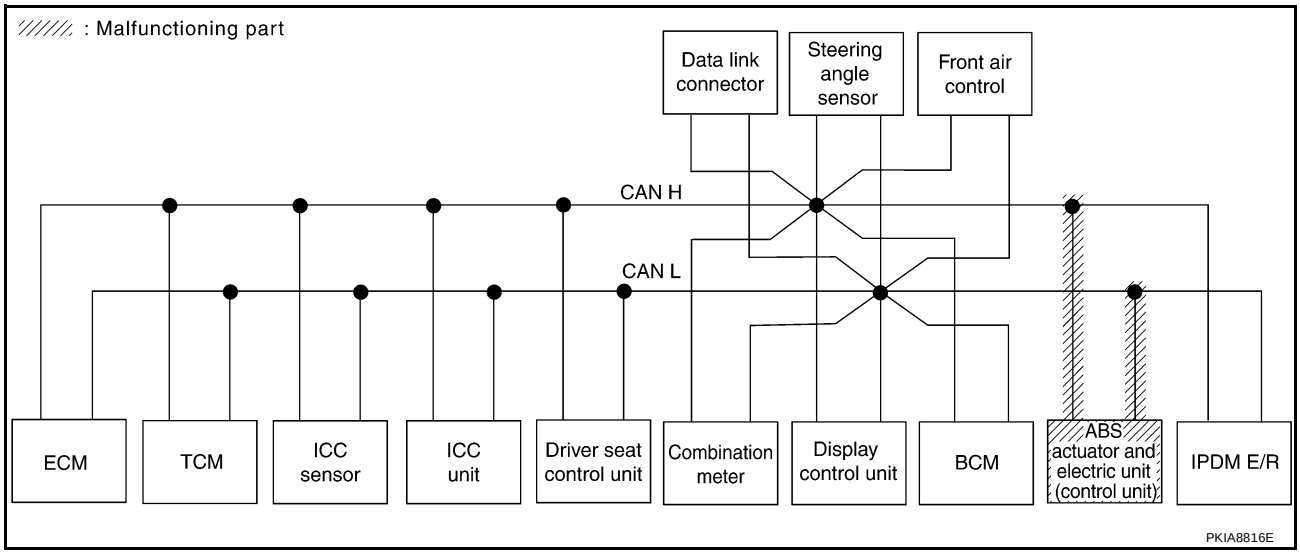
PKIA8815E

Case 17

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8105E



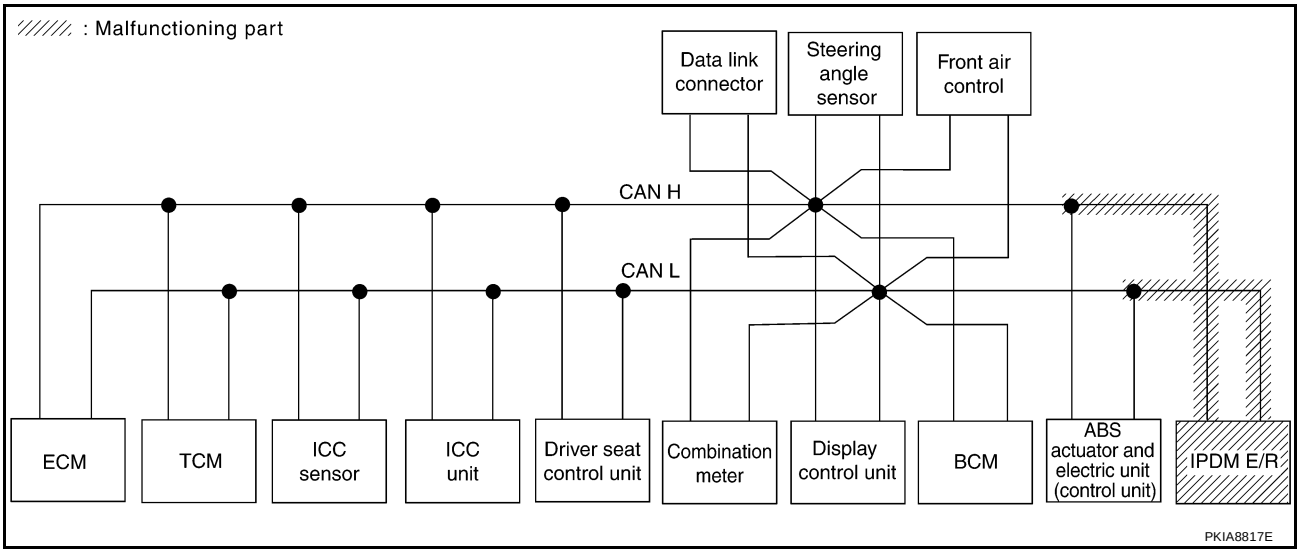
PKIA8816E

Case 18

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA8106E



PKIA8817E

Case 19

Check CAN communication circuit. Refer to LAN-88, "CAN Communication Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8107E

Case 20

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to LAN-89, "IPDM E/R Ignition Relay Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8108E

Case 21

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN ✓	–	–	UNKWN ✓	UNKWN ✓	–	–	–	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	UNKWN
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN	–	–	–	–	UNKWN ✓	–	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–

PKIA8109E

Circuit Check Between TCM and ICC Sensor

UKS001N8

1. CHECK CONNECTOR

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

- Harness connector F33
- Harness connector E19

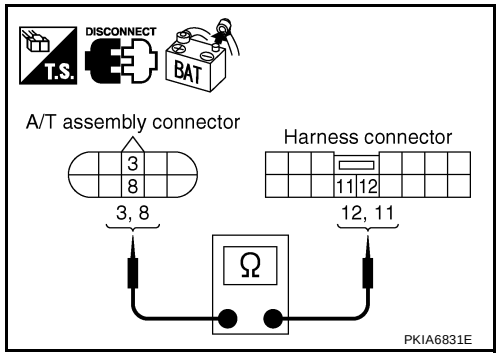
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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



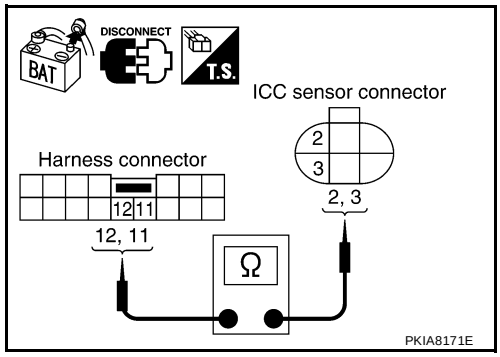
OK or NG

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

3. CHECK HARNESS FOR OPEN CIRCUIT

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

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



OK or NG

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

UKS001PO

Circuit Check Between ICC Sensor and ICC Unit

1. CHECK CONNECTOR

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

- Harness connector E34
- Harness connector B40

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

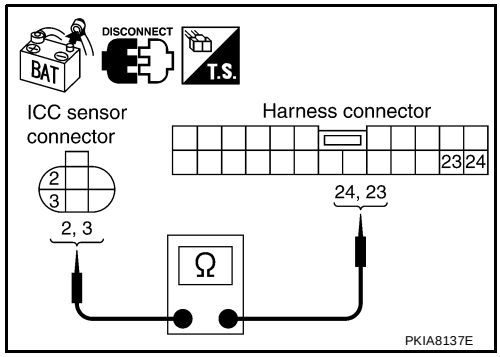
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



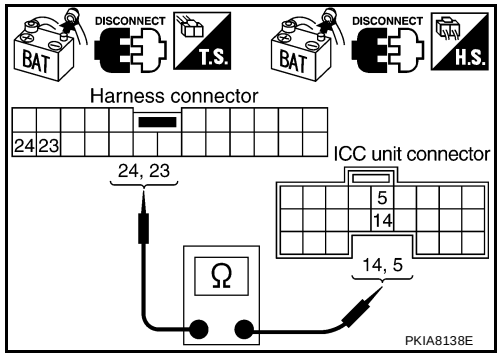
3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



Circuit Check Between ICC Unit and Driver Seat Control Unit

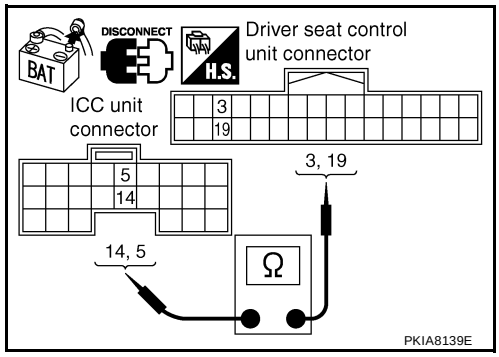
UKS001PP

1. CHECK CONNECTOR

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

14 (W) - 3 (W) : Continuity should exist.

5 (R) - 19 (R) : Continuity should exist.



OK or NG

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

NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS001N9

1. CHECK CONNECTOR

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

- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

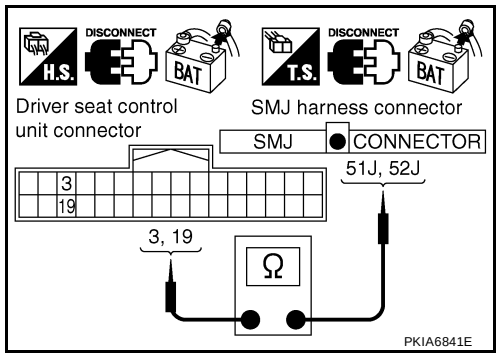
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

OK >> GO TO 3.

NG >> Repair harness.

3. CHECK HARNESS FOR OPEN CIRCUIT

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

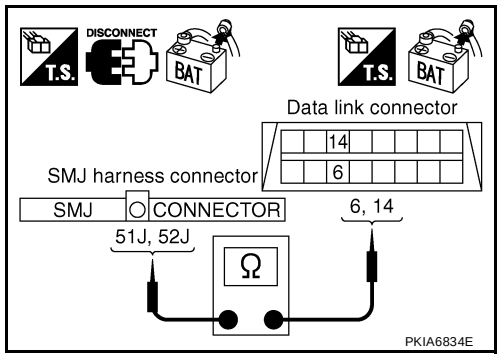
51J (W) - 6 (W) : Continuity should exist.

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

OK or NG

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

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001NA

1. CHECK CONNECTOR

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

- Harness connector M31
- Harness connector E152

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

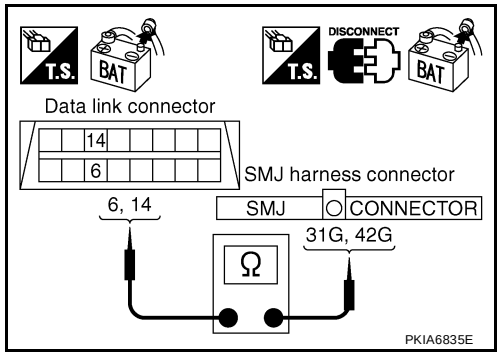
6 (W) - 31G (W) : Continuity should exist.

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

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

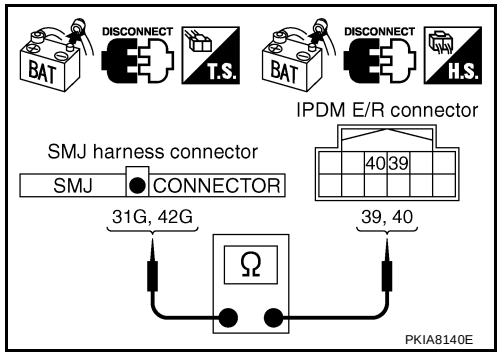
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

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

NG >> Repair harness.



ECM Circuit Check

UKS001NB

1. CHECK CONNECTOR

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

- ECM connector
- Harness connector E19
- Harness connector F33

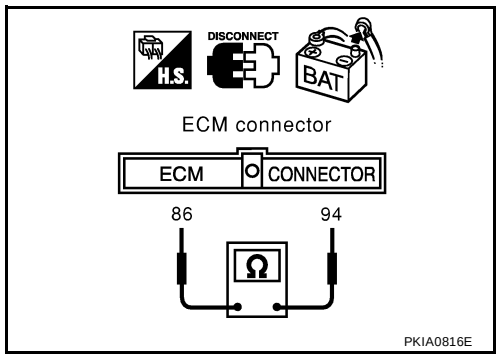
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

94 (W) - 86 (R) : Approx. 108 - 132Ω



OK or NG

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

TCM Circuit Check

UKS001NC

1. CHECK CONNECTOR

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

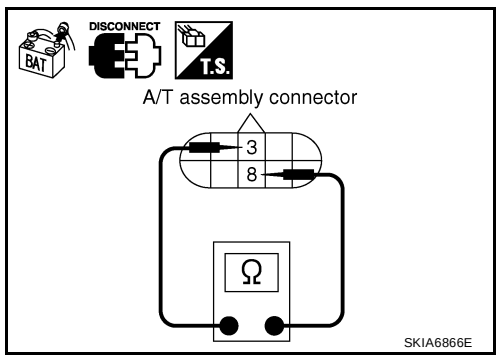
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 8 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace control valve with TCM.
NG >> Repair harness between A/T assembly and harness connector F33.

ICC Sensor Circuit Check

UKS001PQ

1. CHECK CONNECTOR

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

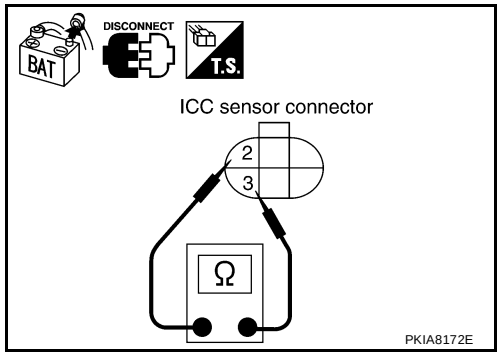
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

2 (W) - 3 (R) : Approx. 54 - 66Ω



OK or NG

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

ICC Unit Circuit Check

UKS001PR

1. CHECK CONNECTOR

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

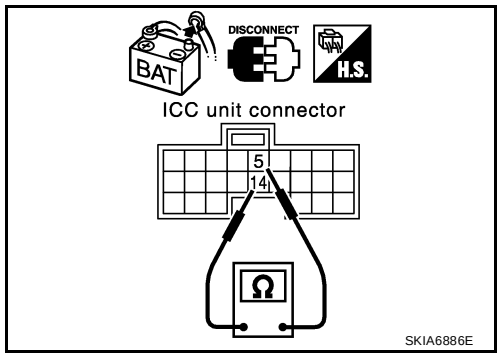
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

14 (W) - 5 (R) : Approx. 54 - 66Ω



OK or NG

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

Driver Seat Control Unit Circuit Check

UKS001ND

1. CHECK CONNECTOR

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

- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

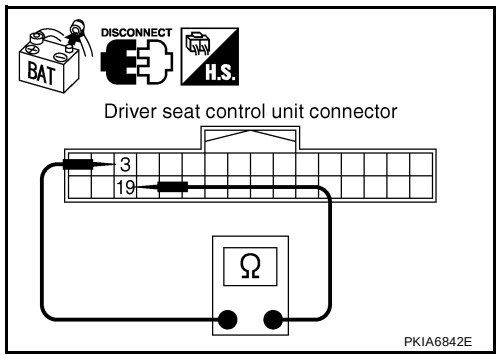
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 19 (R) : Approx. 54 - 66Ω



OK or NG

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

Combination Meter Circuit Check

UKS001NE

1. CHECK CONNECTOR

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

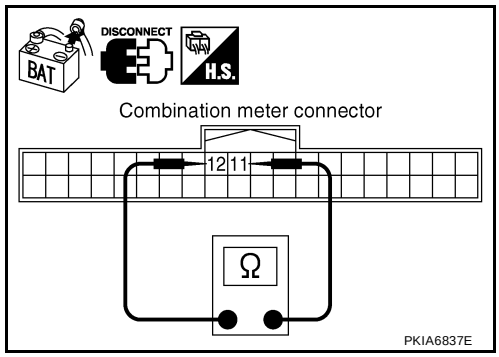
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 12 (R) : Approx. 54 - 66Ω



OK or NG

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

Display Control Unit Circuit Check

UKS001NF

1. CHECK CONNECTOR

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

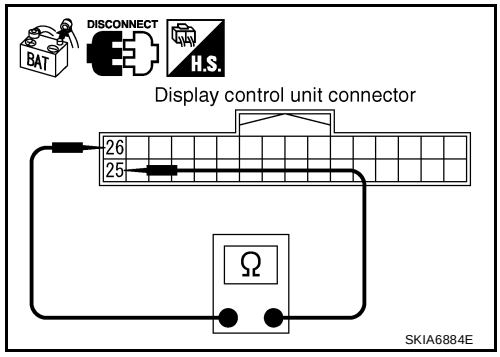
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

25 (W) - 26 (R) : Approx. 54 - 66Ω



OK or NG

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

BCM Circuit Check

UKS001NG

1. CHECK CONNECTOR

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

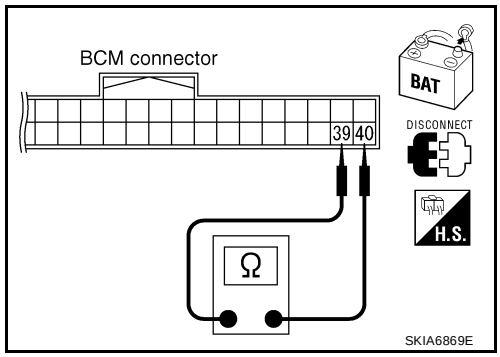
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness between BCM and data link connector.

Data Link Connector Circuit Check

UKS001NH

1. CHECK CONNECTOR

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

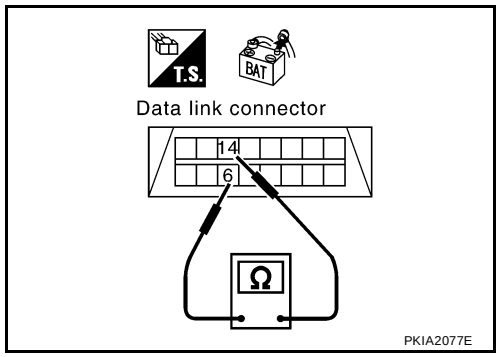
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Diagnose again. Refer to LAN-55, "Work Flow" .
NG >> Repair harness between data link connector and combination meter.

Steering Angle Sensor Circuit Check

UKS001NI

1. CHECK CONNECTOR

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

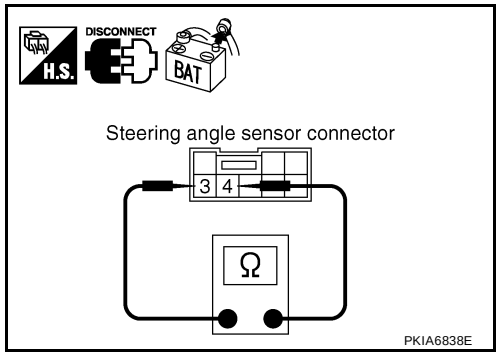
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 4 (R) : Approx. 54 - 66Ω



OK or NG

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

Front Air Control Circuit Check

UKS001NJ

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

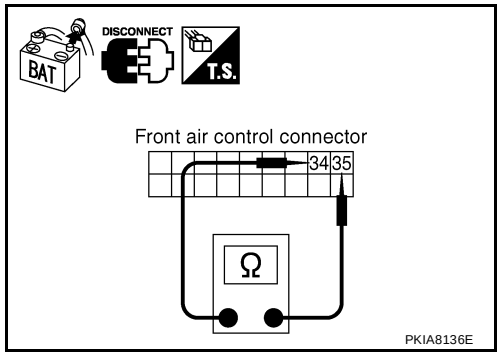
2. CHECK HARNESS FOR OPEN CIRCUIT

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

34 (W) - 35 (R) : Approx. 54 - 66Ω

OK or NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001NK

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

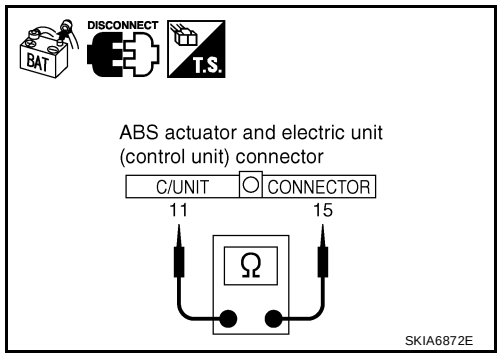
2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 15 (R) : Approx. 54 - 66Ω

OK or NG

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



IPDM E/R Circuit Check

UKS001NL

1. CHECK CONNECTOR

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

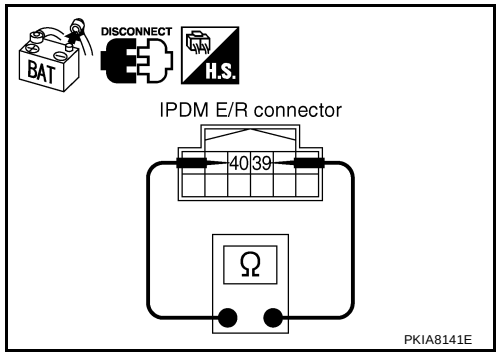
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 108 - 132Ω



OK or NG

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

CAN Communication Circuit Check

UKS001NM

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.

- ECM
- A/T assembly
- ICC sensor
- ICC unit
- Driver seat control unit
- Combination meter
- Display control unit
- BCM
- Steering angle sensor
- Front air control
- ABS actuator and electric unit (control unit)
- IPDM E/R

OK or NG

OK >> GO TO 2.
NG >> Repair or replace as necessary.

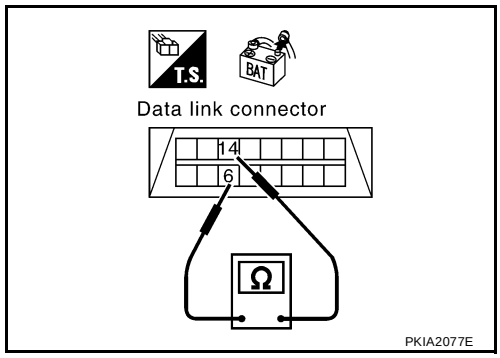
2. CHECK HARNESS FOR SHORT CIRCUIT

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

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

OK or NG

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



3. CHECK HARNESS FOR SHORT CIRCUIT

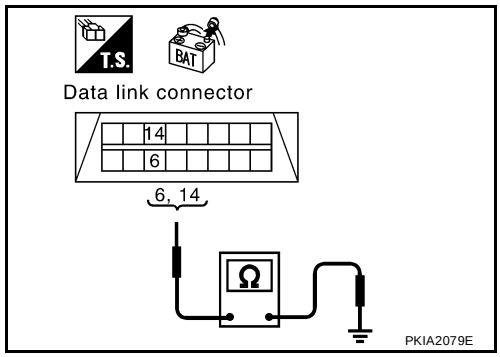
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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

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

OK or NG

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



IPDM E/R Ignition Relay Circuit Check

UKS001NN

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

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

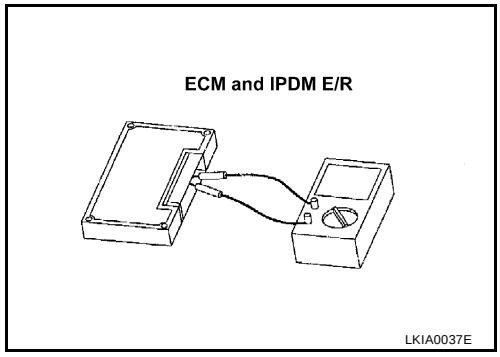
Component Inspection

UKS001NO

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



CAN SYSTEM (TYPE 3)

PFP:23710

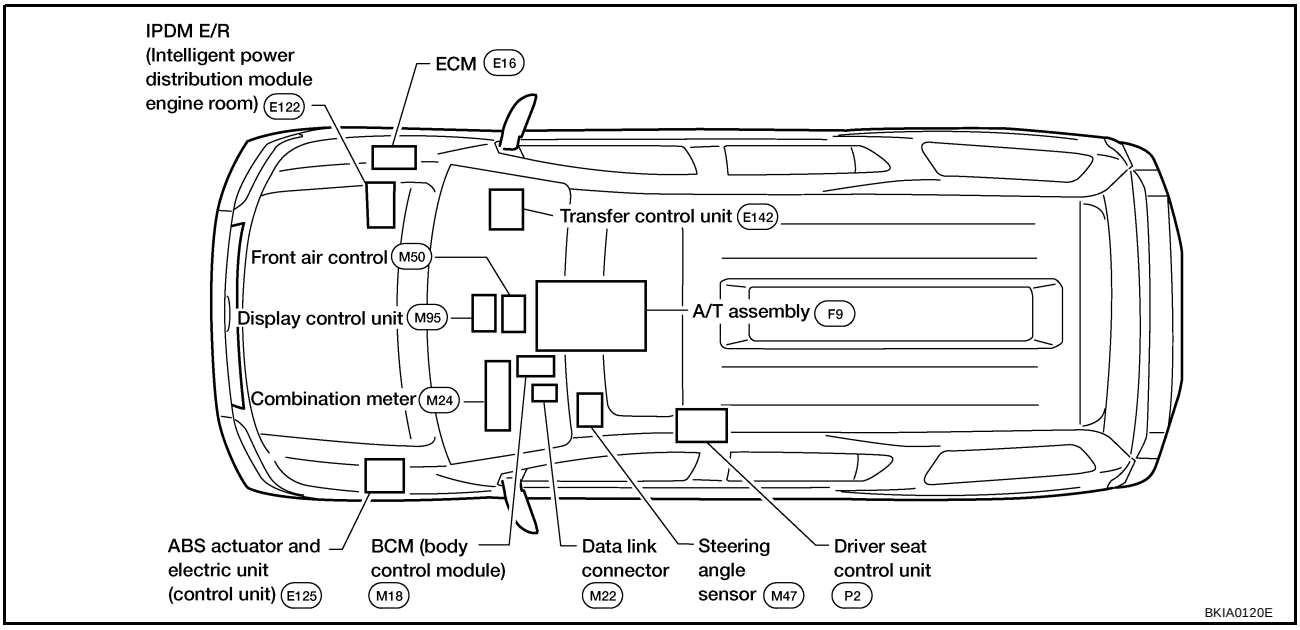
System Description

UKS000QY

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

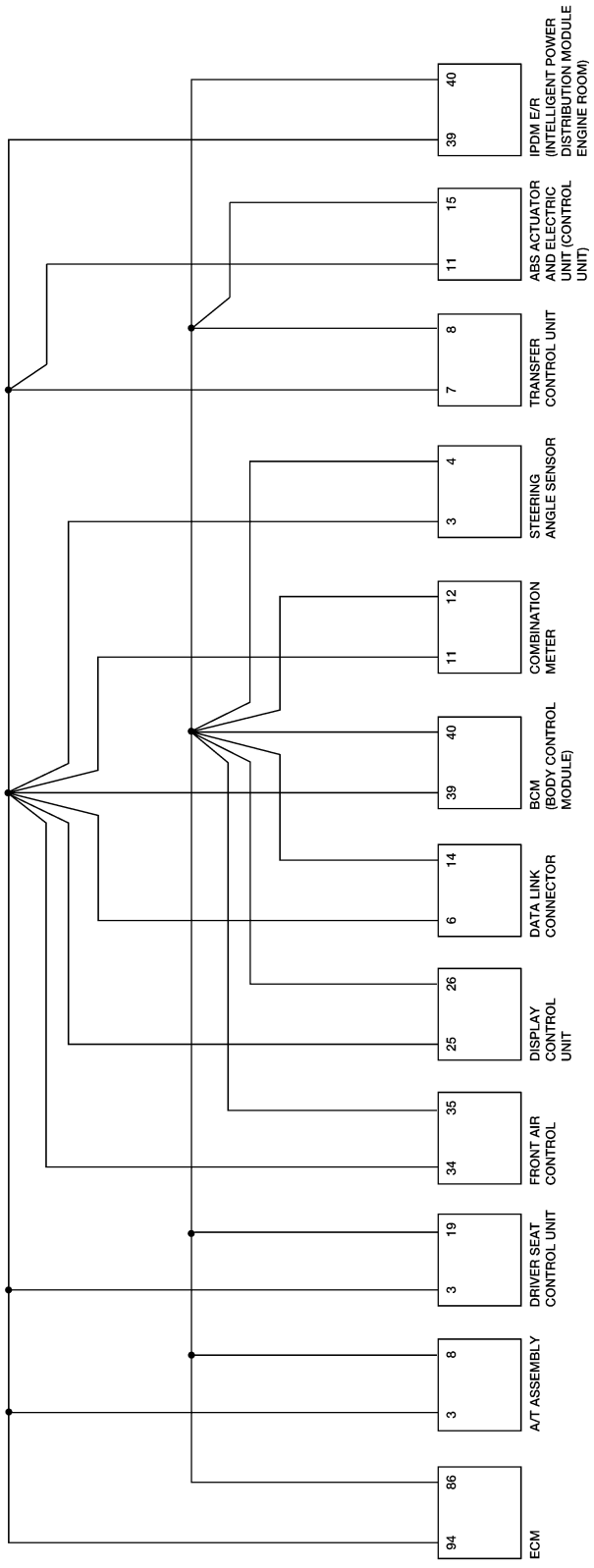
Component Parts and Harness Connector Location

UKS000QZ



Schematic

UKS000R0



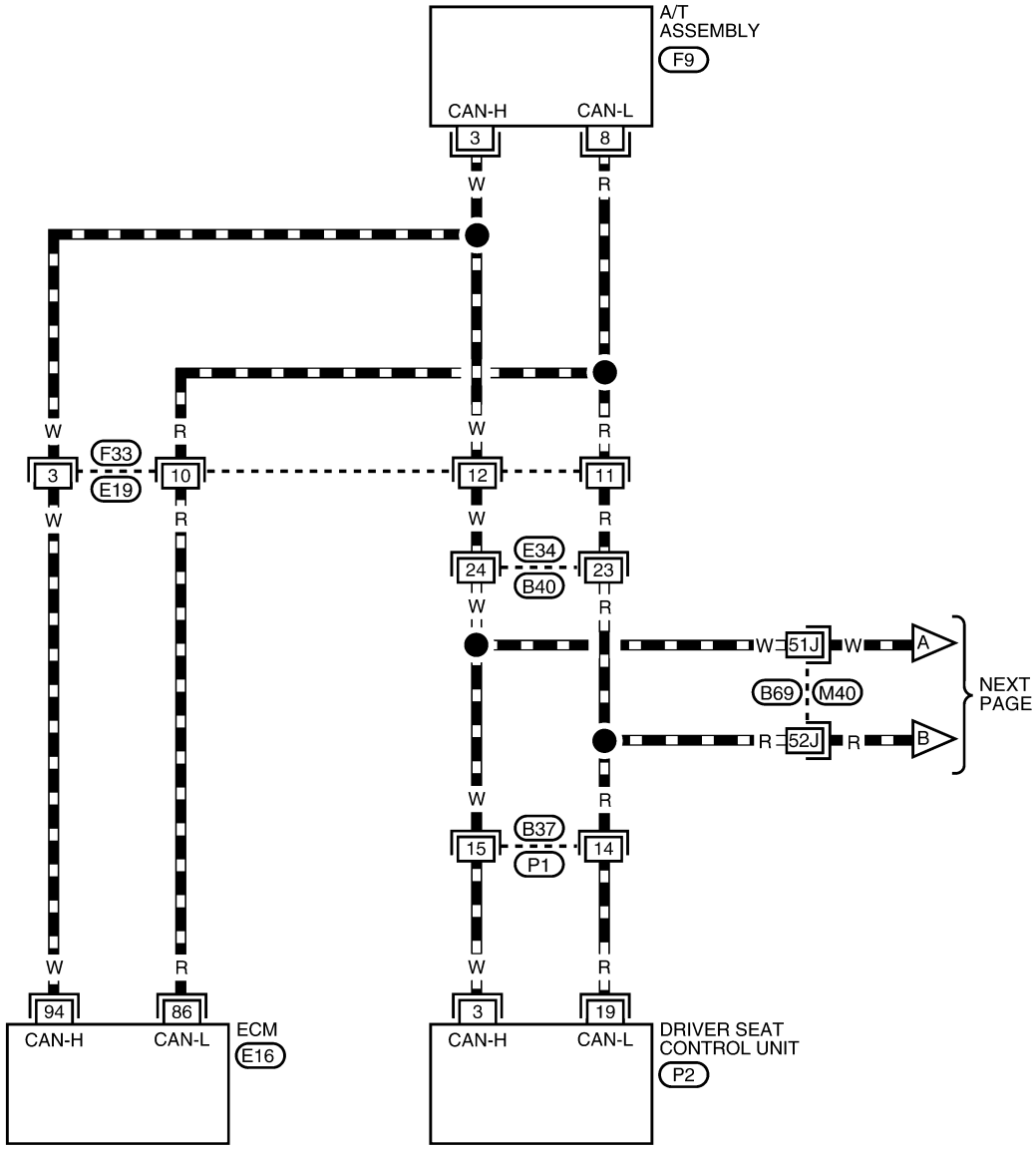
BKWA0001E

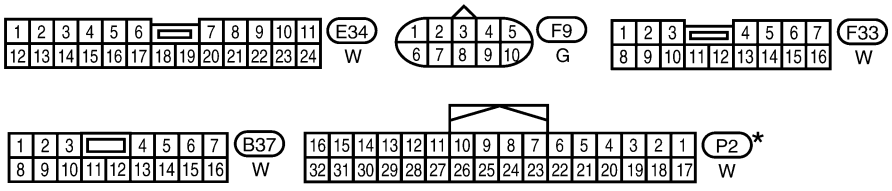
Wiring Diagram - CAN -

UKS000R1

LAN-CAN-07

: DATA LINE



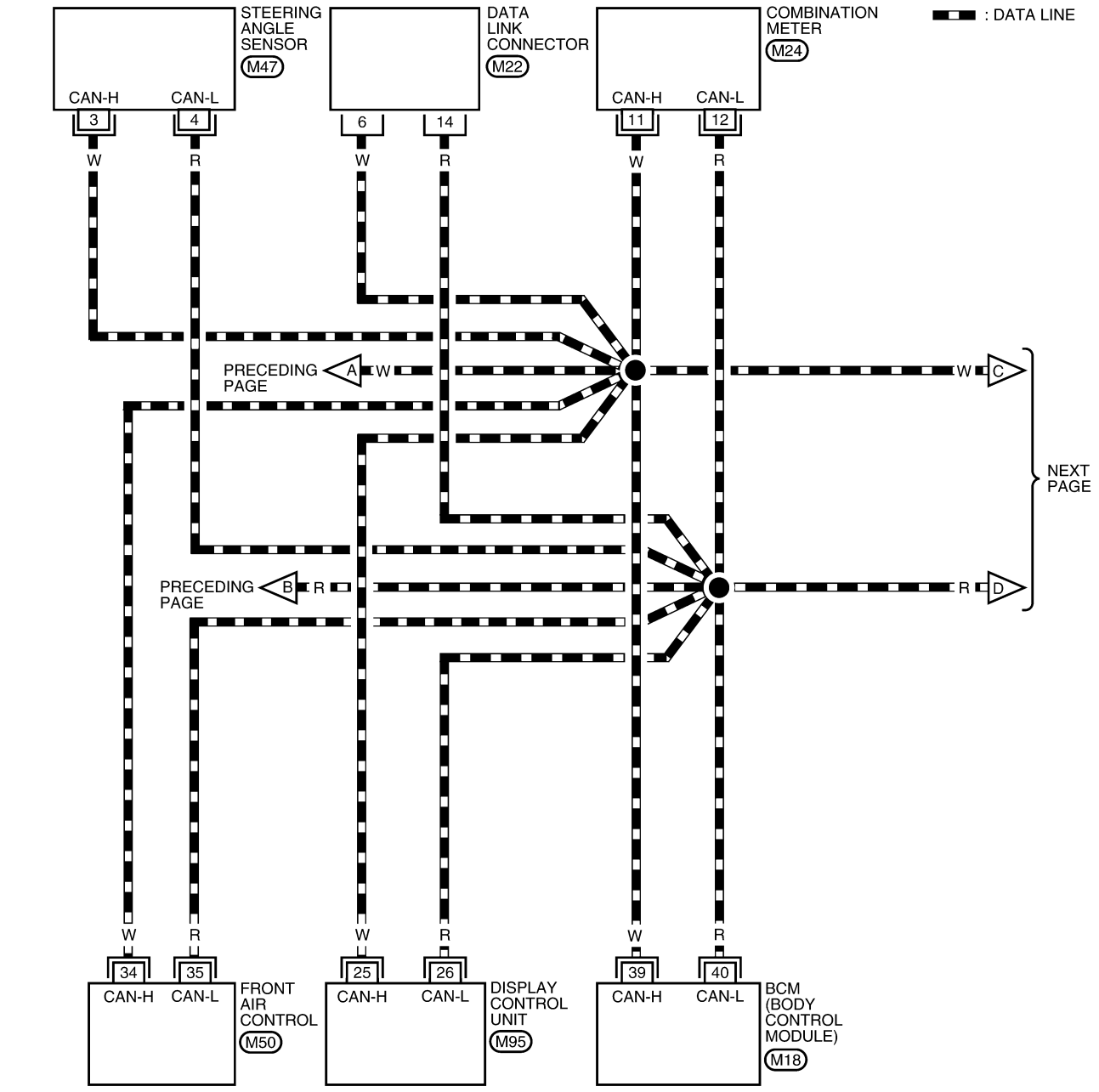


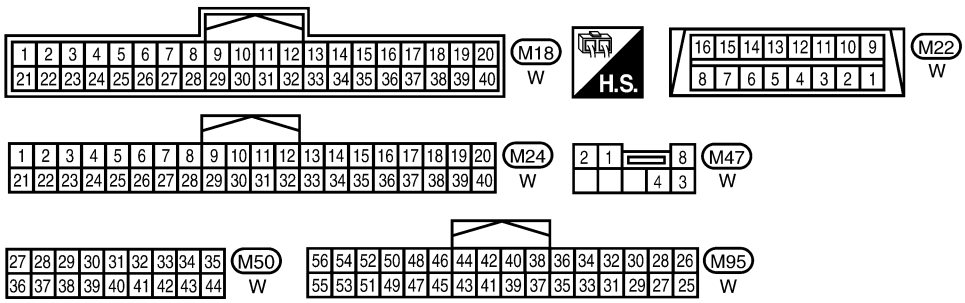
REFER TO THE FOLLOWING.
M40 - SUPER MULTIPLE JUNCTION (SMJ)
E16 - ELECTRICAL UNITS

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

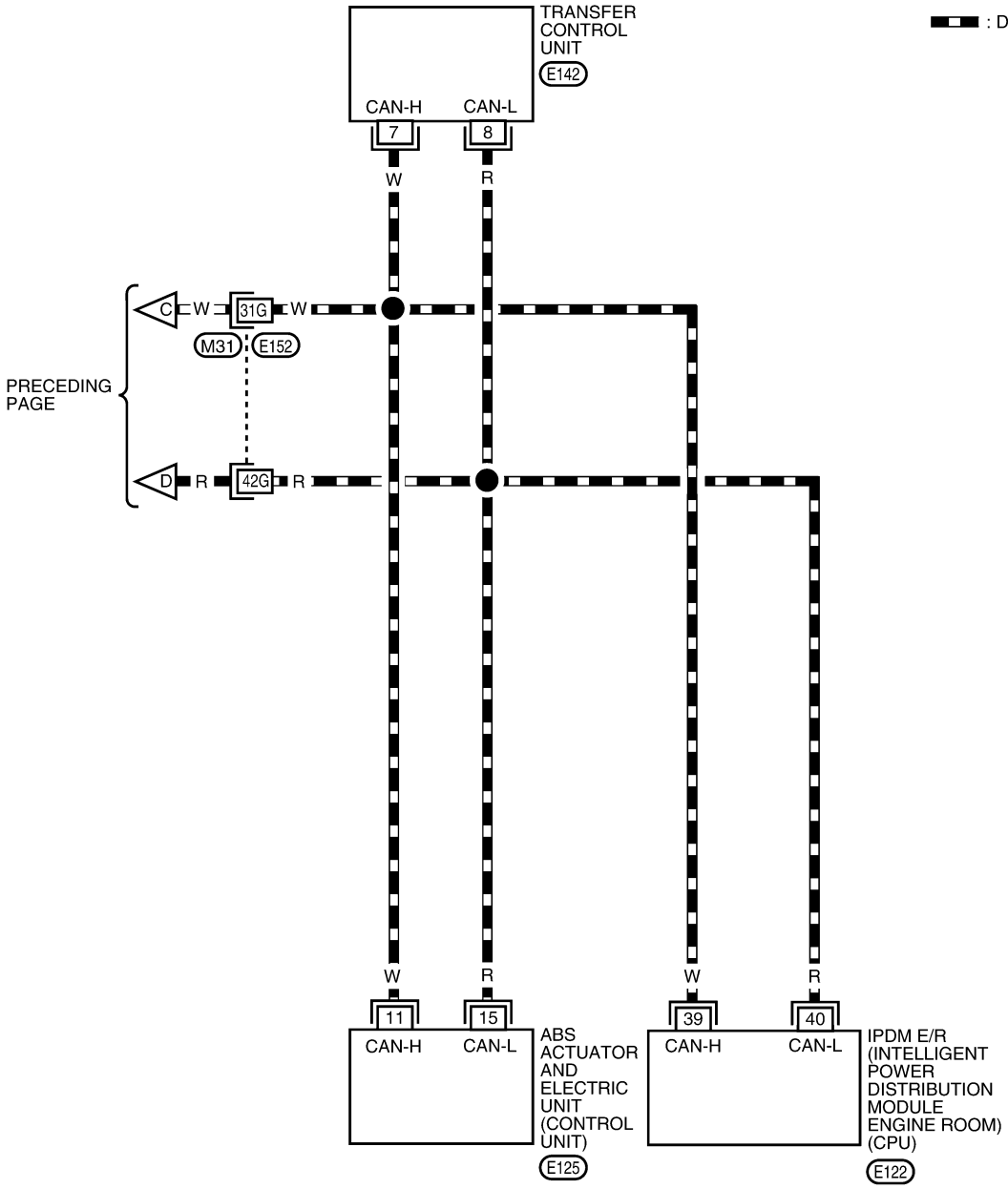
BKWA0071E

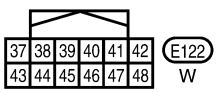
LAN-CAN-08

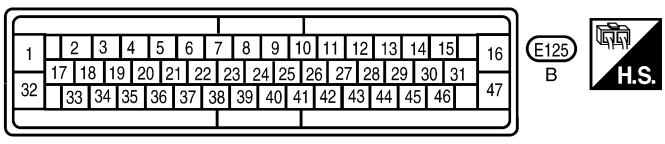


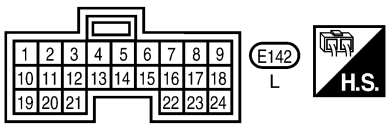


BKWA0072E









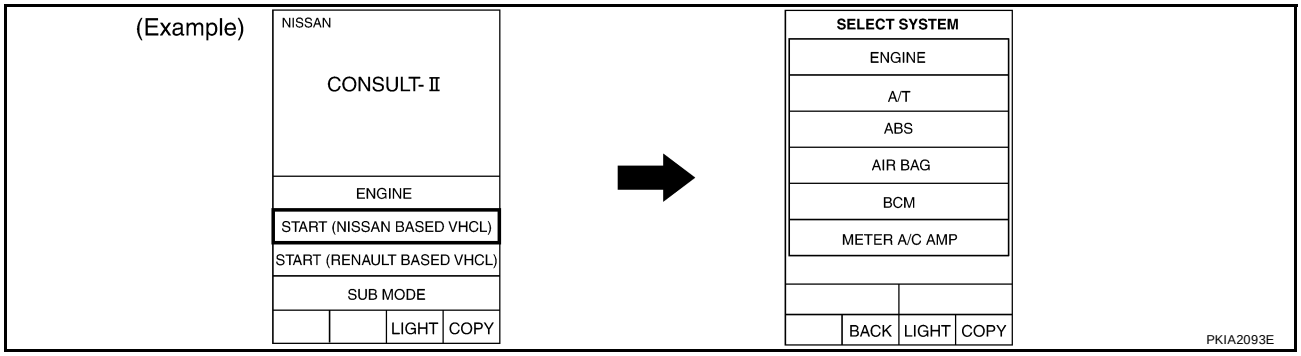
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0073E

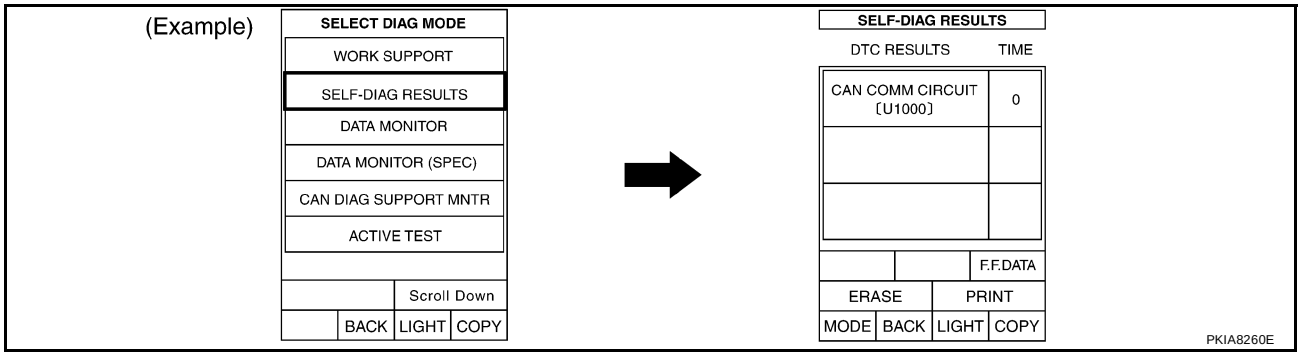
Work Flow

UKS0019V

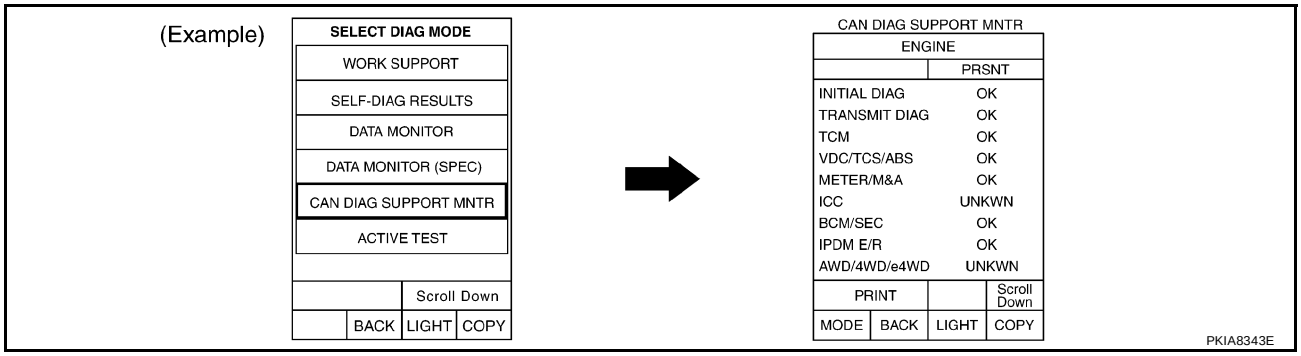
1. When there are no indications of “AUTO DRIVE POS.”, “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet. Refer to LAN-97, "CHECK SHEET" .
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-97, "CHECK SHEET" .

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

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG SUPPORT MONITOR” for the diagnosed control unit, replace the control unit. Refer to AV-131, "CAN Communication Line Check" .

9. According to the check sheet results (example), start inspection. Refer to LAN-99, "CHECK SHEET RESULTS (EXAMPLE)" .

CHECK SHEET

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

Check sheet table

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

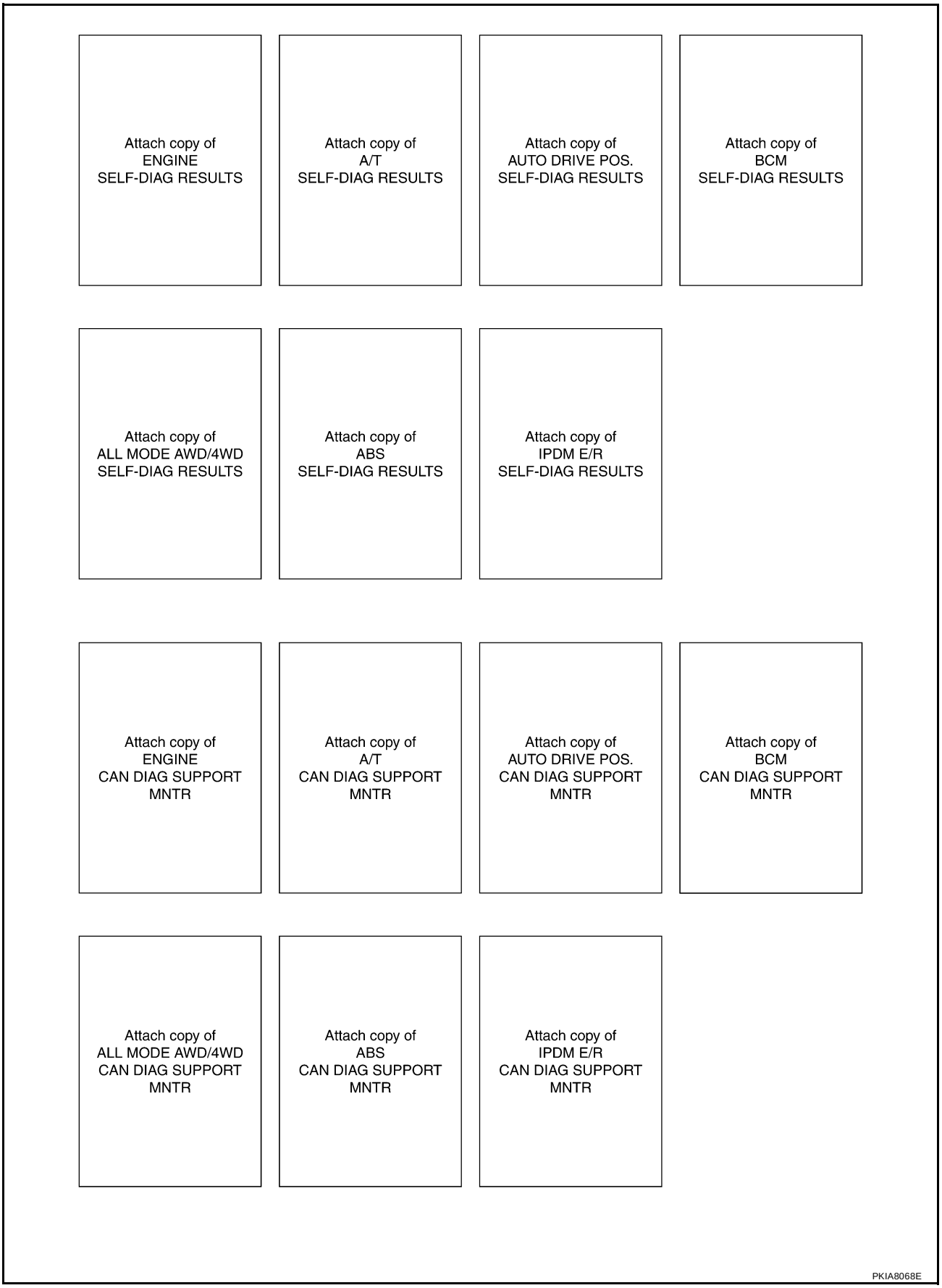
Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

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

PKIA8067E


Attach copy of
ENGINE
SELF-DIAG RESULTS
Attach copy of
A/T
SELF-DIAG RESULTS
Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS
Attach copy of
BCM
SELF-DIAG RESULTS
Attach copy of
ALL MODE AWD/4WD
SELF-DIAG RESULTS
Attach copy of
ABS
SELF-DIAG RESULTS
Attach copy of
IPDM E/R
SELF-DIAG RESULTS
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ENGINE
CAN DIAG SUPPORT
MNTR
Attach copy of
A/T
CAN DIAG SUPPORT
MNTR
Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR
Attach copy of
BCM
CAN DIAG SUPPORT
MNTR
Attach copy of
ALL MODE AWD/4WD
CAN DIAG SUPPORT
MNTR
Attach copy of
ABS
CAN DIAG SUPPORT
MNTR
Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR
PKIA8068E

CHECK SHEET RESULTS (EXAMPLE)

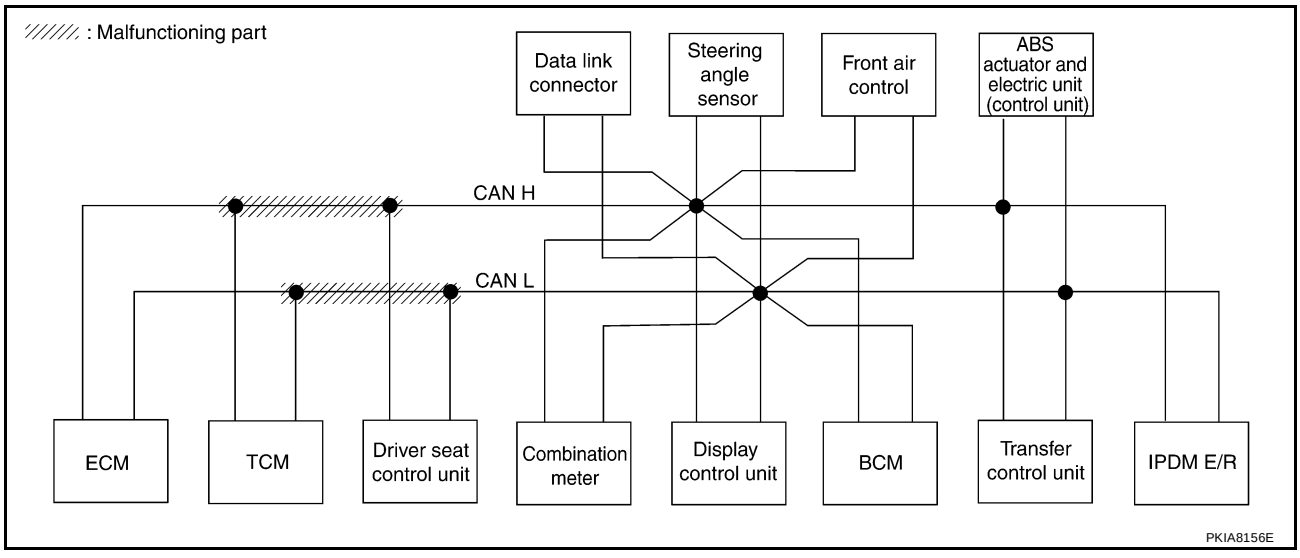
NOTE:
If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” for the diagnosed control unit, replace the control unit.

Case 1

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	—	UNKWN ✓	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3 ✓	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—	—

PKIA8069E



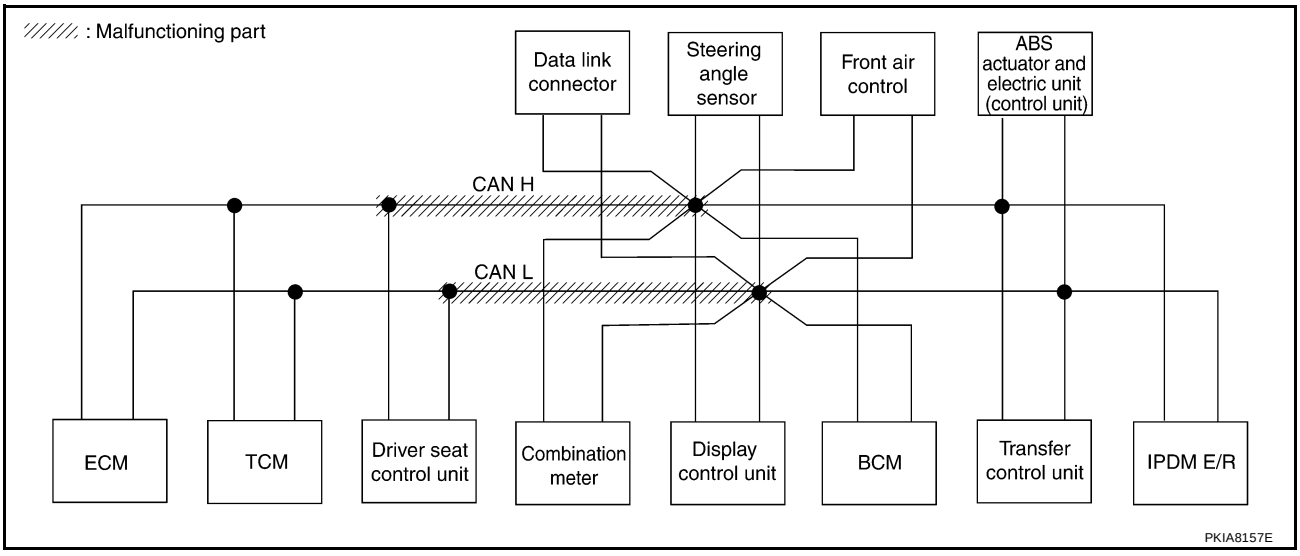
PKIA8156E

Case 2

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

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

PKIA8070E

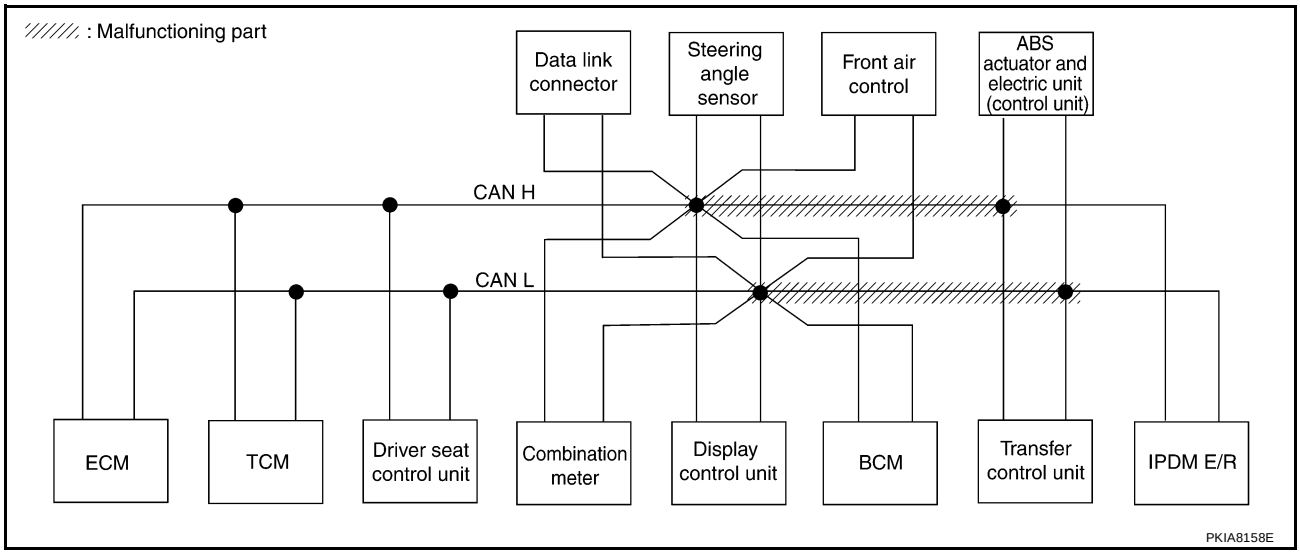


Case 3

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	—

PKIA8071E

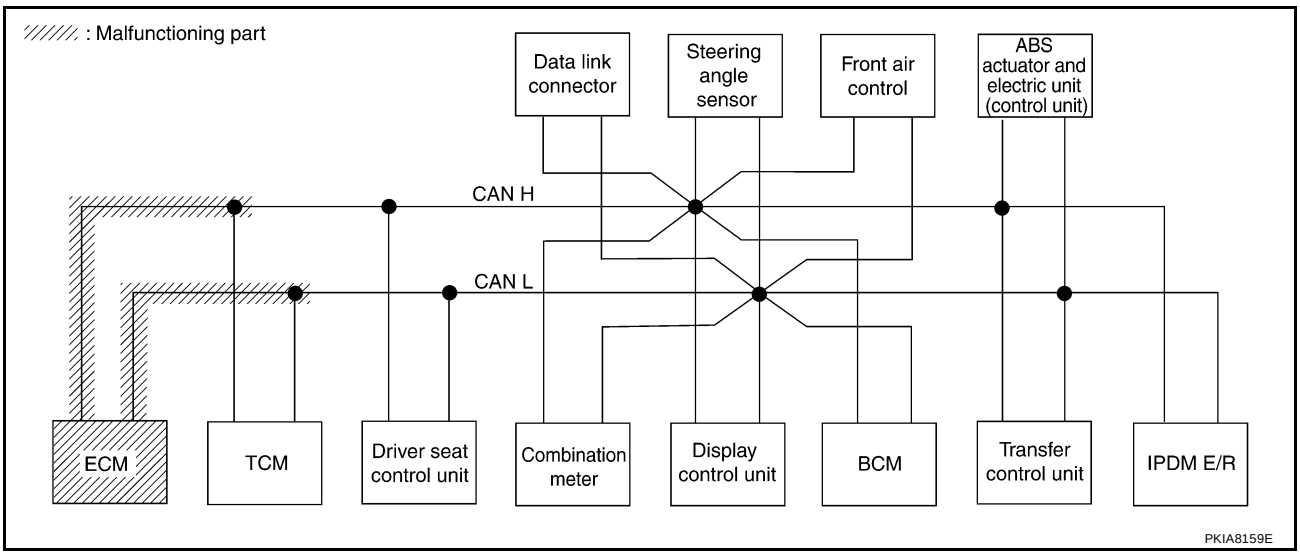


Case 4

Check ECM circuit. Refer to LAN-118, "ECM Circuit Check" .

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

PKIA8072E



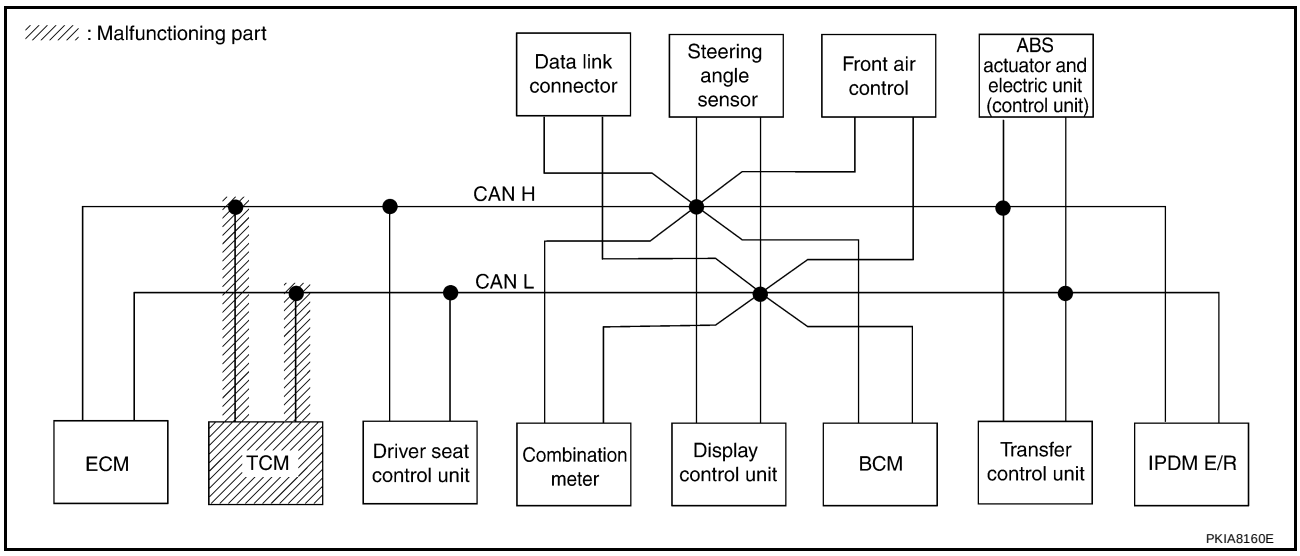
PKIA8159E

Case 5

Check TCM circuit. Refer to LAN-118, "TCM Circuit Check" .

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

PKIA8073E



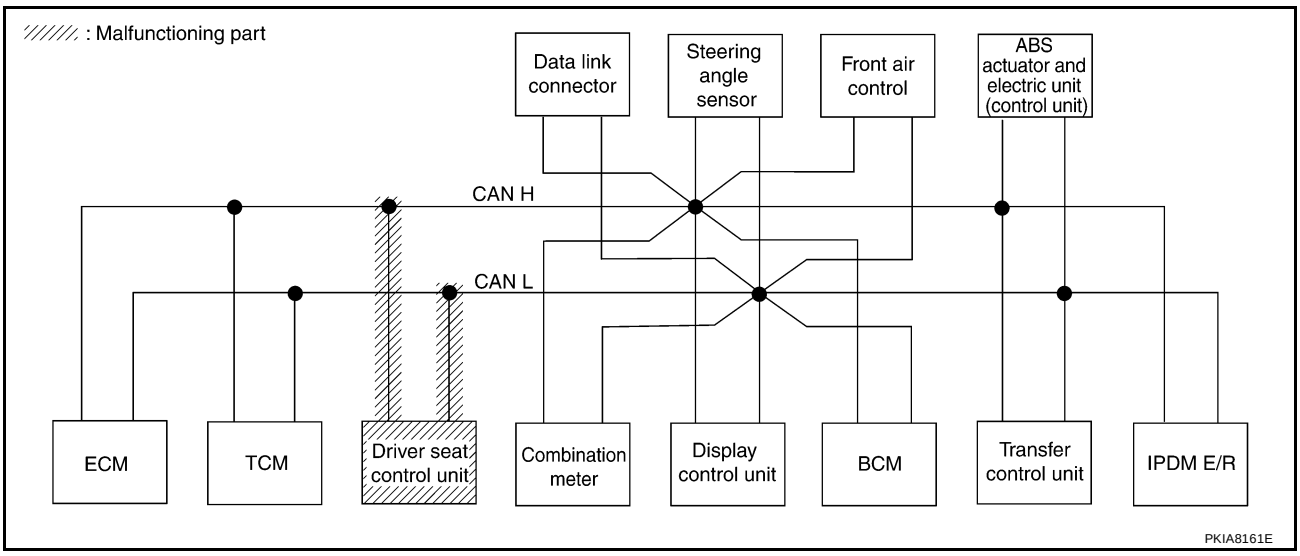
PKIA8160E

Case 6

Check driver seat control unit circuit. Refer to LAN-119, "Driver Seat Control Unit Circuit Check" .

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

PKIA8074E



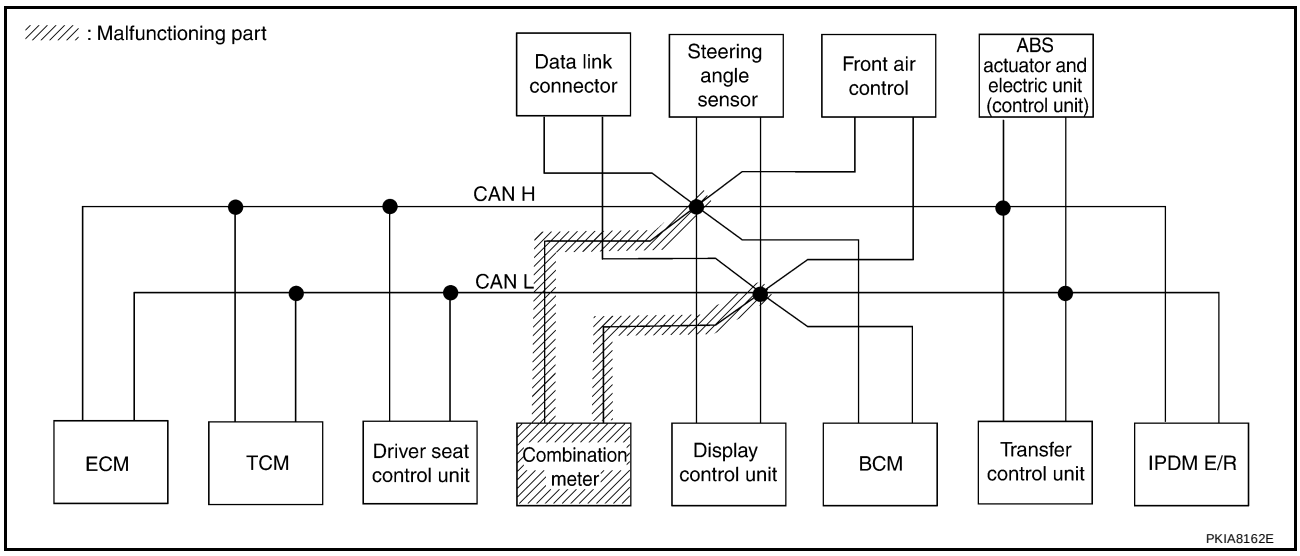
PKIA8161E

Case 7

Check combination meter circuit. Refer to LAN-119, "Combination Meter Circuit Check" .

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

PKIA8075E



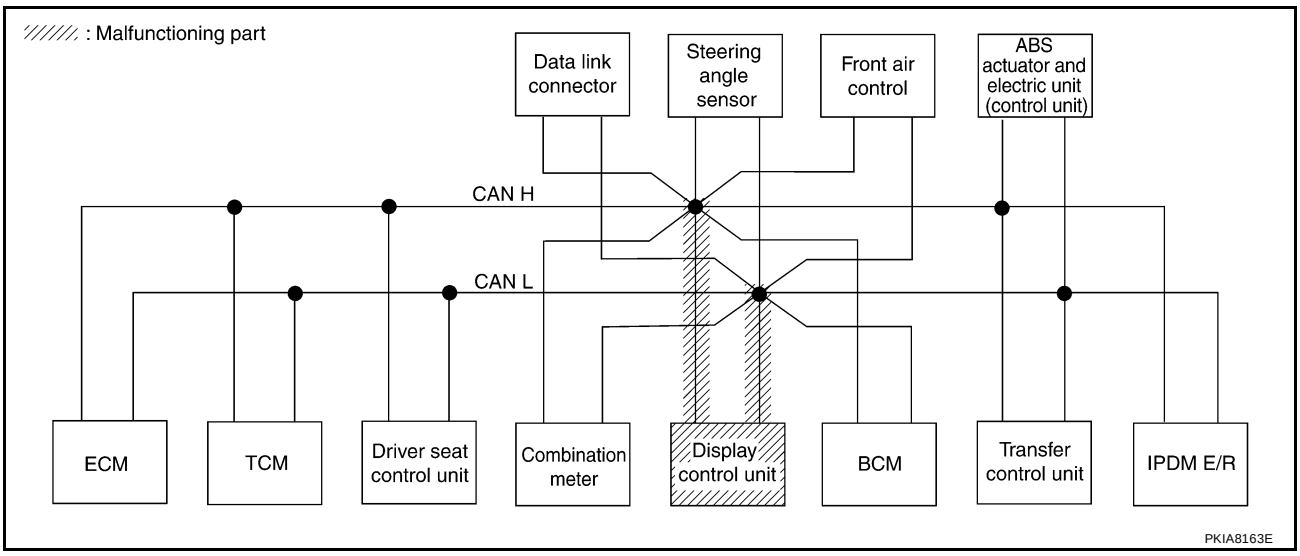
PKIA8162E

Case 8

Check display control unit circuit. Refer to LAN-120, "Display Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 3 ✓	—	CAN CIRC 5 ✓	CAN CIRC 2 ✓	—	CAN CIRC 4 ✓	—	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	—

PKIA8076E



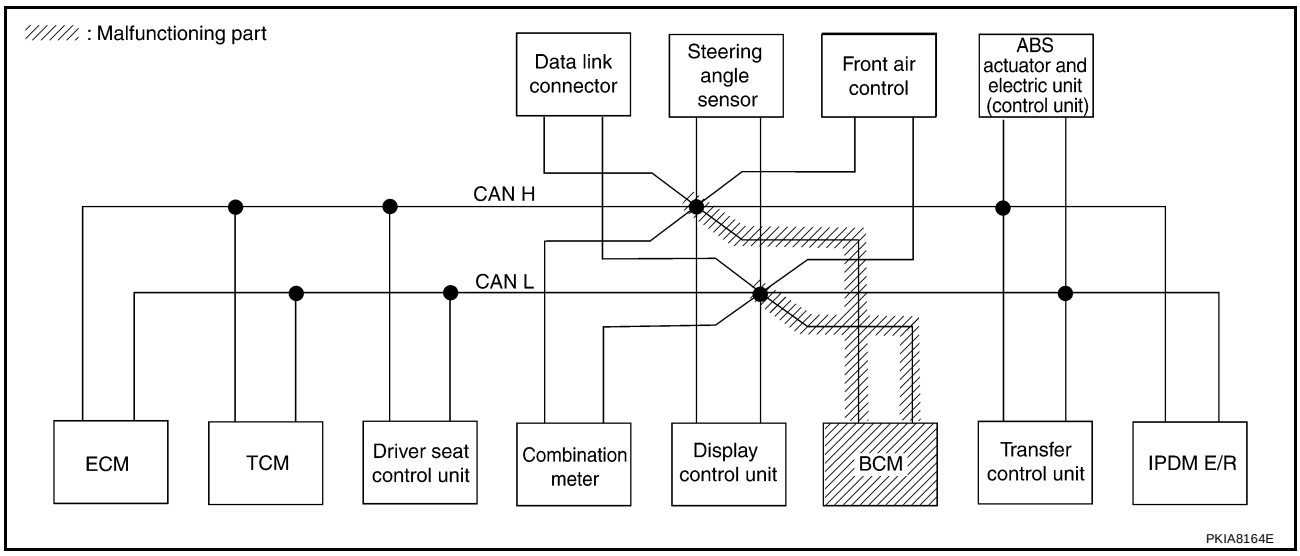
PKIA8163E

Case 9

Check BCM circuit. Refer to LAN-120, "BCM Circuit Check" .

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

PKIA8077E



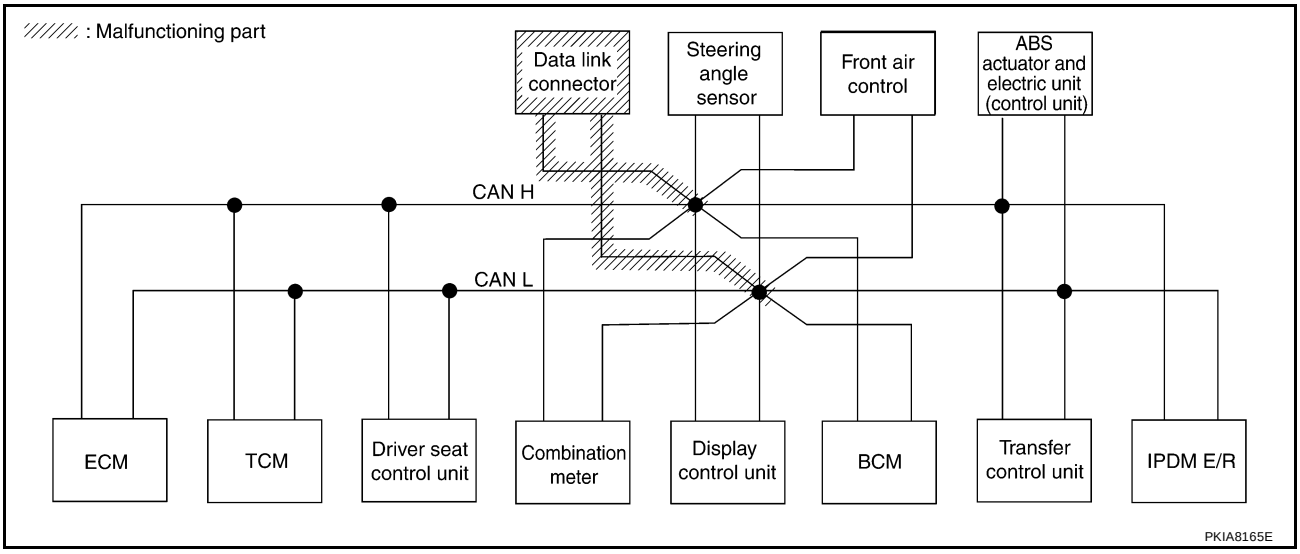
PKIA8164E

Case 10

Check data link connector circuit. Refer to LAN-121, "Data Link Connector Circuit Check" .

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

PKIA8078E



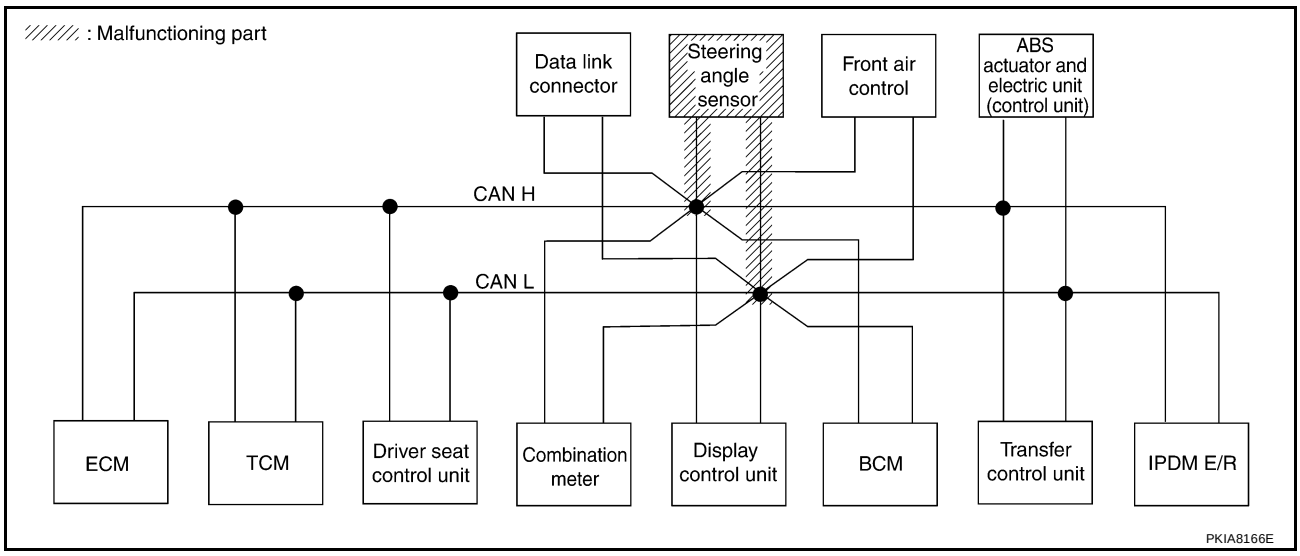
PKIA8165E

Case 11

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

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

PKIA8079E



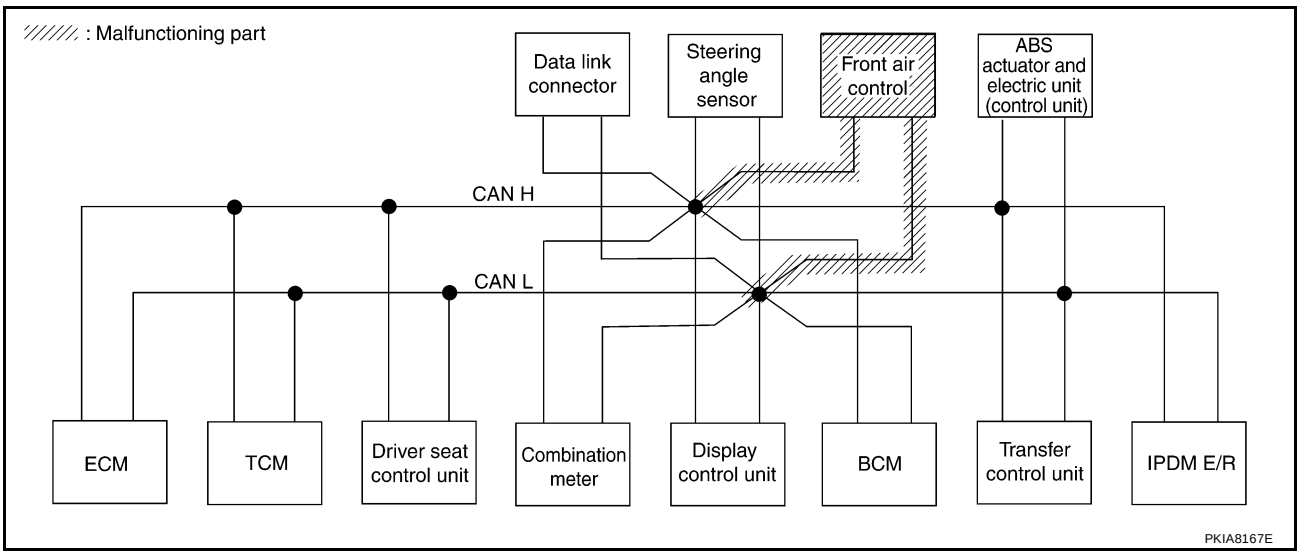
PKIA8166E

Case 12

Check front air control circuit. Refer to LAN-122, "Front Air Control Circuit Check" .

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

PKIA8080E



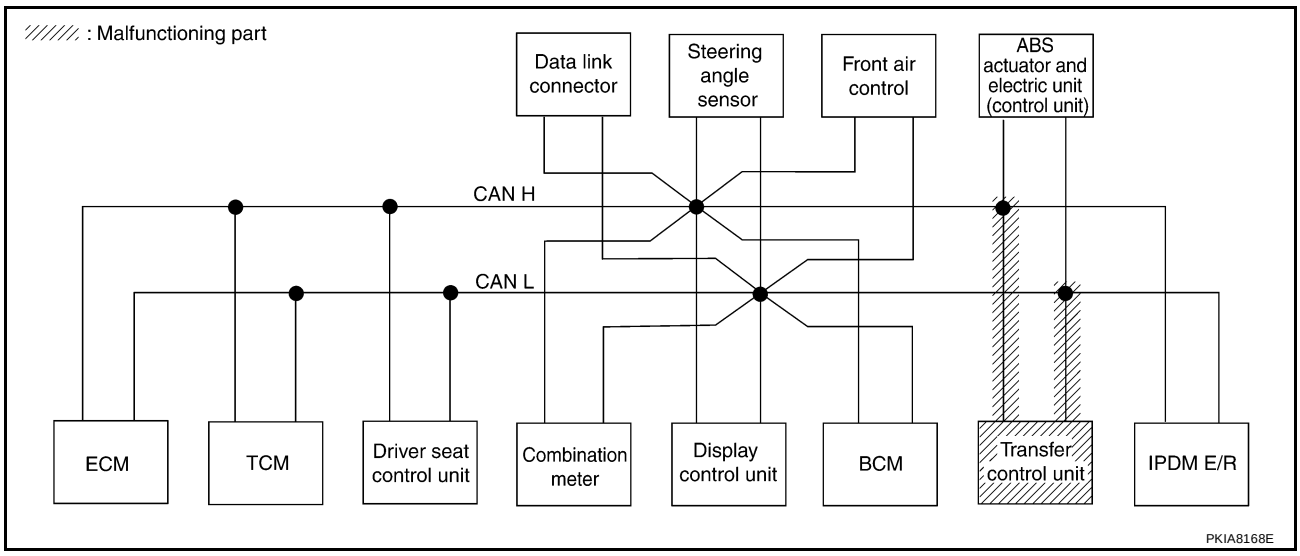
PKIA8167E

Case 13

Check transfer control unit circuit. Refer to LAN-122, "Transfer Control Unit Circuit Check" .

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

PKIA8081E

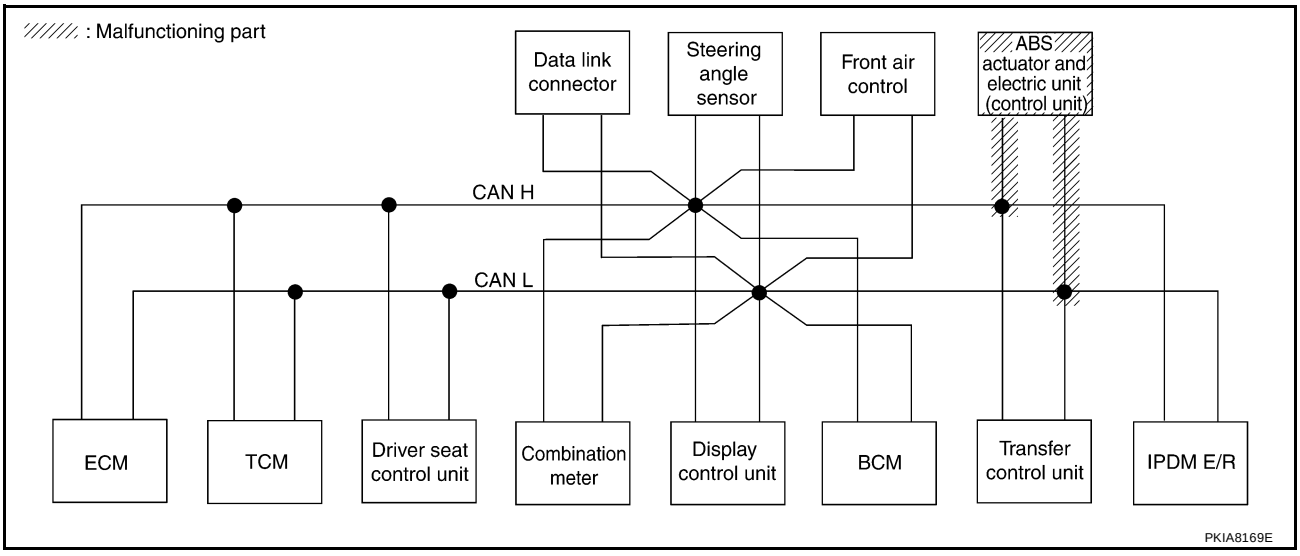


Case 14

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN ✓	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN ✓	—
ABS	—	NG ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	—

PKIA8082E



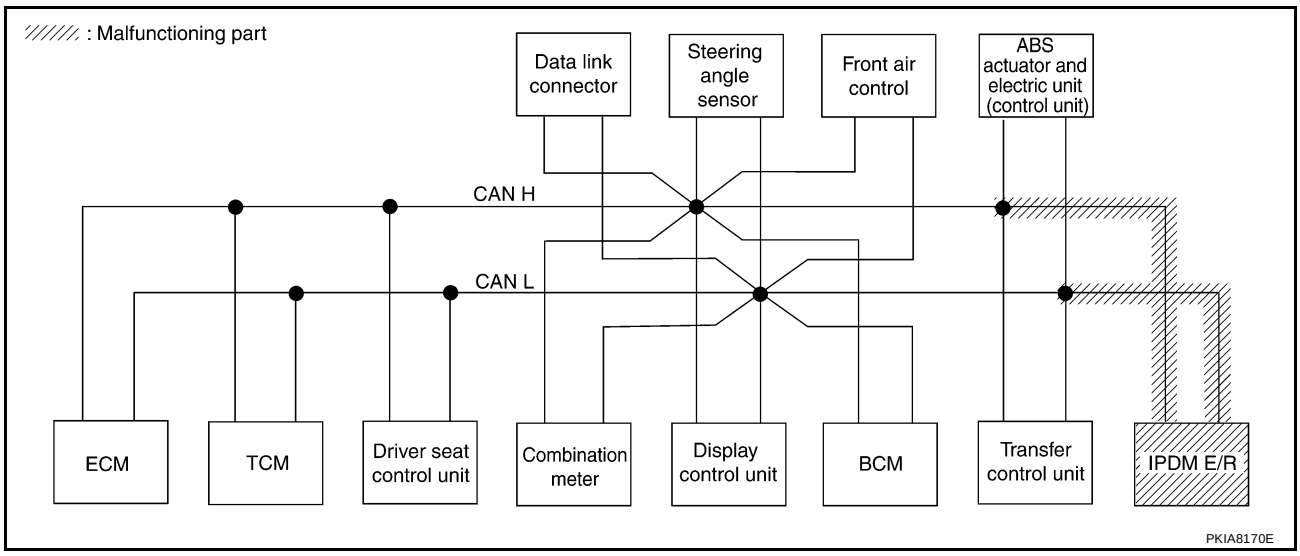
PKIA8169E

Case 15

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	—

PKIA8083E



PKIA8170E

Case 16

Check CAN communication circuit. Refer to LAN-124, "CAN Communication Circuit Check" .

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

PKIA8084E

Case 17

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

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

PKIA8085E

Case 18

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN ✓	—	—	—	UNKWN ✓	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN ✓	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	—

PKIA8086E

Circuit Check Between TCM and Driver Seat Control Unit

UKS0019W

1. CHECK CONNECTOR

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

- Harness connector F33
- Harness connector E19
- Harness connector E34
- Harness connector B40

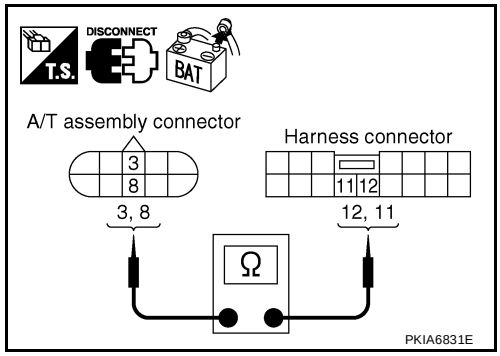
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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



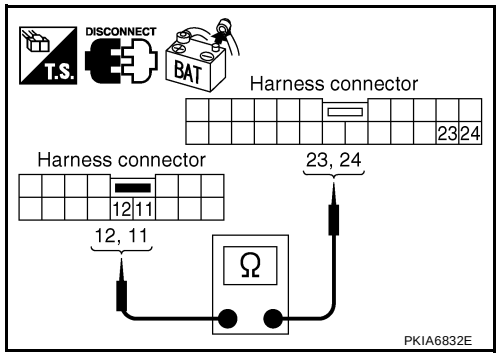
OK or NG

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

3. CHECK HARNESS FOR OPEN CIRCUIT

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

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



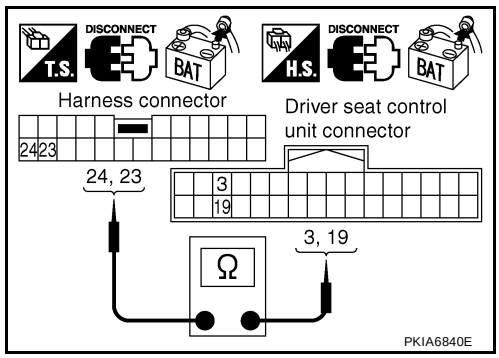
OK or NG

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

4. CHECK HARNESS FOR OPEN CIRCUIT

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

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



OK or NG

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

Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0019X

1. CHECK CONNECTOR

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

- Harness connector B69
- Harness connector M40

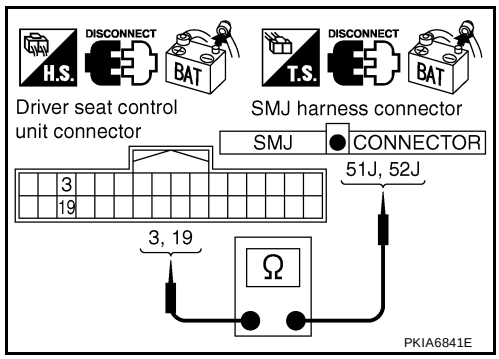
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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



OK or NG

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

3. CHECK HARNESS FOR OPEN CIRCUIT

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

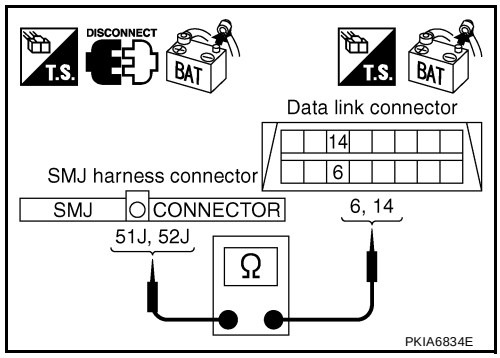
51J (W) - 6 (W) : Continuity should exist.

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

OK or NG

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

NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0019Y

1. CHECK CONNECTOR

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

- Harness connector M31
- Harness connector E152

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

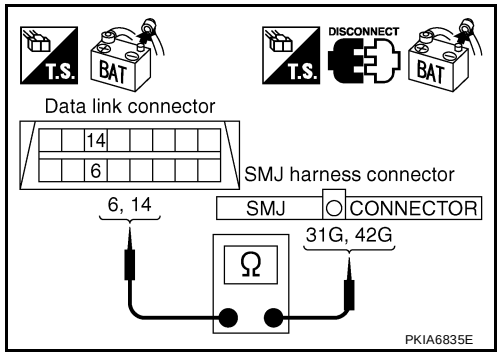
6 (W) - 31G (W) : Continuity should exist.

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

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

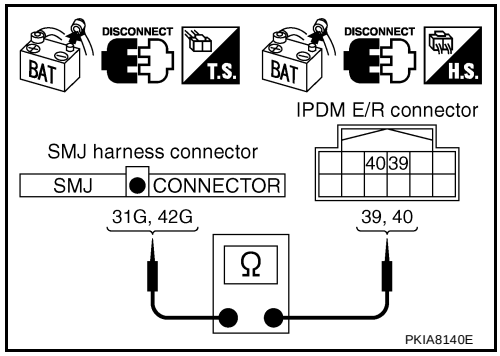
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

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

NG >> Repair harness.



ECM Circuit Check

UKS0019Z

1. CHECK CONNECTOR

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

- ECM connector
- Harness connector E19
- Harness connector F33

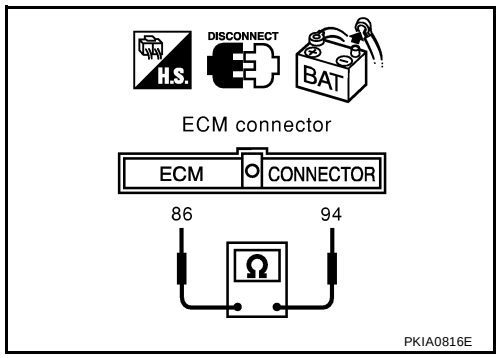
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

94 (W) - 86 (R) : Approx. 108 - 132Ω



OK or NG

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

TCM Circuit Check

UKS001A0

1. CHECK CONNECTOR

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

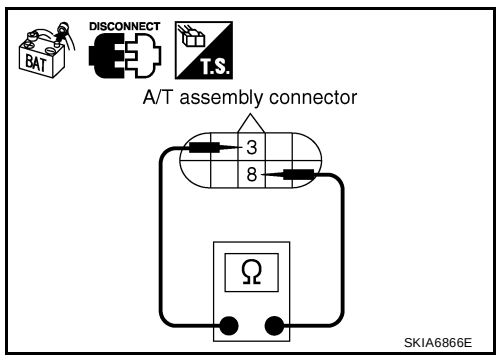
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 8 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace control valve with TCM.
NG >> Repair harness between A/T assembly and harness connector F33.

Driver Seat Control Unit Circuit Check

UKS001A1

1. CHECK CONNECTOR

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

- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

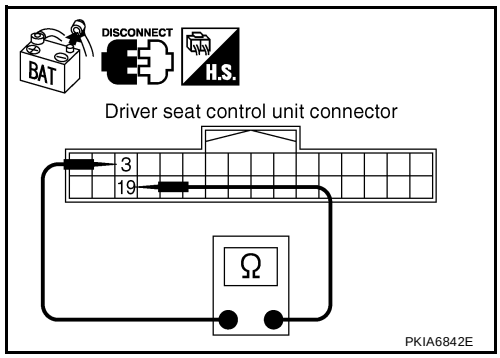
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 19 (R) : Approx. 54 - 66Ω



OK or NG

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

Combination Meter Circuit Check

UKS001A2

1. CHECK CONNECTOR

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

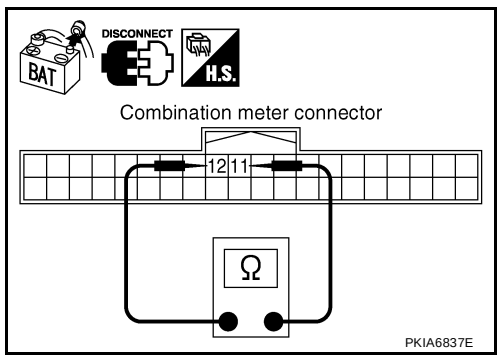
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 12 (R) : Approx. 54 - 66Ω



OK or NG

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

Display Control Unit Circuit Check

UKS001A3

1. CHECK CONNECTOR

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

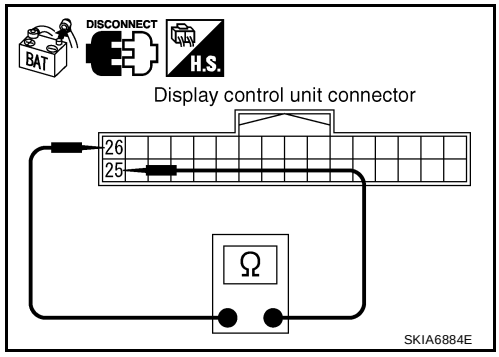
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

25 (W) - 26 (R) : Approx. 54 - 66Ω



OK or NG

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

BCM Circuit Check

UKS001A4

1. CHECK CONNECTOR

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

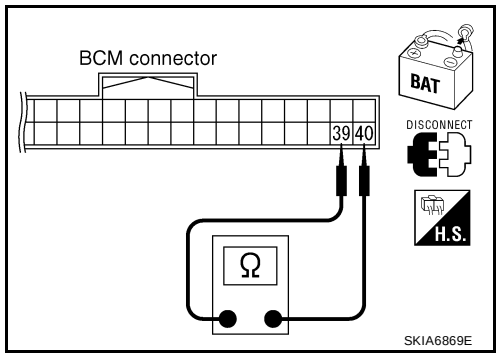
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness between BCM and data link connector.

Data Link Connector Circuit Check

UKS001A5

1. CHECK CONNECTOR

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

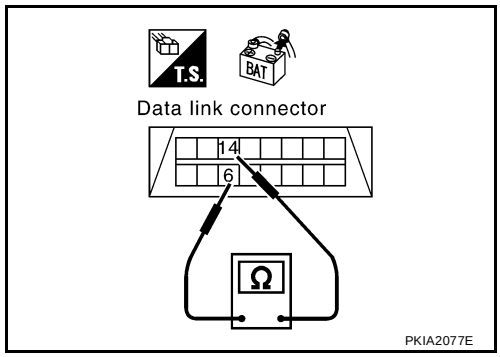
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Diagnose again. Refer to LAN-95, "Work Flow" .
NG >> Repair harness between data link connector and combination meter.

Steering Angle Sensor Circuit Check

UKS001A6

1. CHECK CONNECTOR

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

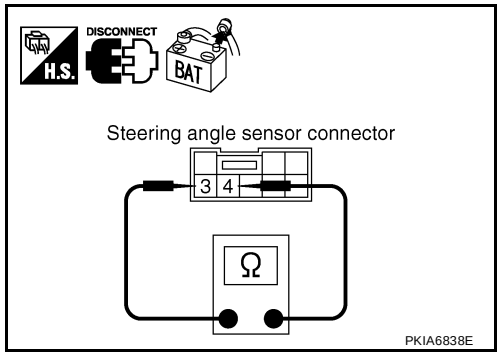
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 4 (R) : Approx. 54 - 66Ω



OK or NG

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

Front Air Control Circuit Check

UKS001A7

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

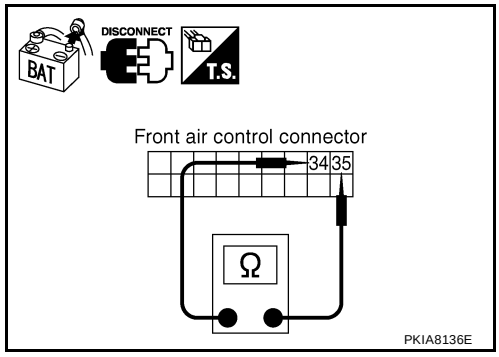
2. CHECK HARNESS FOR OPEN CIRCUIT

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

34 (W) - 35 (R) : Approx. 54 - 66Ω

OK or NG

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



Transfer Control Unit Circuit Check

UKS001A8

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

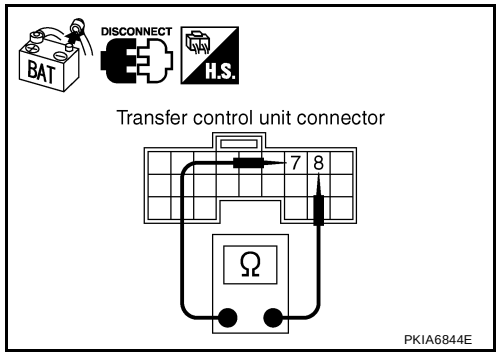
2. CHECK HARNESS FOR OPEN CIRCUIT

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

7 (W) - 8 (R) : Approx. 54 - 66Ω

OK or NG

OK >> Replace transfer control unit.
NG >> Repair harness between transfer control unit and harness connector E152.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001A9

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

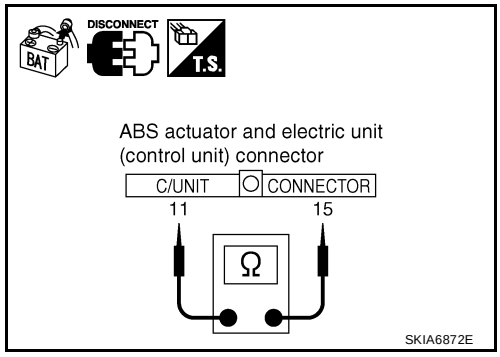
2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 15 (R) : Approx. 54 - 66Ω

OK or NG

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



IPDM E/R Circuit Check

UKS001AA

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

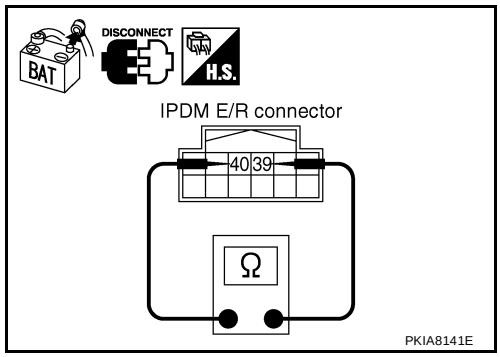
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 108 - 132Ω

OK or NG

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



CAN Communication Circuit Check

UKS001AB

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.

- ECM
- A/T assembly
- Driver seat control unit
- Combination meter
- Display control unit
- BCM
- Steering angle sensor
- Front air control
- Transfer control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R

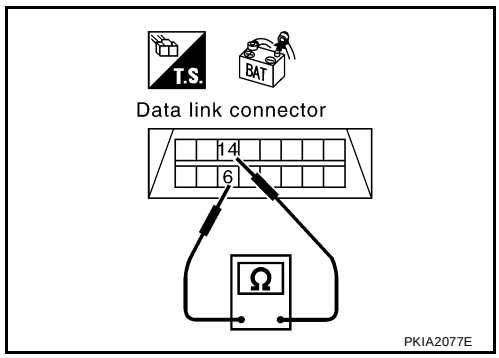
OK or NG

OK >> GO TO 2.
NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

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



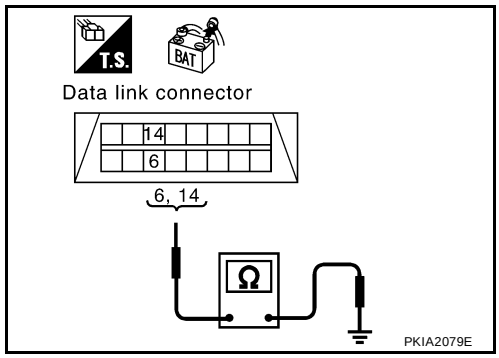
OK or NG

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

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



OK or NG

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

IPDM E/R Ignition Relay Circuit Check

UKS001AC

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

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

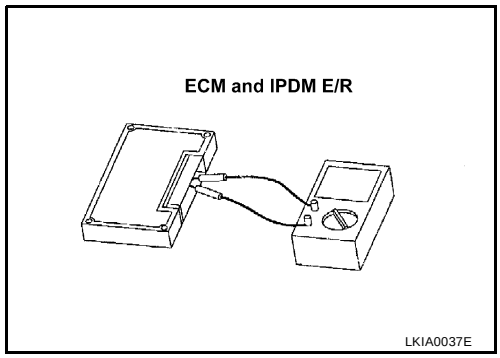
Component Inspection

UKS001AD

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



CAN SYSTEM (TYPE 4)

PFP:23710

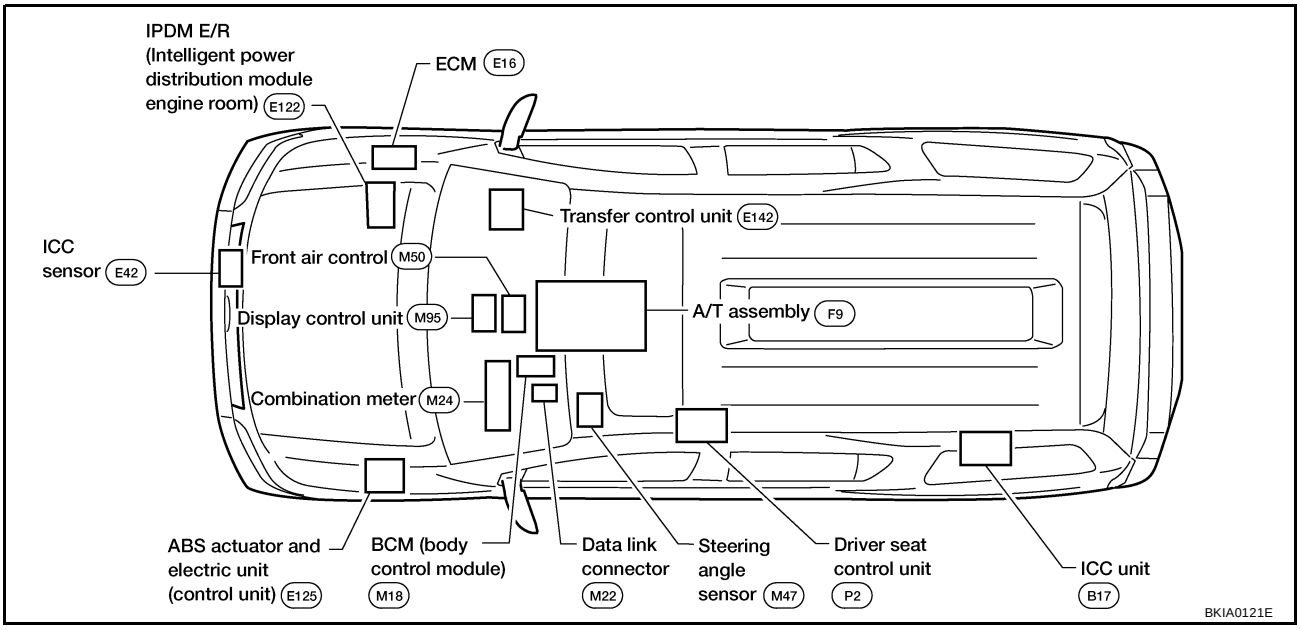
System Description

UKS001NP

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

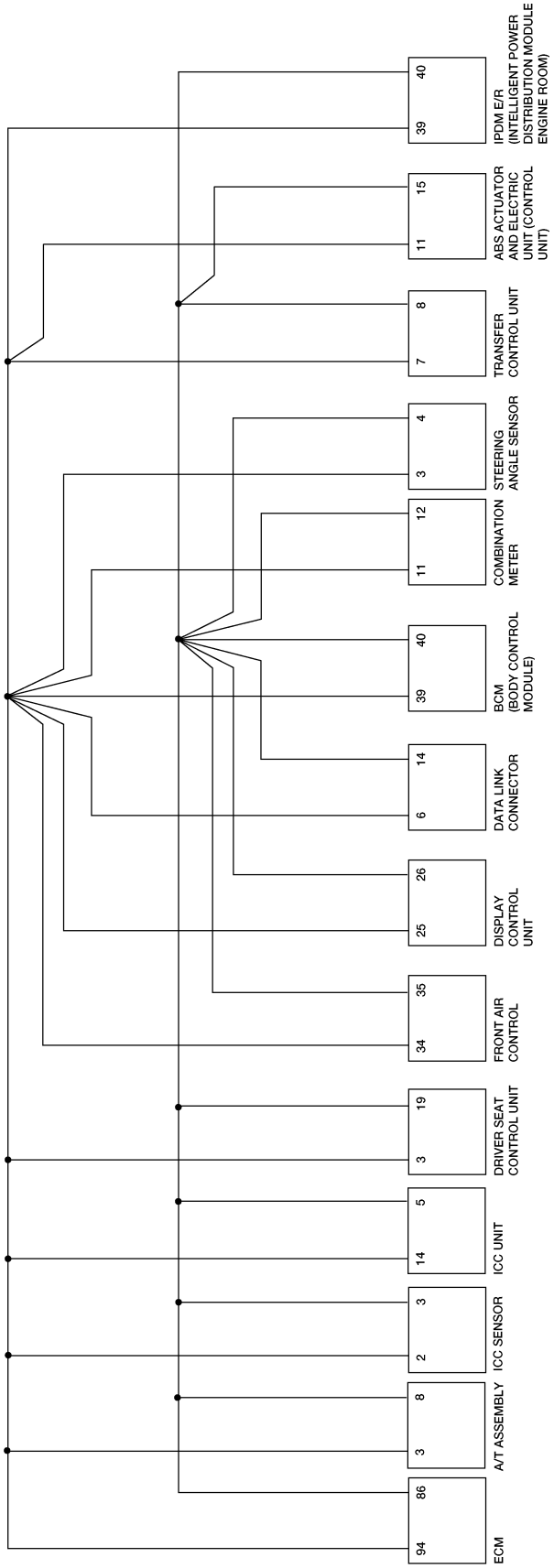
Component Parts and Harness Connector Location

UKS001NQ



Schematic

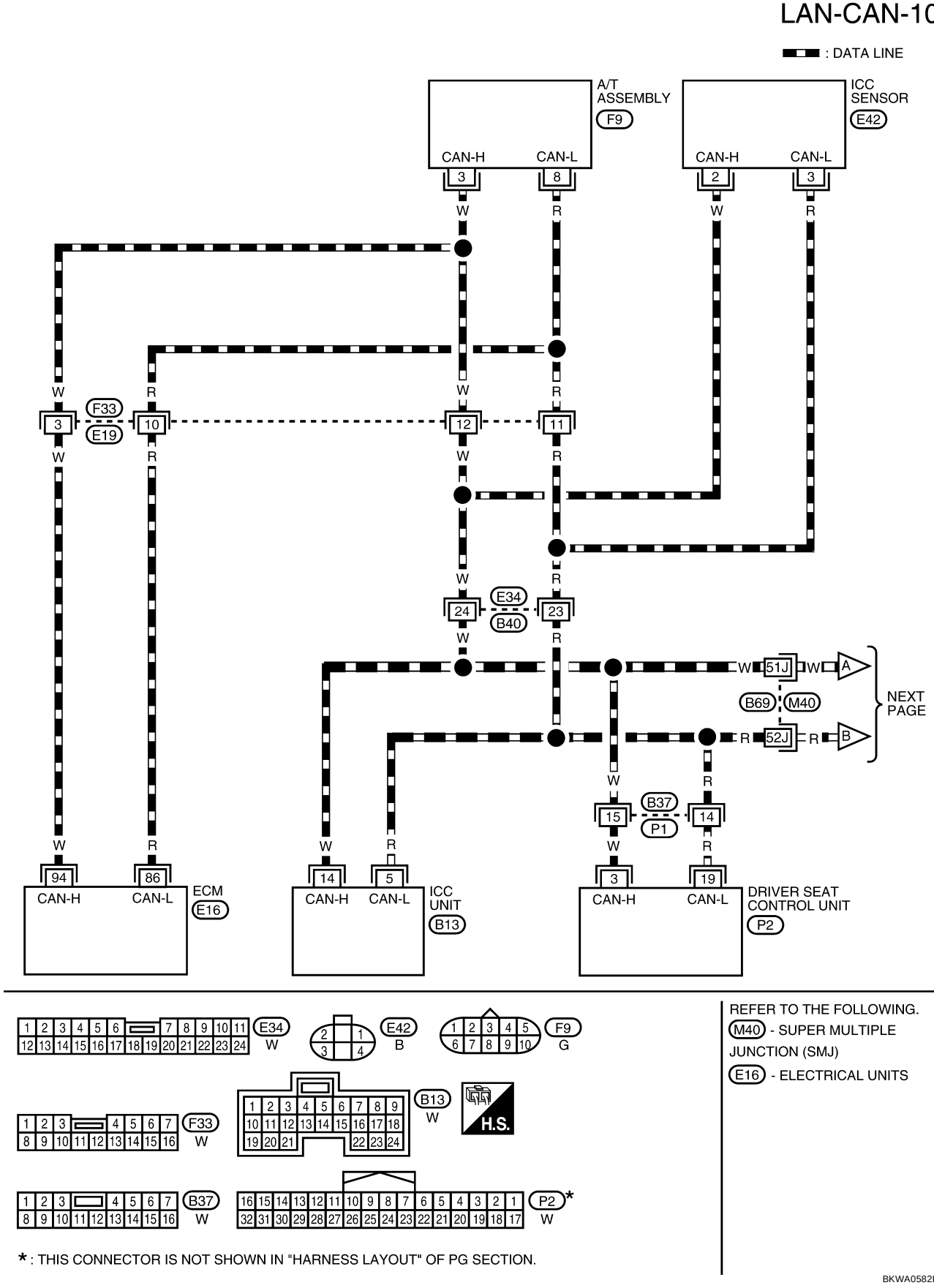
UKS001NR



BKWA0067E

Wiring Diagram - CAN -

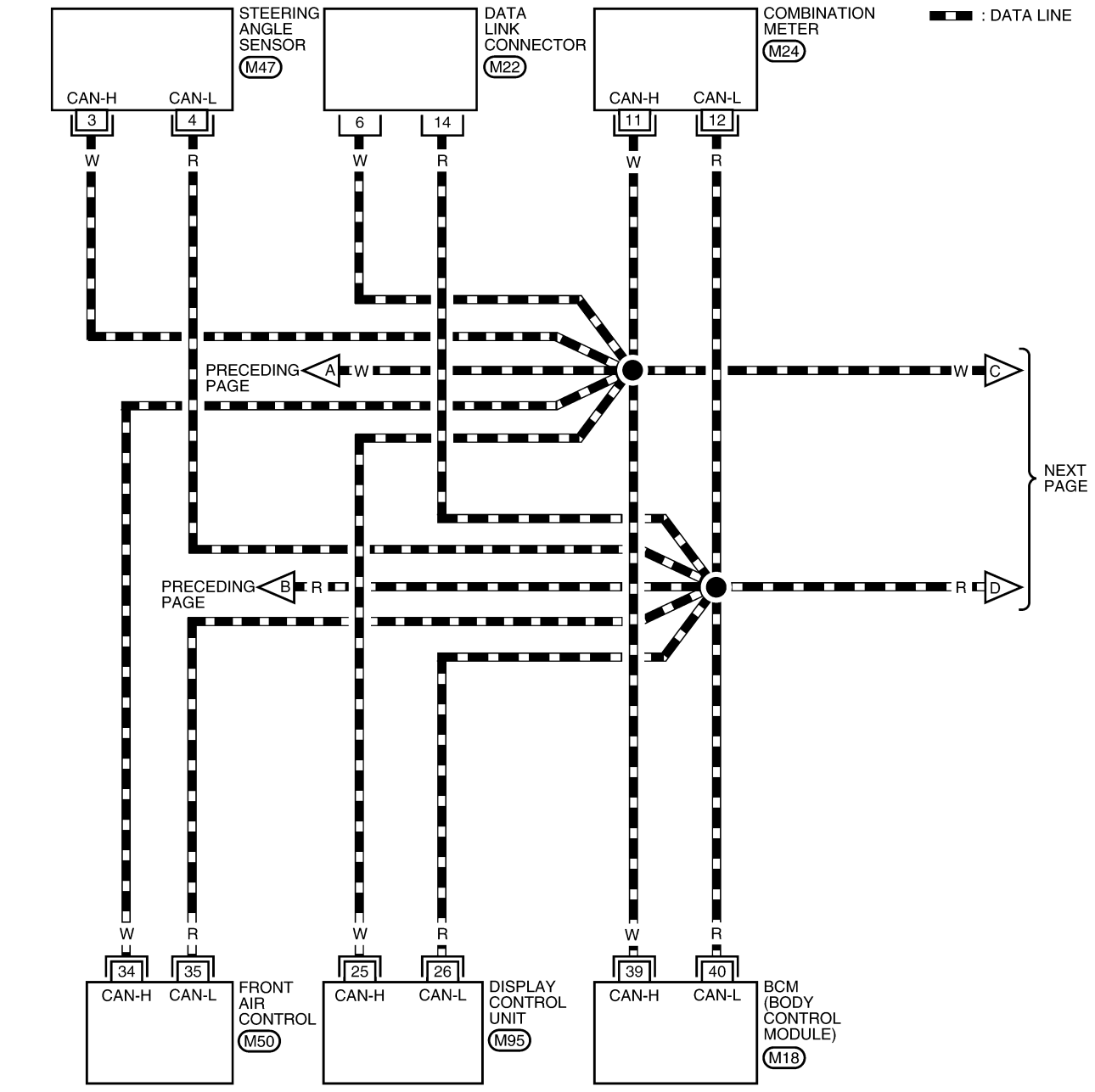
UKS001NS

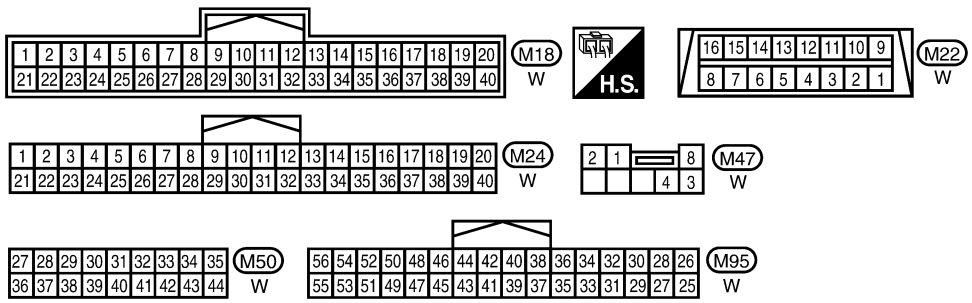


REFER TO THE FOLLOWING.
M40 - SUPER MULTIPLE JUNCTION (SMJ)
E16 - ELECTRICAL UNITS

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

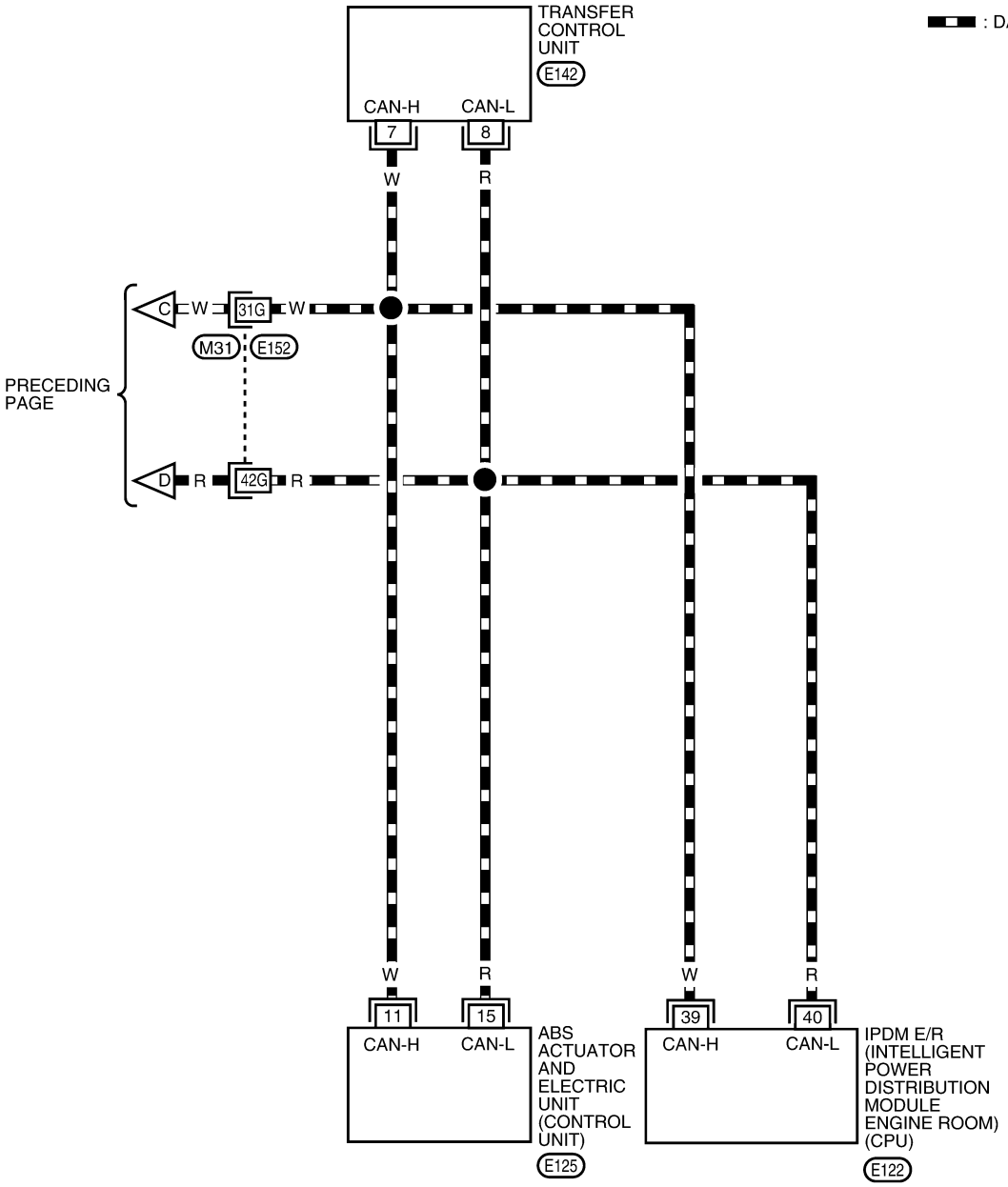
BKWA0582E


STEERING ANGLE SENSOR
M47
CAN-H
CAN-L
3
4
DATA LINK CONNECTOR
M22
6
14
COMBINATION METER
M24
CAN-H
CAN-L
11
12
: DATA LINE
W
R
PRECEDING PAGE
A
W
C
NEXT PAGE
B
R
D
34
35
CAN-H
CAN-L
FRONT AIR CONTROL
M50
25
26
CAN-H
CAN-L
DISPLAY CONTROL UNIT
M95
39
40
CAN-H
CAN-L
BCM (BODY CONTROL MODULE)
M18


M18
W
H.S.
M22
W
M24
W
M47
W
M50
W
M95
W

BKWA0069E

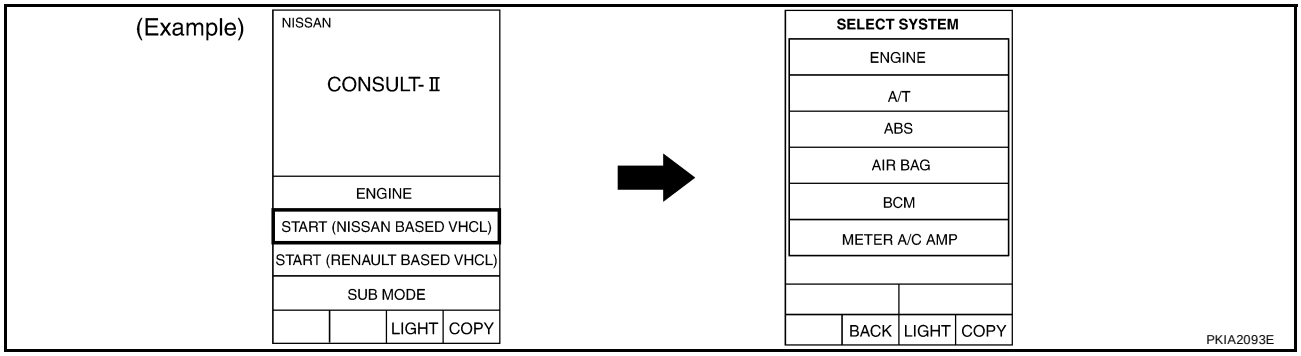
LAN-CAN-12


: DATA LINE
TRANSFER CONTROL UNIT
E142
CAN-H
CAN-L
7
8
W
R
C
W
31G
W
M31
E152
PRECEDING PAGE
D
R
42G
R
W
R
W
R
11
15
39
40
CAN-H
CAN-L
CAN-H
CAN-L
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
E125
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (CPU)
E122
37 38 39 40 41 42
43 44 45 46 47 48
E122
W
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
E125
B
H.S.
1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18
19 20 21 22 23 24
E142
L
H.S.
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)
BKWA0070E

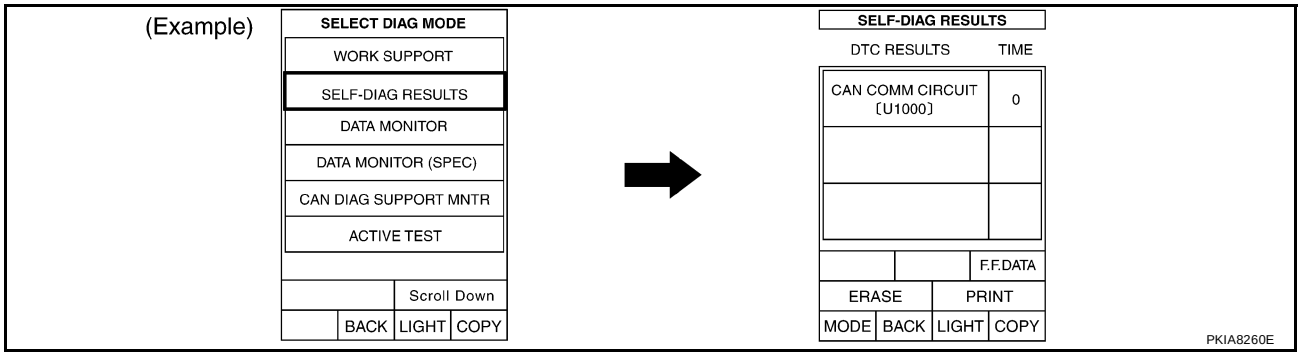
Work Flow

UKS001NT

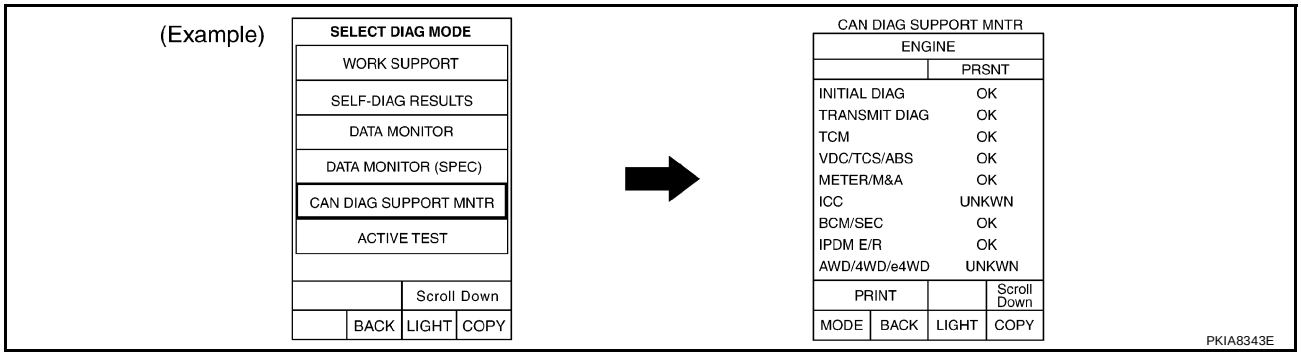
1. When there are no indications of “AUTO DRIVE POS.”, “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



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

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

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG SUPPORT MONITOR” for the diagnosed control unit, replace the control unit. Refer to AV-131, "CAN Communication Line Check" .

9. According to the check sheet results (example), start inspection. Refer to LAN-135, "CHECK SHEET RESULTS (EXAMPLE)" .

CHECK SHEET

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

Check sheet table

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

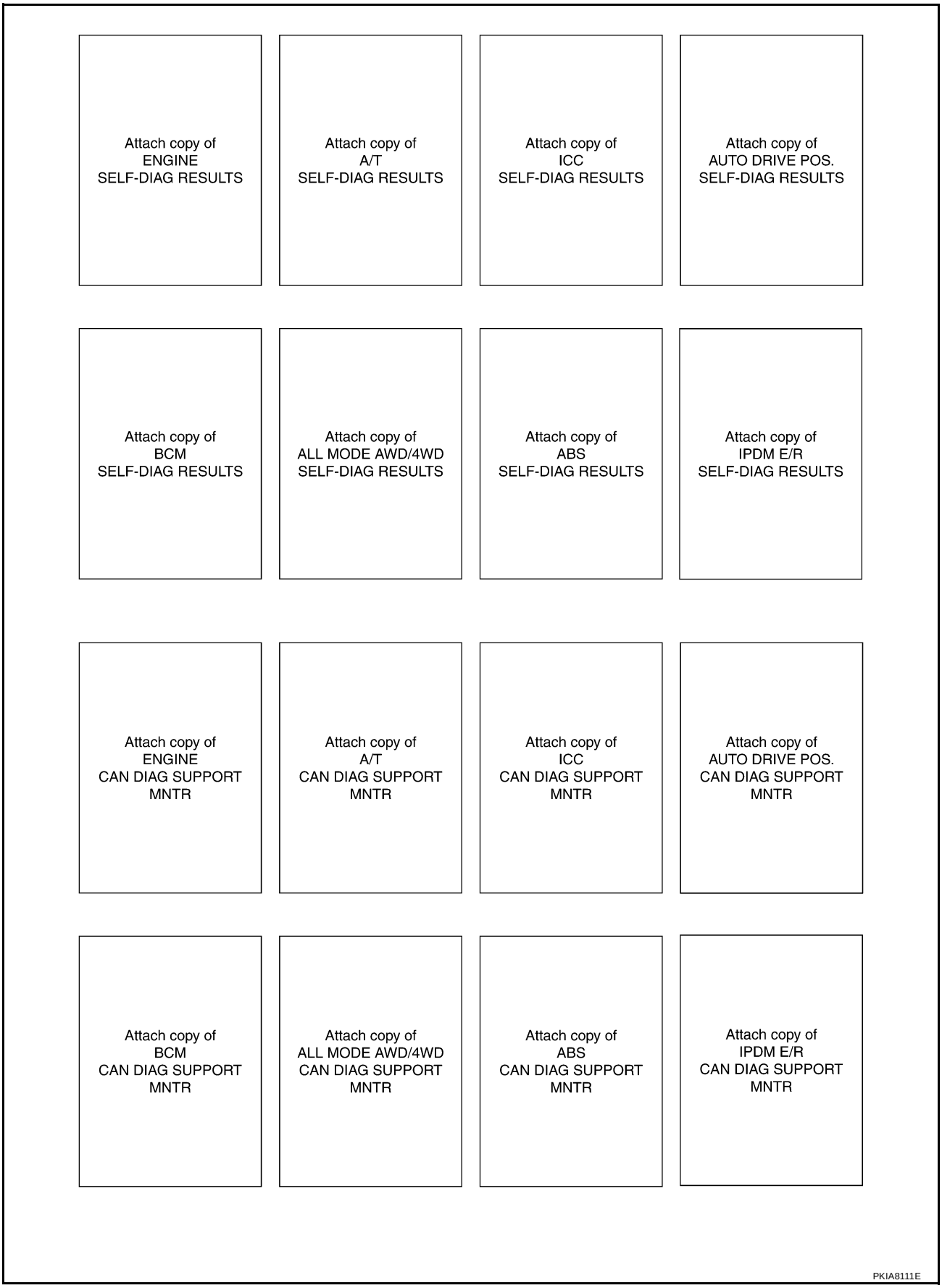
Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

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

PKIA8110E


Attach copy of
ENGINE
SELF-DIAG RESULTS
Attach copy of
A/T
SELF-DIAG RESULTS
Attach copy of
ICC
SELF-DIAG RESULTS
Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS
Attach copy of
BCM
SELF-DIAG RESULTS
Attach copy of
ALL MODE AWD/4WD
SELF-DIAG RESULTS
Attach copy of
ABS
SELF-DIAG RESULTS
Attach copy of
IPDM E/R
SELF-DIAG RESULTS
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ENGINE
CAN DIAG SUPPORT
MNTR
Attach copy of
A/T
CAN DIAG SUPPORT
MNTR
Attach copy of
ICC
CAN DIAG SUPPORT
MNTR
Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR
Attach copy of
BCM
CAN DIAG SUPPORT
MNTR
Attach copy of
ALL MODE AWD/4WD
CAN DIAG SUPPORT
MNTR
Attach copy of
ABS
CAN DIAG SUPPORT
MNTR
Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR
PKIA8111E

CHECK SHEET RESULTS (EXAMPLE)

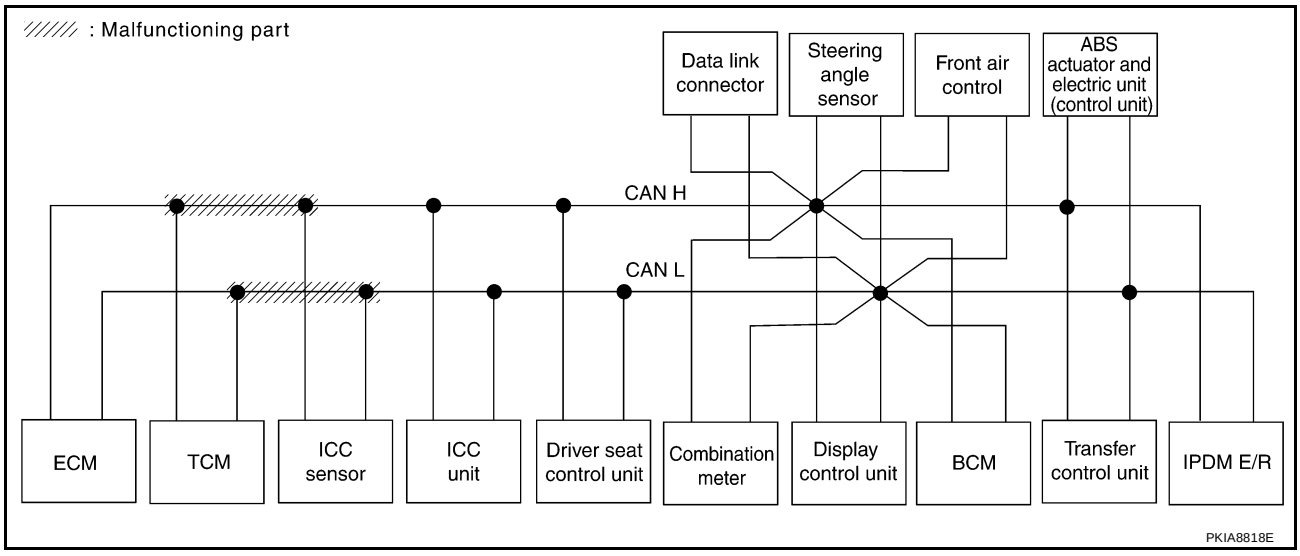
NOTE:
If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” for the diagnosed control unit, replace the control unit.

Case 1

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	✓	✓	✓	—	—	✓	✓	✓
A/T	—	NG	UNKWN	UNKWN	—	—	✓	✓	—	—	—	✓	✓	—
ICC	—	NG	UNKWN	✓	✓	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	✓	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	✓	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	✓	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	✓	✓	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	✓	✓	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	✓	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8112E



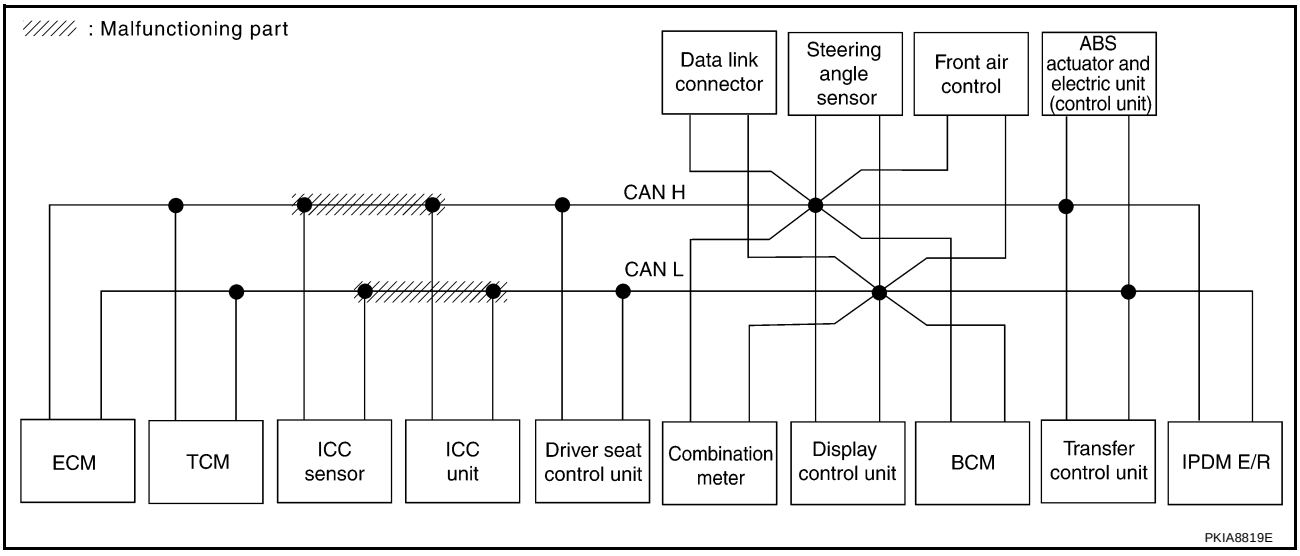
PKIA8818E

Case 2

Check harness between ICC sensor and ICC unit. Refer to LAN-156, "Circuit Check Between ICC Sensor and ICC Unit" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8113E

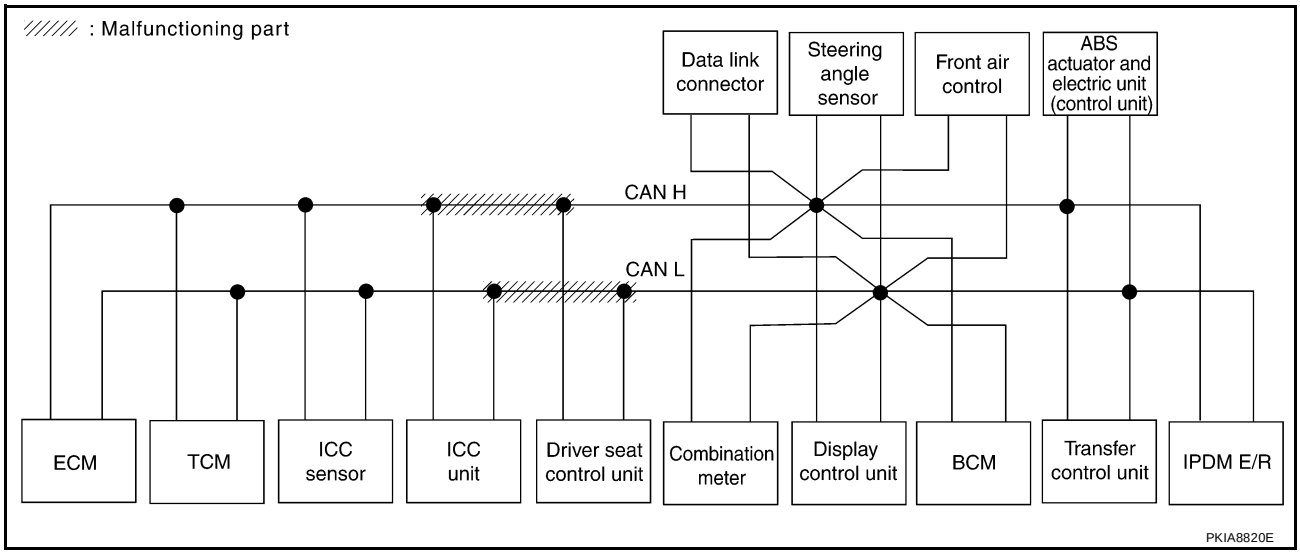


Case 3

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN ✓	—	—	—	UNKWN ✓	UNKWN ✓	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3 ✓	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8114E

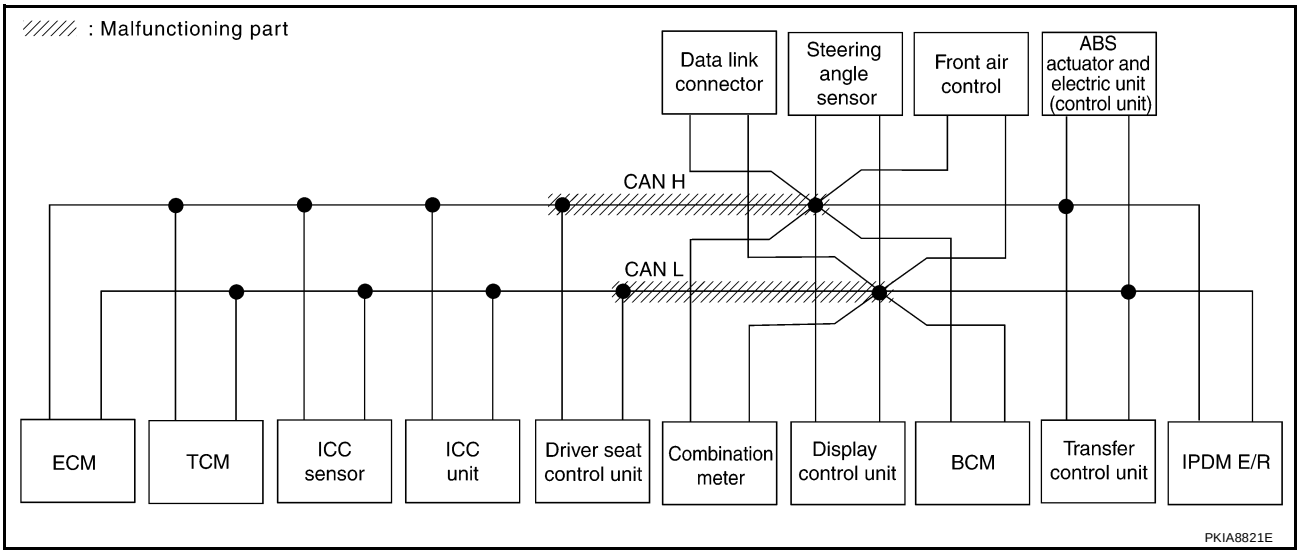


Case 4

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN	–	–	UNKWN	UNKWN	–	–	–	UNKWN	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	–	UNKWN
ALL MODE AWD/4WD	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	–	–	–	UNKWN	–
ABS	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	UNKWN	–	UNKWN	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–	–

PKIA8115E

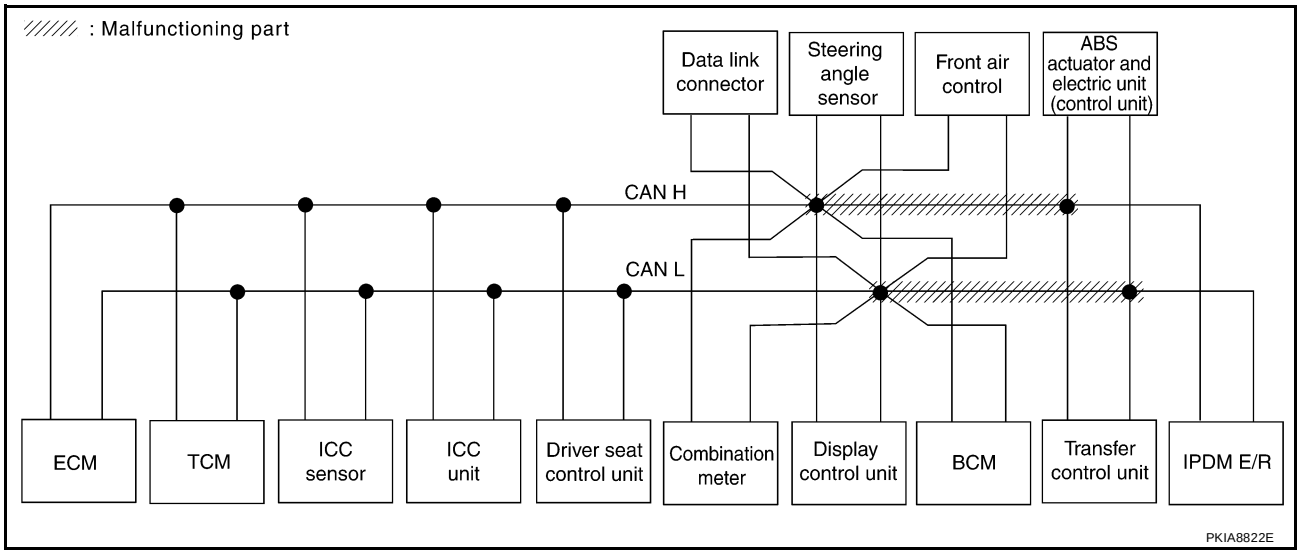


Case 5

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN ✓	UNKWN ✓	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN ✓	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8116E

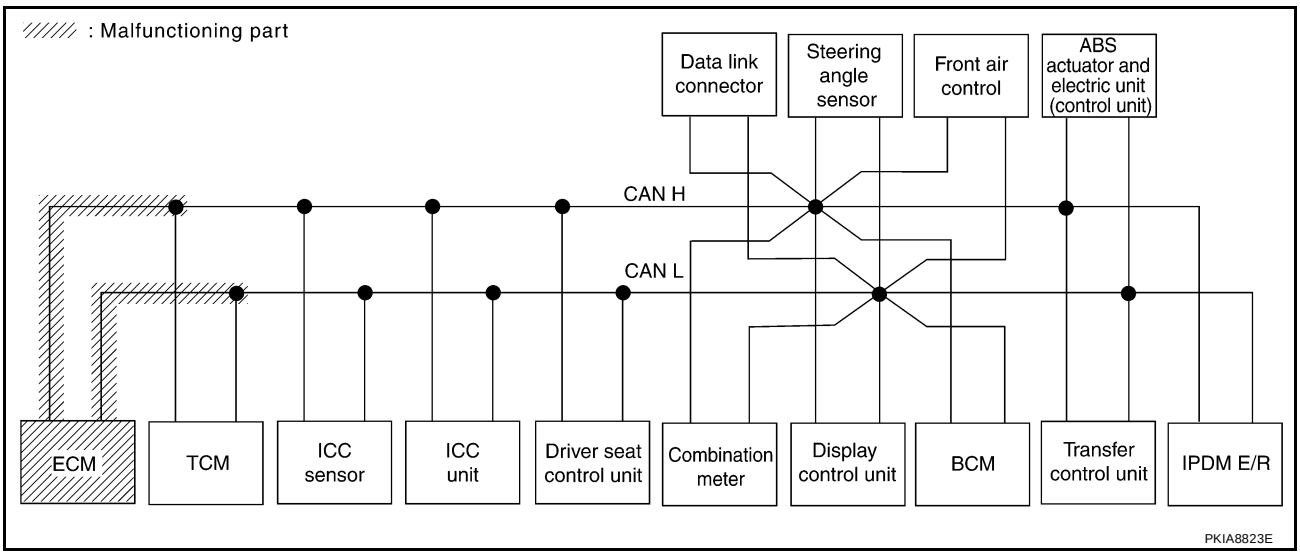


Case 6

Check ECM circuit. Refer to LAN-159, "ECM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8117E



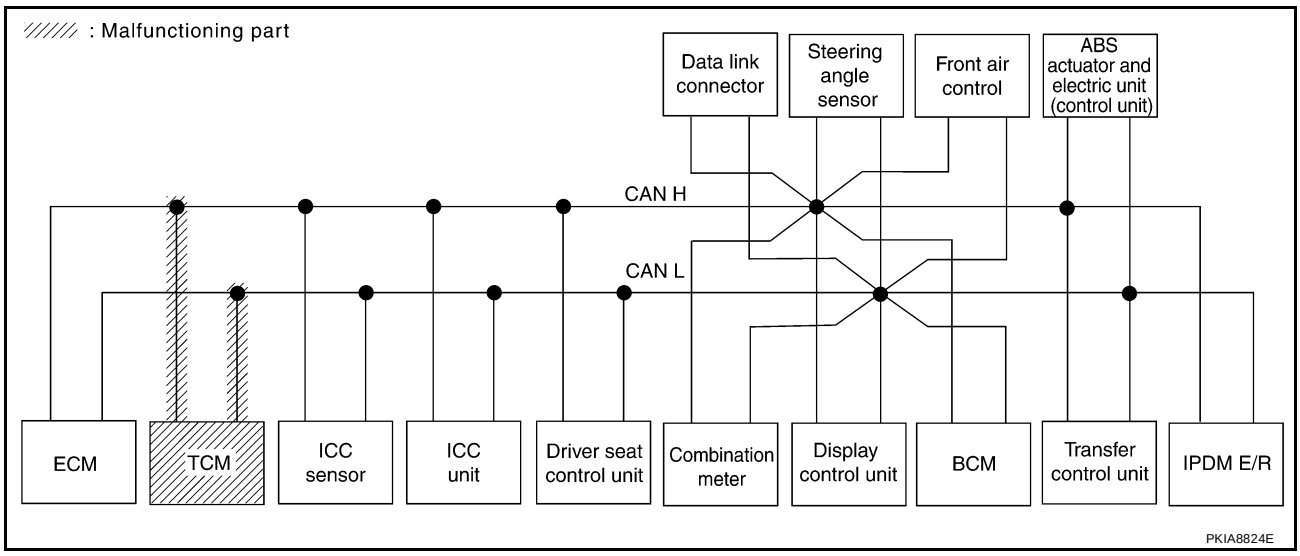
PKIA8823E

Case 7

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8118E



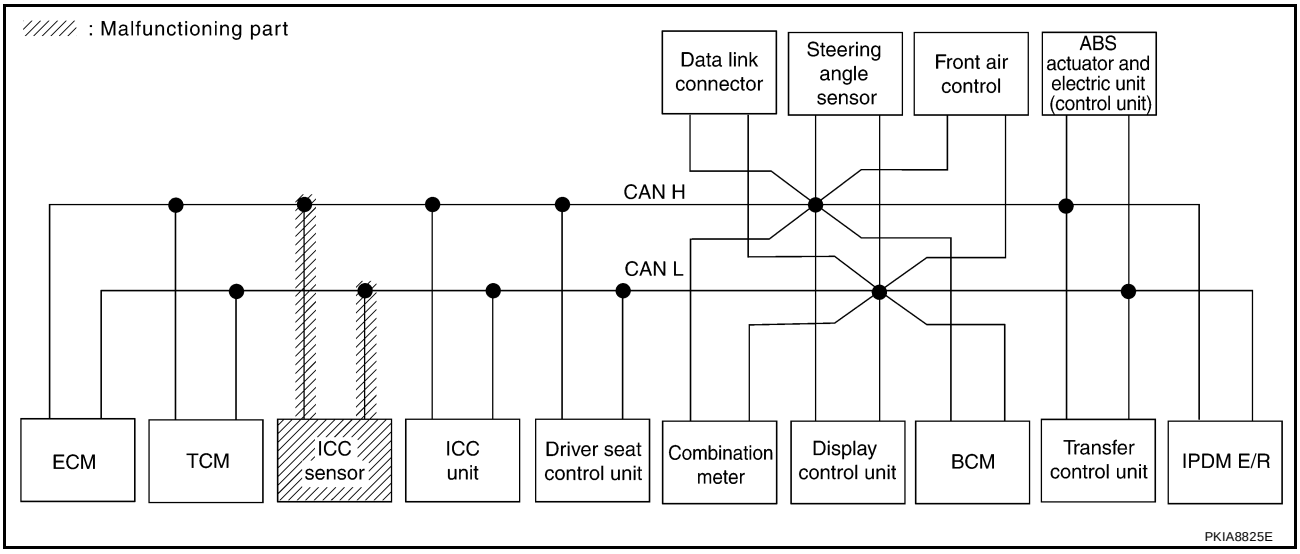
PKIA8824E

Case 8

Check ICC sensor circuit. Refer to LAN-160, "ICC Sensor Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8119E



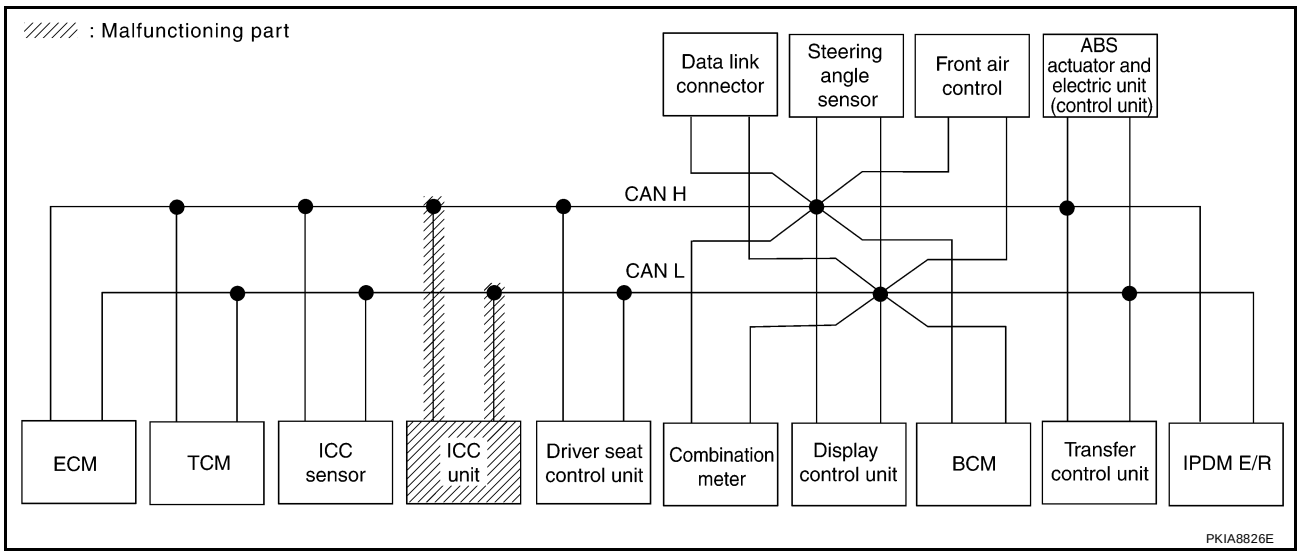
PKIA8825E

Case 9

Check ICC unit circuit. Refer to LAN-160, "ICC Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8120E



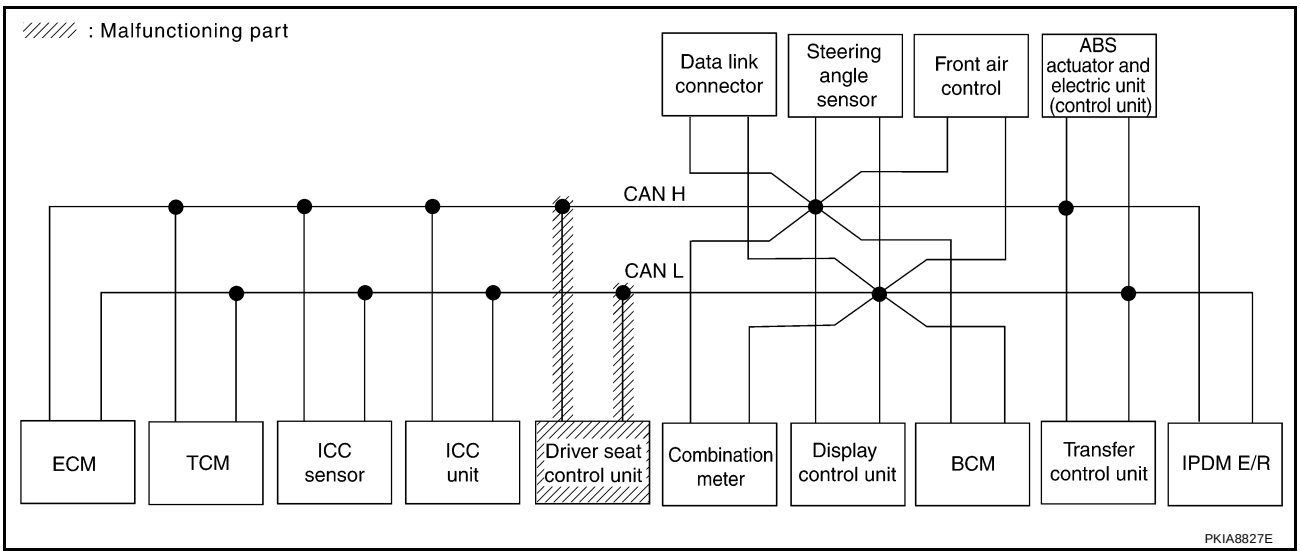
PKIA8826E

Case 10

Check driver seat control unit circuit. Refer to LAN-161, "Driver Seat Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8121E



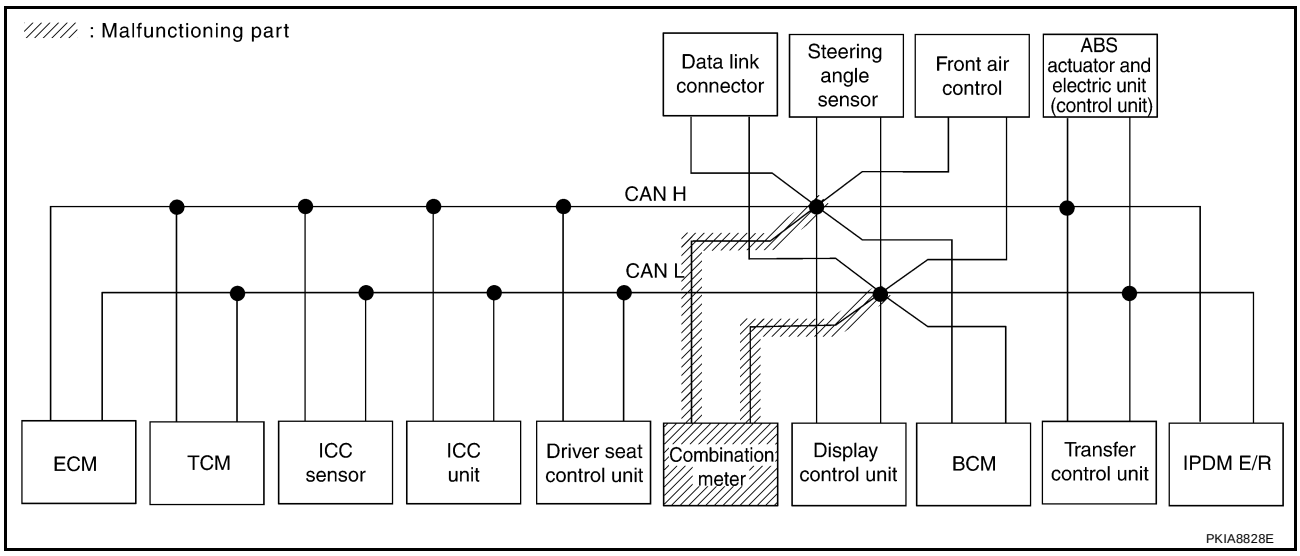
PKIA8827E

Case 11

Check combination meter circuit. Refer to LAN-161, "Combination Meter Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8122E



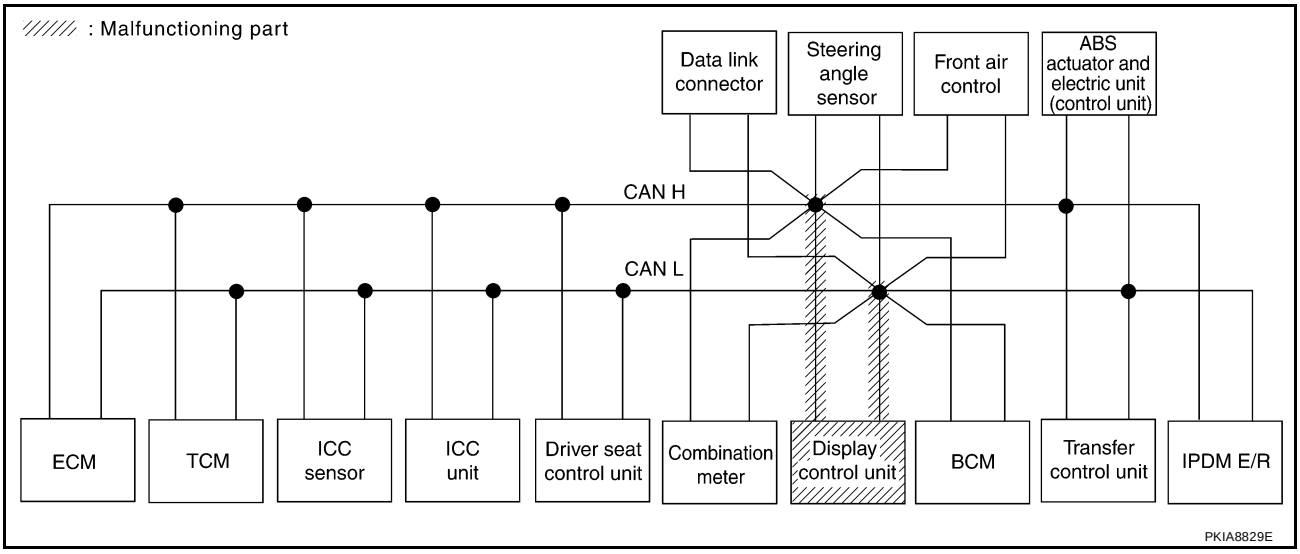
PKIA8828E

Case 12

Check display control unit circuit. Refer to LAN-162, "Display Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 3 ✓	—	—	—	CAN CIRC 5 ✓	CAN CIRC 2 ✓	—	CAN CIRC 4 ✓	—	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8123E

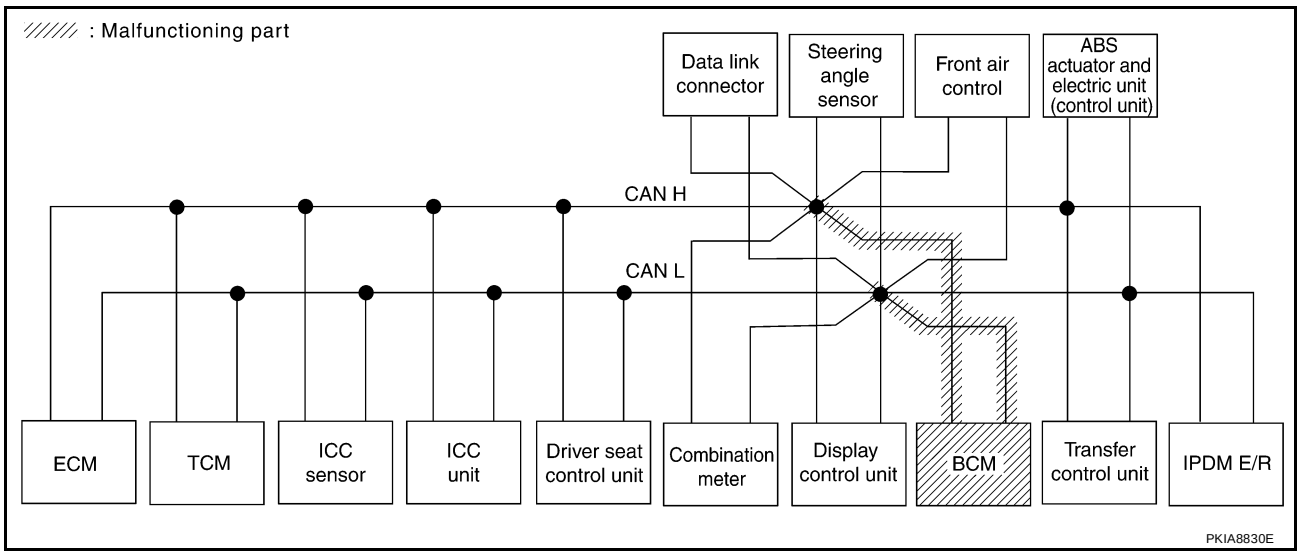


Case 13

Check BCM circuit. Refer to LAN-162, "BCM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8124E



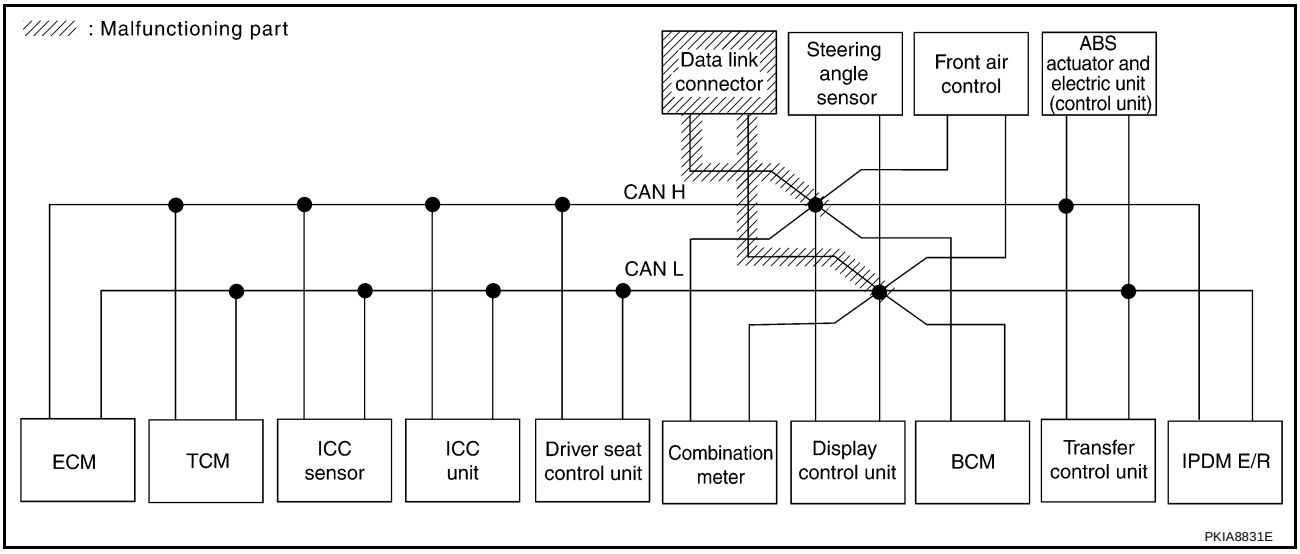
PKIA8830E

Case 14

Check data link connector circuit. Refer to LAN-163, "Data Link Connector Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication ✓	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8125E

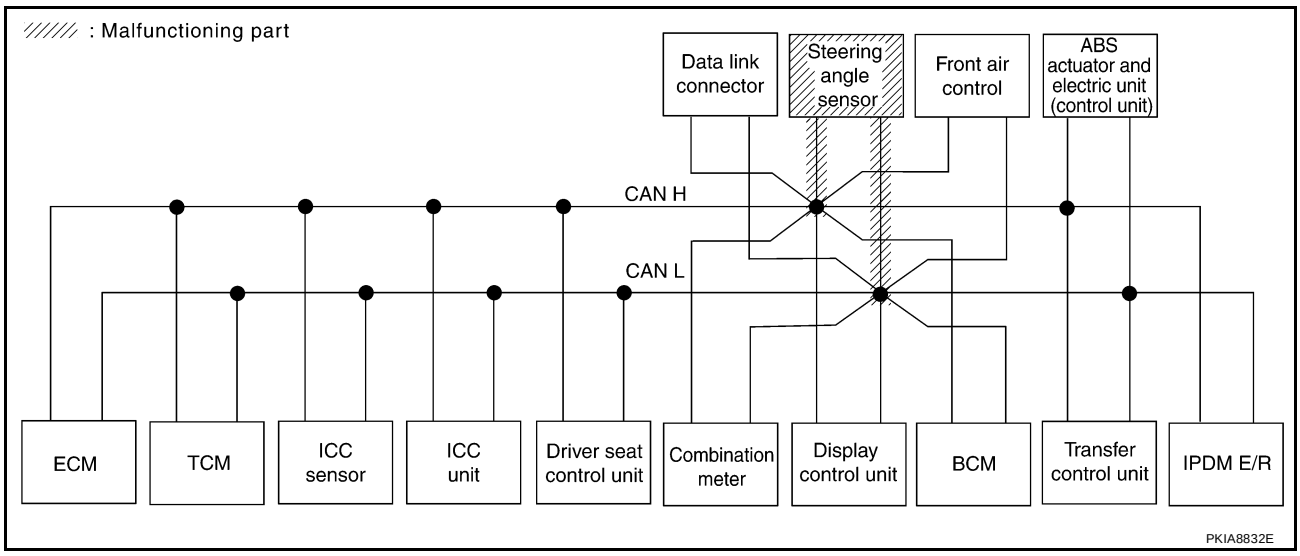


Case 15

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8126E



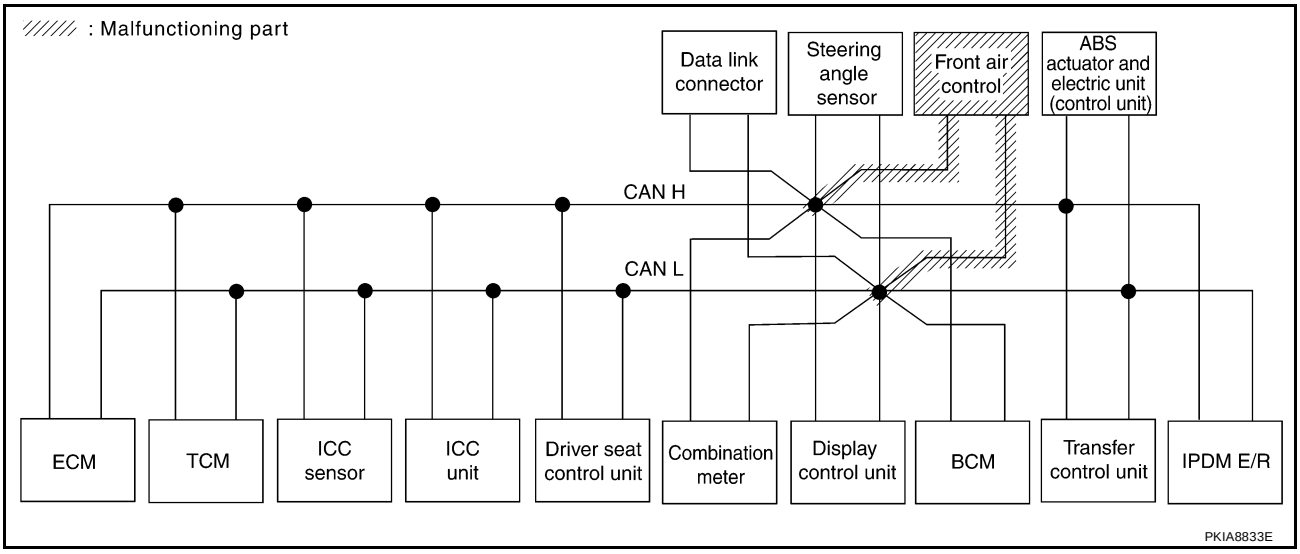
PKIA8832E

Case 16

Check front air control circuit. Refer to LAN-164, "Front Air Control Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8127E

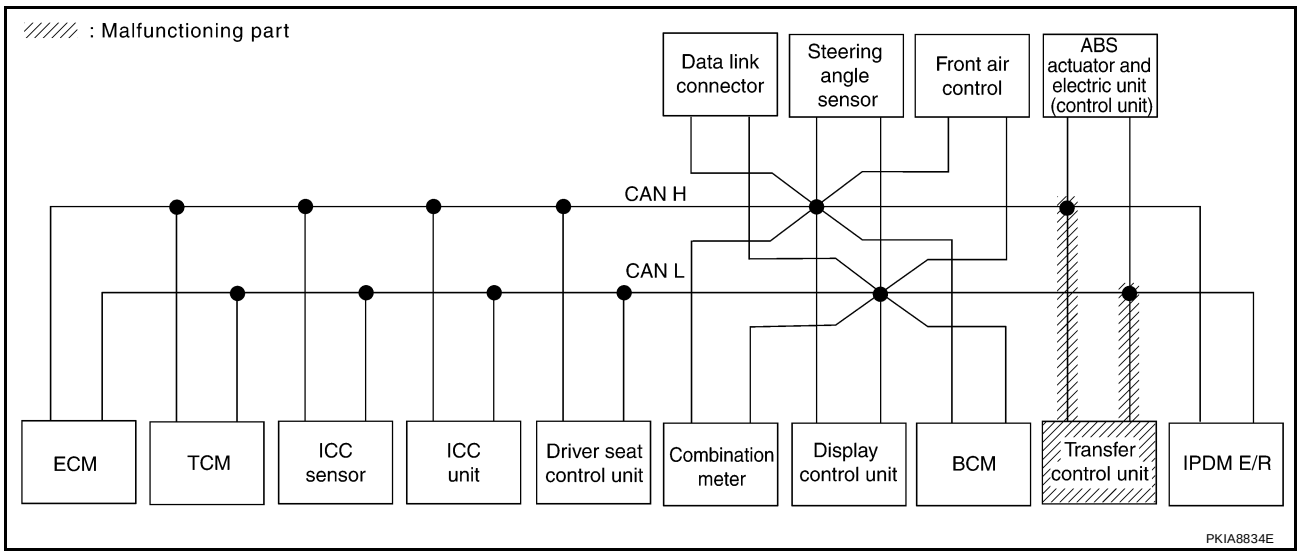


Case 17

Check transfer control unit circuit. Refer to LAN-164, "Transfer Control Unit Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	—	—	—	—	—	UNKWN ✓	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8128E



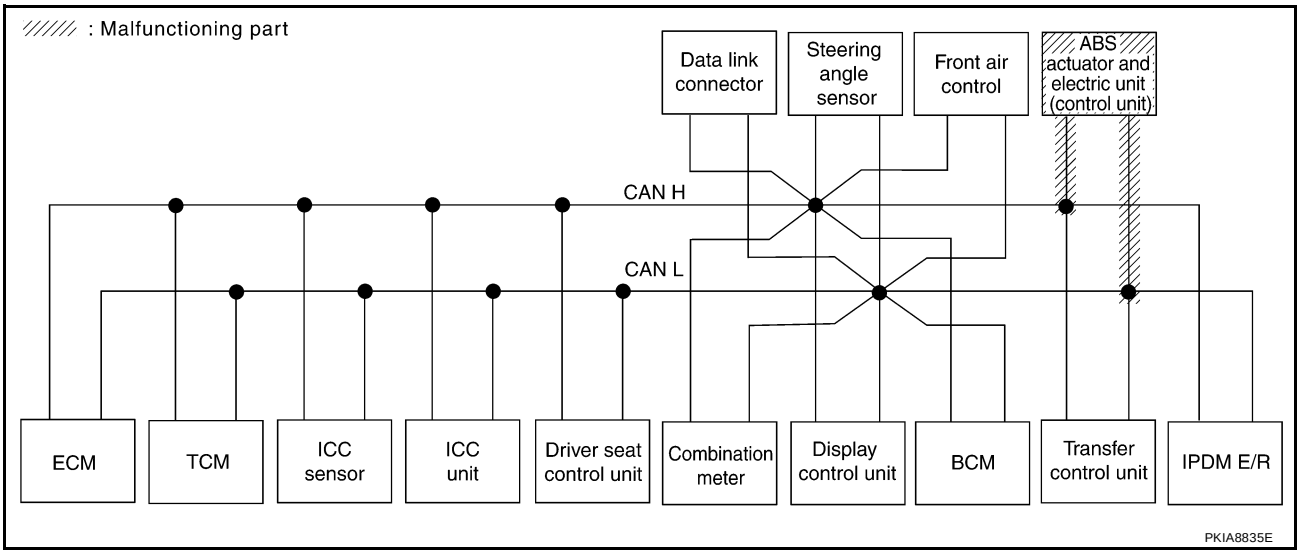
PKIA8834E

Case 18

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN ✓	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN ✓	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN ✓	—
ABS	—	NG ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN ✓	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8129E

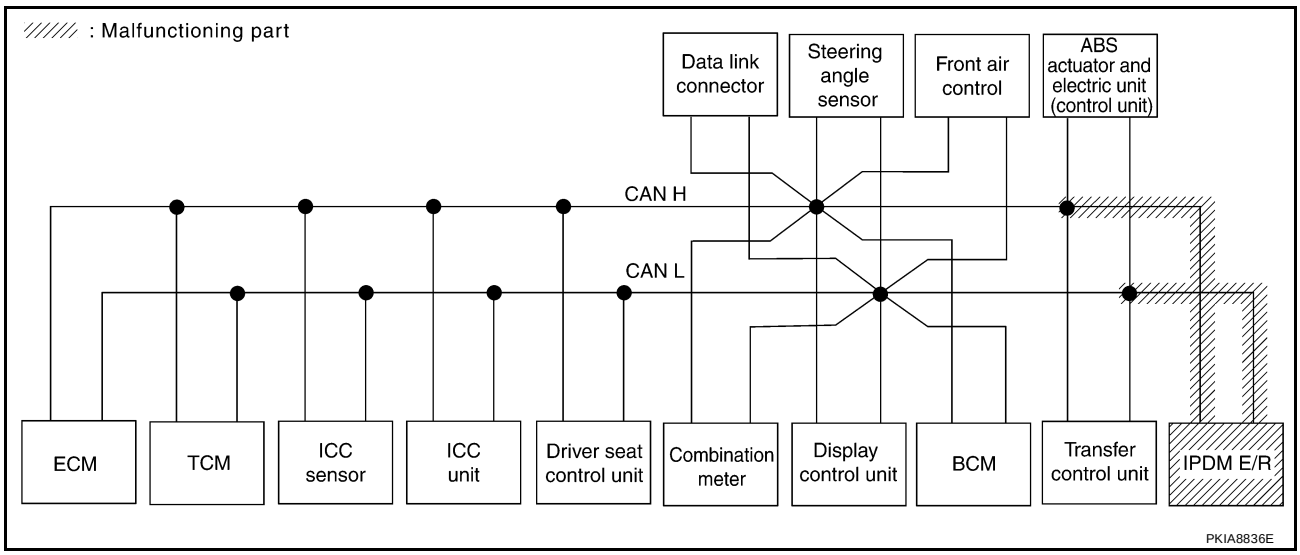


Case 19

Check IPDM E/R circuit. Refer to LAN-165, "IPDM E/R Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8130E



PKIA8836E

Case 20

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR													
		Initial diagnosis	Transmit diagnosis	Receive diagnosis											
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8131E

Case 21

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR													
		Initial diagnosis	Transmit diagnosis	Receive diagnosis											
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	—	UNKWN	UNKWN	—
ICC	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—	—

PKIA8132E

Case 22

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR												
		Initial diagnosis	Transmit diagnosis	Receive diagnosis										
				ECM	TCM	ICC SENSOR	ICC /e4WD	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	–	NG	UNKWN	–	UNKWN	–	UNKWN	UNKWN	UNKWN	–	–	UNKWN	UNKWN	UNKWN
A/T	–	NG	UNKWN	UNKWN ✓	–	–	UNKWN ✓	UNKWN ✓	–	–	–	UNKWN ✓	UNKWN	–
ICC	–	NG	UNKWN	UNKWN	UNKWN	UNKWN	–	–	UNKWN	–	–	–	UNKWN	–
AUTO DRIVE POS.	No indication	NG	UNKWN	–	UNKWN	–	–	UNKWN	UNKWN	–	–	–	–	–
Display control unit	–	CAN COMM	CAN CIRC 1	CAN CIRC 3	–	–	–	CAN CIRC 5	CAN CIRC 2	–	CAN CIRC 4	–	–	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	–	–	–	UNKWN	–	–	–	–	–	UNKWN
ALL MODE AWD/4WD	–	NG	UNKWN	UNKWN	UNKWN	–	–	–	–	–	–	–	UNKWN	–
ABS	–	NG	UNKWN	UNKWN ✓	UNKWN	–	–	–	–	UNKWN ✓	–	UNKWN ✓	–	–
IPDM E/R	No indication	–	UNKWN	UNKWN	–	–	–	–	UNKWN	–	–	–	–	–

PKIA8133E

Circuit Check Between TCM and ICC Sensor

UKS001NU

1. CHECK CONNECTOR

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

- Harness connector F33
- Harness connector E19

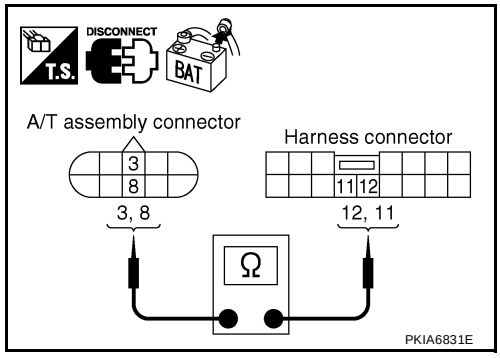
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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



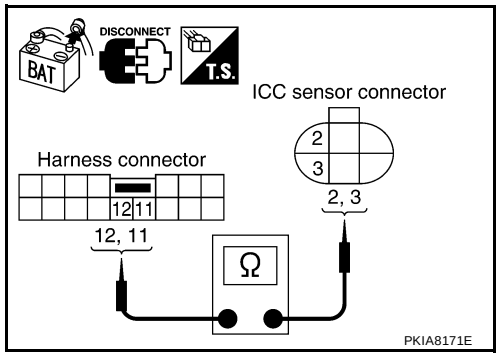
OK or NG

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

3. CHECK HARNESS FOR OPEN CIRCUIT

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

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



OK or NG

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

Circuit Check Between ICC Sensor and ICC Unit

UKS001PS

1. CHECK CONNECTOR

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

- Harness connector E34
- Harness connector B40

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

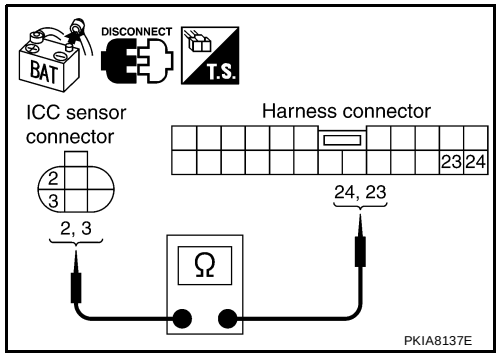
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



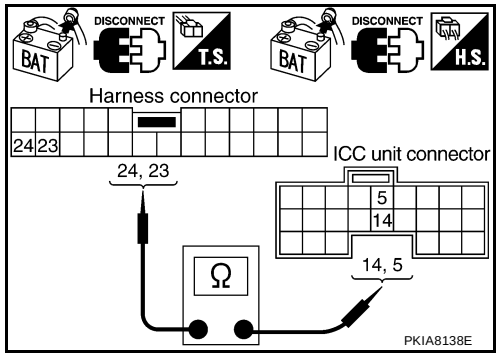
3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



Circuit Check Between ICC Unit and Driver Seat Control Unit

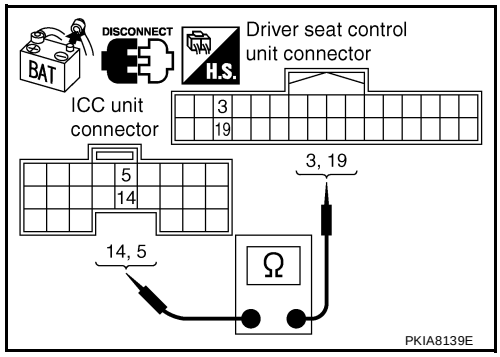
UKS001PT

1. CHECK CONNECTOR

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

14 (W) - 3 (W) : Continuity should exist.

5 (R) - 19 (R) : Continuity should exist.



OK or NG

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

NG >> Repair harness.

Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS001NV

1. CHECK CONNECTOR

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

- Harness connector B69
- Harness connector M40

OK or NG

OK >> GO TO 2.

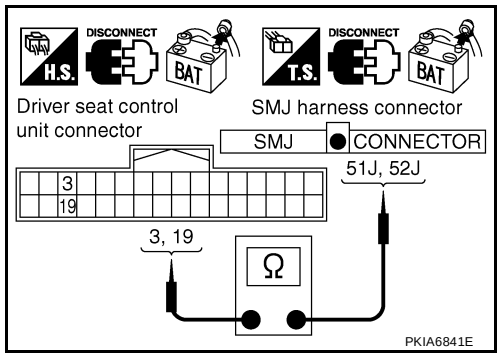
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

OK >> GO TO 3.

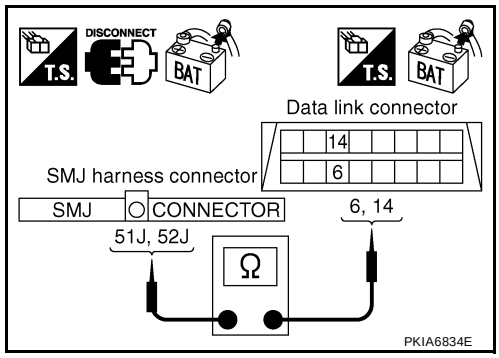
NG >> Repair harness.

3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

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

NG >> Repair harness.

Circuit Check Between Data Link Connector and IPDM E/R

UKS001NW

1. CHECK CONNECTOR

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

- Harness connector M31
- Harness connector E152

OK or NG

OK >> GO TO 2.

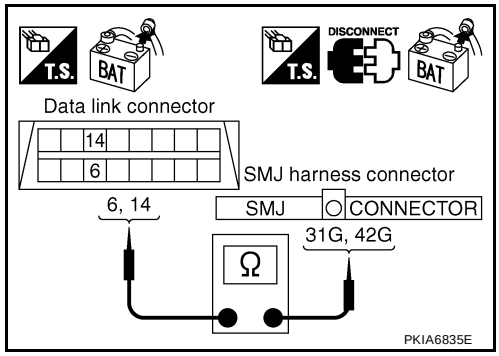
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

OK >> GO TO 3.

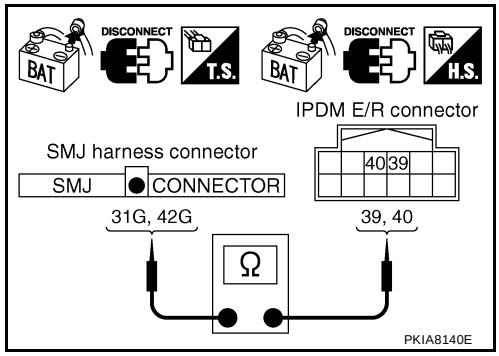
NG >> Repair harness.

3. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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



OK or NG

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

NG >> Repair harness.

ECM Circuit Check

UKS001NX

1. CHECK CONNECTOR

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

- ECM connector
- Harness connector E19
- Harness connector F33

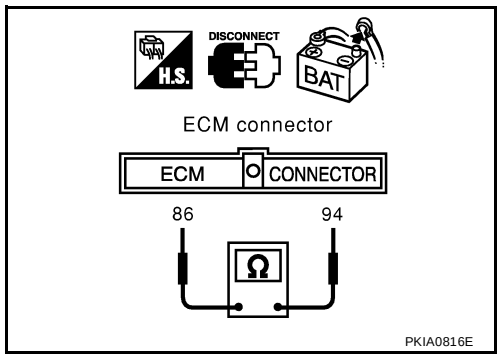
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

94 (W) - 86 (R) : Approx. 108 - 132Ω



OK or NG

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

TCM Circuit Check

UKS001NY

1. CHECK CONNECTOR

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

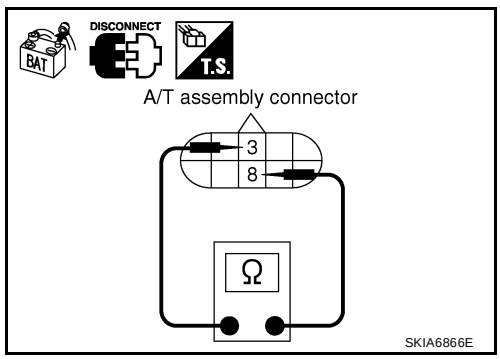
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 8 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace control valve with TCM.
NG >> Repair harness between A/T assembly and harness connector F33.

ICC Sensor Circuit Check

UKS001PU

1. CHECK CONNECTOR

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

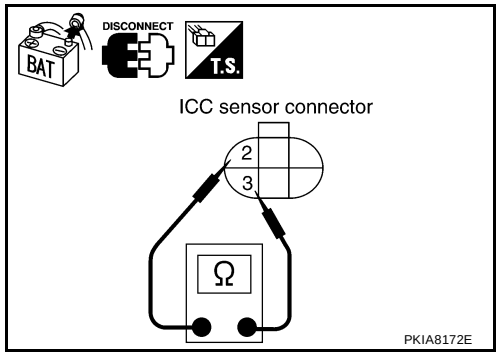
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

2 (W) - 3 (R) : Approx. 54 - 66Ω



OK or NG

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

ICC Unit Circuit Check

UKS001PV

1. CHECK CONNECTOR

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

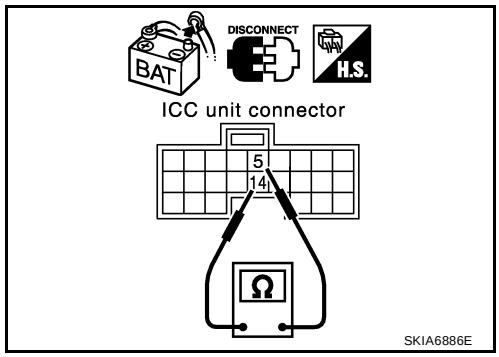
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

14 (W) - 5 (R) : Approx. 54 - 66Ω



OK or NG

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

Driver Seat Control Unit Circuit Check

UKS001NZ

1. CHECK CONNECTOR

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

- Driver seat control unit connector
- Harness connector P1
- Harness connector B37

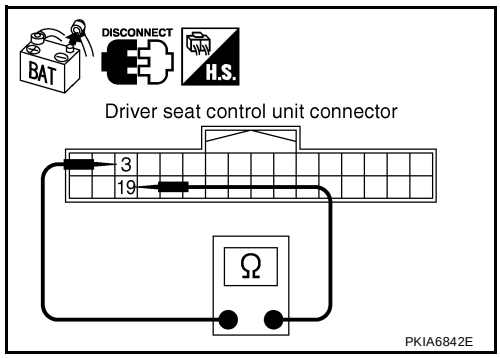
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 19 (R) : Approx. 54 - 66Ω



OK or NG

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

Combination Meter Circuit Check

UKS001O0

1. CHECK CONNECTOR

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

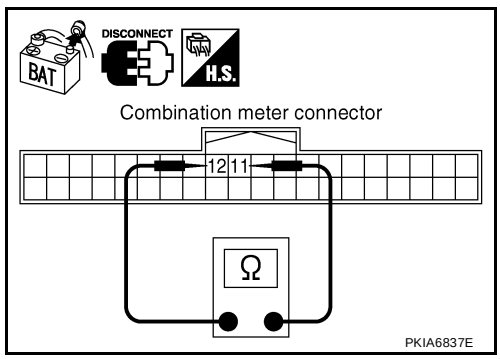
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 12 (R) : Approx. 54 - 66Ω



OK or NG

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

Display Control Unit Circuit Check

UKS001O1

1. CHECK CONNECTOR

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

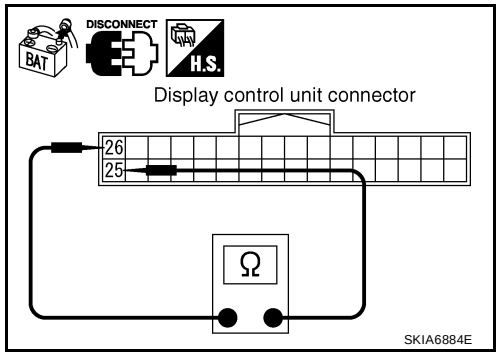
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

25 (W) - 26 (R) : Approx. 54 - 66Ω



OK or NG

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

BCM Circuit Check

UKS001O2

1. CHECK CONNECTOR

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

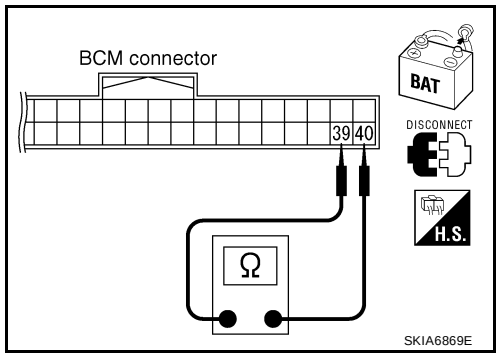
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness between BCM and data link connector.

Data Link Connector Circuit Check

UKS001O3

1. CHECK CONNECTOR

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

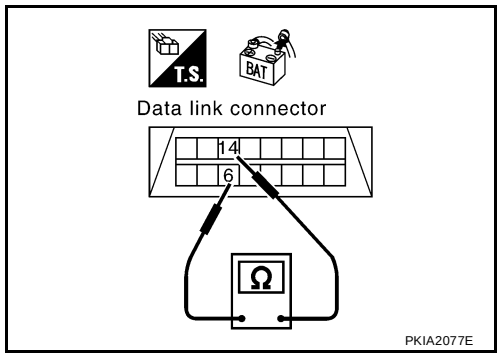
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω



OK or NG

OK >> Diagnose again. Refer to LAN-131, "Work Flow" .
NG >> Repair harness between data link connector and combination meter.

Steering Angle Sensor Circuit Check

UKS001O4

1. CHECK CONNECTOR

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

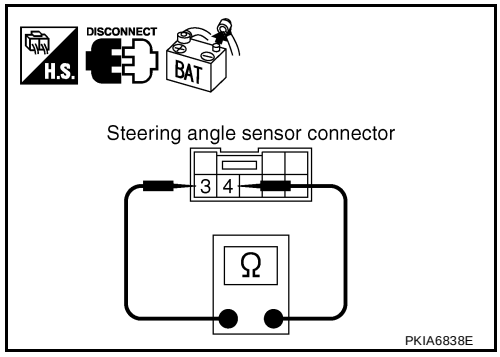
OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

3 (W) - 4 (R) : Approx. 54 - 66Ω



OK or NG

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

Front Air Control Circuit Check

UKS001O5

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

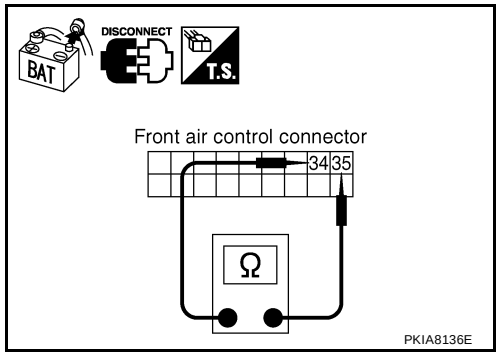
2. CHECK HARNESS FOR OPEN CIRCUIT

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

34 (W) - 35 (R) : Approx. 54 - 66Ω

OK or NG

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



Transfer Control Unit Circuit Check

UKS001O6

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

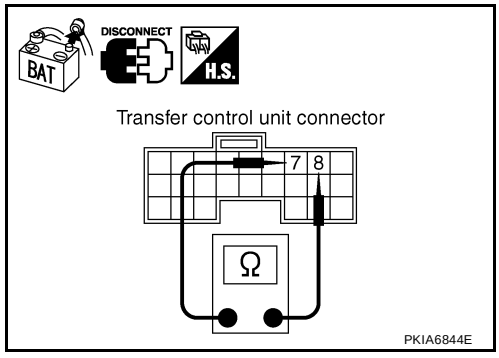
2. CHECK HARNESS FOR OPEN CIRCUIT

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

7 (W) - 8 (R) : Approx. 54 - 66Ω

OK or NG

OK >> Replace transfer control unit.
NG >> Repair harness between transfer control unit and harness connector E152.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001O7

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

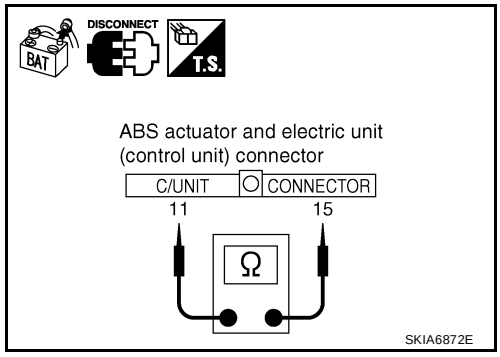
2. CHECK HARNESS FOR OPEN CIRCUIT

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

11 (W) - 15 (R) : Approx. 54 - 66Ω

OK or NG

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



IPDM E/R Circuit Check

UKS001O8

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

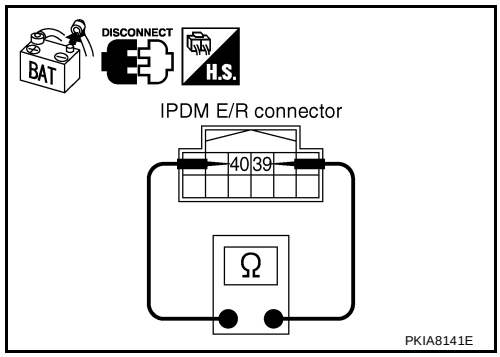
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 108 - 132Ω

OK or NG

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



CAN Communication Circuit Check

UKS001O9

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.

- ECM
- A/T assembly
- ICC sensor
- ICC unit
- Driver seat control unit
- Combination meter
- Display control unit
- BCM
- Steering angle sensor
- Front air control
- Transfer control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R

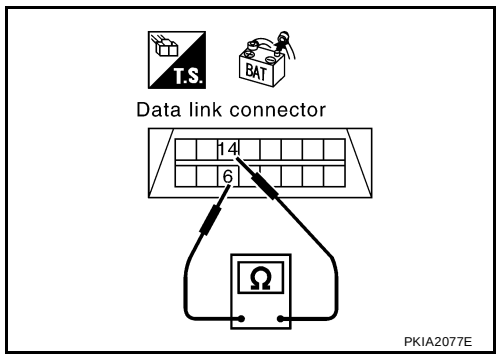
OK or NG

OK >> GO TO 2.
NG >> Repair or replace as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

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

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



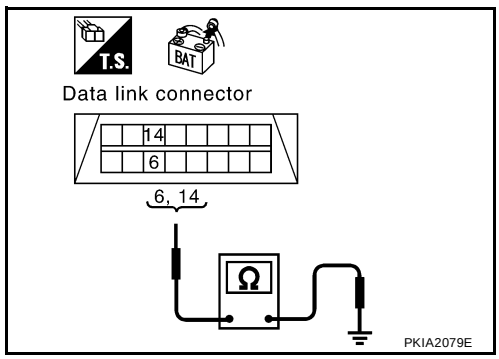
OK or NG

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

3. CHECK HARNESS FOR SHORT CIRCUIT

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

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



OK or NG

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

IPDM E/R Ignition Relay Circuit Check

UKS001OA

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

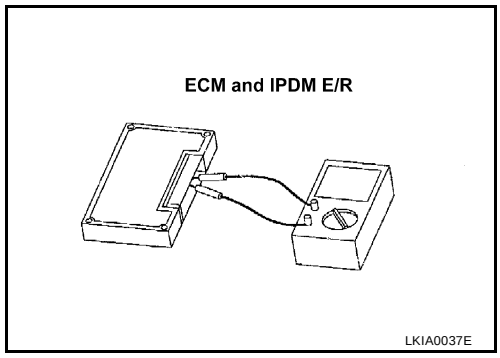
- IPDM E/R power supply circuit. Refer to PG-27, "IPDM E/R Power/Ground Circuit Inspection" .

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

Component Inspection

UKS001OB

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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