

SECTION **LAN**
LAN SYSTEM

A
B
C

CONTENTS

D
E

CAN

PRECAUTIONS	6	IPDM E/R Ignition Relay Circuit Check	49	F
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	6	Component Inspection	49	
Precautions When Using CONSULT-II	6	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	49	G
CHECK POINTS FOR USING CONSULT-II	6	CAN SYSTEM (TYPE 2)	50	
Precautions For Trouble Diagnosis	6	System Description	50	H
CAN SYSTEM	6	Component Parts and Harness Connector Location ..	50	
Precautions For Harness Repair	7	Schematic	51	
CAN SYSTEM	7	Wiring Diagram - CAN -	52	
CAN COMMUNICATION	8	Work Flow	55	I
System Description	8	CHECK SHEET	56	
CAN Communication Unit	8	CHECK SHEET RESULTS (EXAMPLE)	58	J
TYPE 1/TYPE 2/TYPE 3	8	Circuit Check Between TCM and Driver Seat Control Unit	70	
TYPE 4/TYPE 5/TYPE 6	11	Circuit Check Between Driver Seat Control Unit and Data Link Connector	71	
TYPE 7/TYPE 8/TYPE 9	14	Circuit Check Between Data Link Connector and IPDM E/R	72	LAN
TYPE 10/TYPE 11/TYPE 12	17	ECM Circuit Check	73	
TYPE 13/TYPE 14/TYPE 15	21	TCM Circuit Check	73	
CAN SYSTEM (TYPE 1)	24	Driver Seat Control Unit Circuit Check	74	L
System Description	24	Combination Meter Circuit Check	74	
Component Parts and Harness Connector Location ..	24	BCM Circuit Check	75	M
Schematic	25	Data Link Connector Circuit Check	75	
Wiring Diagram - CAN -	26	ABS Actuator and Electric Unit (Control Unit) Circuit Check	76	
Work Flow	29	IPDM E/R Circuit Check	76	
CHECK SHEET	30	CAN Communication Circuit Check	77	
CHECK SHEET RESULTS (EXAMPLE)	32	IPDM E/R Ignition Relay Circuit Check	77	
Circuit Check Between TCM and Data Link Connector	42	Component Inspection	78	
Circuit Check Between Data Link Connector and IPDM E/R	43	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	78	
ECM Circuit Check	44	CAN SYSTEM (TYPE 3)	79	
TCM Circuit Check	45	System Description	79	
Combination Meter Circuit Check	45	Component Parts and Harness Connector Location ..	79	
BCM Circuit Check	46	Schematic	80	
Data Link Connector Circuit Check	46	Wiring Diagram - CAN -	81	
ABS Actuator and Electric Unit (Control Unit) Circuit Check	47	Work Flow	84	
IPDM E/R Circuit Check	47	CHECK SHEET	86	
CAN Communication Circuit Check	48	CHECK SHEET RESULTS (EXAMPLE)	88	

Circuit Check Between TCM and Driver Seat Control Unit	102	Data Link Connector	162
Circuit Check Between Driver Seat Control Unit and Data Link Connector	103	Circuit Check Between Data Link Connector and IPDM E/R	163
Circuit Check Between Data Link Connector and IPDM E/R	104	ECM Circuit Check	164
ECM Circuit Check	105	TCM Circuit Check	164
TCM Circuit Check	105	Driver Seat Control Unit Circuit Check	165
Driver Seat Control Unit Circuit Check	106	Combination Meter Circuit Check	165
Combination Meter Circuit Check	106	BCM Circuit Check	166
Display Control Unit Circuit Check	107	Data Link Connector Circuit Check	166
BCM Circuit Check	107	Steering Angle Sensor Circuit Check	167
Data Link Connector Circuit Check	108	ABS Actuator and Electric Unit (Control Unit) Circuit Check	167
Front Air Control Circuit Check	108	IPDM E/R Circuit Check	168
ABS Actuator and Electric Unit (Control Unit) Circuit Check	109	CAN Communication Circuit Check	168
IPDM E/R Circuit Check	109	IPDM E/R Ignition Relay Circuit Check	169
CAN Communication Circuit Check	110	Component Inspection	169
IPDM E/R Ignition Relay Circuit Check	110	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	169
Component Inspection	111	CAN SYSTEM (TYPE 6)	170
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	111	System Description	170
CAN SYSTEM (TYPE 4)	112	Component Parts and Harness Connector Location	170
System Description	112	Schematic	171
Component Parts and Harness Connector Location	112	Wiring Diagram - CAN -	172
Schematic	113	Work Flow	175
Wiring Diagram - CAN -	114	CHECK SHEET	177
Work Flow	117	CHECK SHEET RESULTS (EXAMPLE)	179
CHECK SHEET	118	Circuit Check Between TCM and Driver Seat Control Unit	194
CHECK SHEET RESULTS (EXAMPLE)	120	Circuit Check Between Driver Seat Control Unit and Data Link Connector	195
Circuit Check Between TCM and Data Link Connector	131	Circuit Check Between Data Link Connector and IPDM E/R	196
Circuit Check Between Data Link Connector and IPDM E/R	132	ECM Circuit Check	197
ECM Circuit Check	133	TCM Circuit Check	197
TCM Circuit Check	134	Driver Seat Control Unit Circuit Check	198
Combination Meter Circuit Check	134	Combination Meter Circuit Check	198
BCM Circuit Check	135	Display Control Unit Circuit Check	199
Data Link Connector Circuit Check	135	BCM Circuit Check	199
Steering Angle Sensor Circuit Check	136	Data Link Connector Circuit Check	200
ABS Actuator and Electric Unit (Control Unit) Circuit Check	136	Steering Angle Sensor Circuit Check	200
IPDM E/R Circuit Check	137	Front Air Control Circuit Check	201
CAN Communication Circuit Check	138	ABS Actuator and Electric Unit (Control Unit) Circuit Check	201
IPDM E/R Ignition Relay Circuit Check	138	IPDM E/R Circuit Check	202
Component Inspection	139	CAN Communication Circuit Check	202
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	139	IPDM E/R Ignition Relay Circuit Check	203
CAN SYSTEM (TYPE 5)	140	Component Inspection	203
System Description	140	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	203
Component Parts and Harness Connector Location	140	CAN SYSTEM (TYPE 7)	204
Schematic	141	System Description	204
Wiring Diagram - CAN -	142	Component Parts and Harness Connector Location	204
Work Flow	145	Schematic	205
CHECK SHEET	146	Wiring Diagram - CAN -	206
CHECK SHEET RESULTS (EXAMPLE)	148	Work Flow	209
Circuit Check Between TCM and Driver Seat Control Unit	161	CHECK SHEET	210
Circuit Check Between Driver Seat Control Unit and Data Link Connector	162	CHECK SHEET RESULTS (EXAMPLE)	212
		Circuit Check Between TCM and Data Link Connector	223

Circuit Check Between Data Link Connector and IPDM E/R	224	ECM Circuit Check	289	A
ECM Circuit Check	225	TCM Circuit Check	289	
TCM Circuit Check	226	Driver Seat Control Unit Circuit Check	290	B
Combination Meter Circuit Check	226	Combination Meter Circuit Check	290	
BCM Circuit Check	227	Display Control Unit Circuit Check	291	B
Data Link Connector Circuit Check	227	BCM Circuit Check	291	
Transfer Control Unit Circuit Check	228	Data Link Connector Circuit Check	292	C
ABS Actuator and Electric Unit (Control Unit) Circuit Check	228	Front Air Control Circuit Check	292	
IPDM E/R Circuit Check	229	Transfer Control Unit Circuit Check	293	C
CAN Communication Circuit Check	230	ABS Actuator and Electric Unit (Control Unit) Circuit Check	293	D
IPDM E/R Ignition Relay Circuit Check	230	IPDM E/R Circuit Check	294	
Component Inspection	231	CAN Communication Circuit Check	294	D
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	231	IPDM E/R Ignition Relay Circuit Check	295	E
CAN SYSTEM (TYPE 8)	232	Component Inspection	295	E
System Description	232	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	295	
Component Parts and Harness Connector Location	232	CAN SYSTEM (TYPE 10)	296	F
Schematic	233	System Description	296	
Wiring Diagram - CAN -	234	Component Parts and Harness Connector Location	296	F
Work Flow	237	Schematic	297	G
CHECK SHEET	238	Wiring Diagram - CAN -	298	
CHECK SHEET RESULTS (EXAMPLE)	240	Work Flow	301	G
Circuit Check Between TCM and Driver Seat Control Unit	253	CHECK SHEET	302	H
Circuit Check Between Driver Seat Control Unit and Data Link Connector	254	CHECK SHEET RESULTS (EXAMPLE)	304	
Circuit Check Between Data Link Connector and IPDM E/R	255	Circuit Check Between TCM and Differential Lock Control Unit	317	H
ECM Circuit Check	256	Circuit Check Between Differential Lock Control Unit and Data Link Connector	318	I
TCM Circuit Check	256	Circuit Check Between Data Link Connector and IPDM E/R	319	
Driver Seat Control Unit Circuit Check	257	ECM Circuit Check	320	J
Combination Meter Circuit Check	257	TCM Circuit Check	320	
BCM Circuit Check	258	Differential Lock Control Unit Circuit Check	321	J
Data Link Connector Circuit Check	258	Combination Meter Circuit Check	321	
Transfer Control Unit Circuit Check	259	BCM Circuit Check	322	LAN
ABS Actuator and Electric Unit (Control Unit) Circuit Check	259	Data Link Connector Circuit Check	322	
IPDM E/R Circuit Check	260	Transfer Control Unit Circuit Check	323	L
CAN Communication Circuit Check	260	ABS Actuator and Electric Unit (Control Unit) Circuit Check	323	
IPDM E/R Ignition Relay Circuit Check	261	IPDM E/R Circuit Check	324	M
Component Inspection	261	CAN Communication Circuit Check	324	
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	261	IPDM E/R Ignition Relay Circuit Check	325	M
CAN SYSTEM (TYPE 9)	262	Component Inspection	325	
System Description	262	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	325	
Component Parts and Harness Connector Location	262	CAN SYSTEM (TYPE 11)	326	
Schematic	263	System Description	326	
Wiring Diagram - CAN -	264	Component Parts and Harness Connector Location	326	
Work Flow	267	Schematic	327	
CHECK SHEET	269	Wiring Diagram - CAN -	328	
CHECK SHEET RESULTS (EXAMPLE)	271	Work Flow	331	
Circuit Check Between TCM and Driver Seat Control Unit	286	CHECK SHEET	332	
Circuit Check Between Driver Seat Control Unit and Data Link Connector	287	CHECK SHEET RESULTS (EXAMPLE)	334	
Circuit Check Between Data Link Connector and IPDM E/R	288	Circuit Check Between TCM and Differential Lock Control Unit	349	
		Circuit Check Between Differential Lock Control Unit and Driver Seat Control Unit	350	
		Circuit Check Between Driver Seat Control Unit and		

Data Link Connector	351	CHECK SHEET	404
Circuit Check Between Data Link Connector and IPDM E/R	351	CHECK SHEET RESULTS (EXAMPLE)	406
ECM Circuit Check	352	Circuit Check Between TCM and Data Link Connector	418
TCM Circuit Check	353	Circuit Check Between Data Link Connector and IPDM E/R	419
Differential Lock Control Unit Circuit Check	353	ECM Circuit Check	420
Driver Seat Control Unit Circuit Check	354	TCM Circuit Check	421
Combination Meter Circuit Check	354	Combination Meter Circuit Check	421
BCM Circuit Check	355	BCM Circuit Check	422
Data Link Connector Circuit Check	355	Data Link Connector Circuit Check	422
Transfer Control Unit Circuit Check	356	Steering Angle Sensor Circuit Check	423
ABS Actuator and Electric Unit (Control Unit) Circuit Check	356	Transfer Control Unit Circuit Check	423
IPDM E/R Circuit Check	357	ABS Actuator and Electric Unit (Control Unit) Circuit Check	424
CAN Communication Circuit Check	358	IPDM E/R Circuit Check	424
IPDM E/R Ignition Relay Circuit Check	358	CAN Communication Circuit Check	425
Component Inspection	359	IPDM E/R Ignition Relay Circuit Check	426
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	359	Component Inspection	426
CAN SYSTEM (TYPE 12)	360	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	426
System Description	360	CAN SYSTEM (TYPE 14)	427
Component Parts and Harness Connector Location	360	System Description	427
Schematic	361	Component Parts and Harness Connector Location	427
Wiring Diagram - CAN -	362	Schematic	428
Work Flow	365	Wiring Diagram - CAN -	429
CHECK SHEET	367	Work Flow	432
CHECK SHEET RESULTS (EXAMPLE)	369	CHECK SHEET	433
Circuit Check Between TCM and Differential Lock Control Unit	386	CHECK SHEET RESULTS (EXAMPLE)	435
Circuit Check Between Differential Lock Control Unit and Driver Seat Control Unit	387	Circuit Check Between TCM and Driver Seat Control Unit	449
Circuit Check Between Driver Seat Control Unit and Data Link Connector	388	Circuit Check Between Driver Seat Control Unit and Data Link Connector	450
Circuit Check Between Data Link Connector and IPDM E/R	388	Circuit Check Between Data Link Connector and IPDM E/R	451
ECM Circuit Check	389	ECM Circuit Check	452
TCM Circuit Check	390	TCM Circuit Check	452
Differential Lock Control Unit Circuit Check	390	Driver Seat Control Unit Circuit Check	453
Driver Seat Control Unit Circuit Check	391	Combination Meter Circuit Check	453
Combination Meter Circuit Check	391	BCM Circuit Check	454
Display Control Unit Circuit Check	392	Data Link Connector Circuit Check	454
BCM Circuit Check	392	Steering Angle Sensor Circuit Check	455
Data Link Connector Circuit Check	393	Transfer Control Unit Circuit Check	455
Front Air Control Circuit Check	393	ABS Actuator and Electric Unit (Control Unit) Circuit Check	456
Transfer Control Unit Circuit Check	394	IPDM E/R Circuit Check	456
ABS Actuator and Electric Unit (Control Unit) Circuit Check	394	CAN Communication Circuit Check	457
IPDM E/R Circuit Check	395	IPDM E/R Ignition Relay Circuit Check	457
CAN Communication Circuit Check	396	Component Inspection	458
IPDM E/R Ignition Relay Circuit Check	396	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	458
Component Inspection	397	CAN SYSTEM (TYPE 15)	459
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	397	System Description	459
CAN SYSTEM (TYPE 13)	398	Component Parts and Harness Connector Location	459
System Description	398	Schematic	460
Component Parts and Harness Connector Location	398	Wiring Diagram - CAN -	461
Schematic	399	Work Flow	464
Wiring Diagram - CAN -	400	CHECK SHEET	466
Work Flow	403	CHECK SHEET RESULTS (EXAMPLE)	468

Circuit Check Between TCM and Driver Seat Control Unit	484	Data Link Connector Circuit Check	490	
Circuit Check Between Driver Seat Control Unit and Data Link Connector	485	Steering Angle Sensor Circuit Check	490	A
Circuit Check Between Data Link Connector and IPDM E/R	486	Front Air Control Circuit Check	491	
ECM Circuit Check	487	Transfer Control Unit Circuit Check	491	
TCM Circuit Check	487	ABS Actuator and Electric Unit (Control Unit) Circuit Check	492	B
Driver Seat Control Unit Circuit Check	488	IPDM E/R Circuit Check	492	
Combination Meter Circuit Check	488	CAN Communication Circuit Check	493	C
Display Control Unit Circuit Check	489	IPDM E/R Ignition Relay Circuit Check	493	
BCM Circuit Check	489	Component Inspection	494	
		ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	494	D

E

F

G

H

I

J

LAN

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M

PRECAUTIONS

PFP:00001

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

UKS001AE

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

UKS001AF

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-8. "CAN Communication Unit"](#) .

**Precautions For Trouble Diagnosis
CAN SYSTEM**

UKS001AG

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

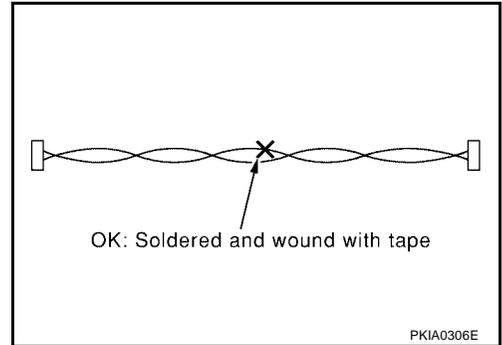
PRECAUTIONS

[CAN]

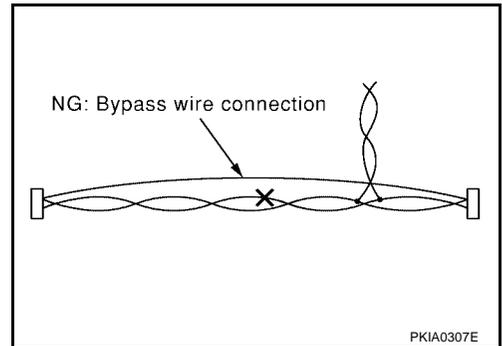
UKS001AH

Precautions For Harness Repair 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.)



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C
D
E
F
G
H
I
J
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LAN

CAN COMMUNICATION

System Description

UKS001AI

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

UKS001AJ

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

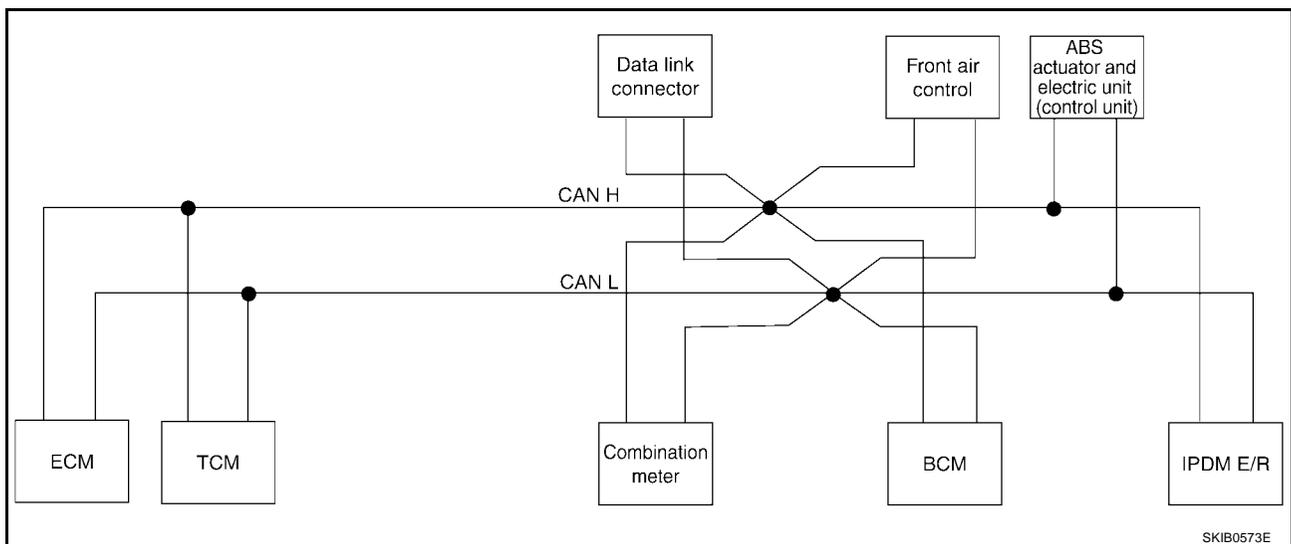
Body type	Truck														
Axle	2WD					4WD									
Engine	VK56DE														
Transmission	A/T														
Brake control	ABS			VDC			ABS						VDC		
Electronic locking rear differential									×	×	×				
Automatic drive positioner		×	×		×	×		×	×		×	×		×	×
Navigation system			×			×			×			×			×
CAN system type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CAN system trouble diagnosis	LAN-24	LAN-50	LAN-79	LAN-112	LAN-140	LAN-170	LAN-204	LAN-232	LAN-262	LAN-296	LAN-326	LAN-360	LAN-398	LAN-427	LAN-459

×: Applicable

TYPE 1/TYPE 2/TYPE 3

System diagram

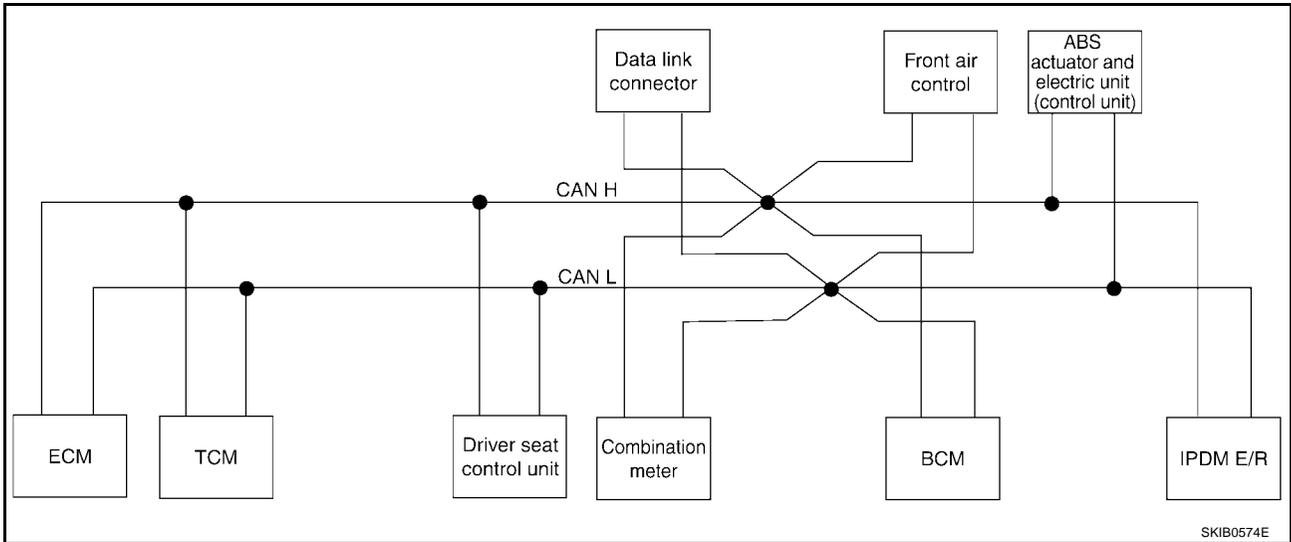
- Type 1



CAN COMMUNICATION

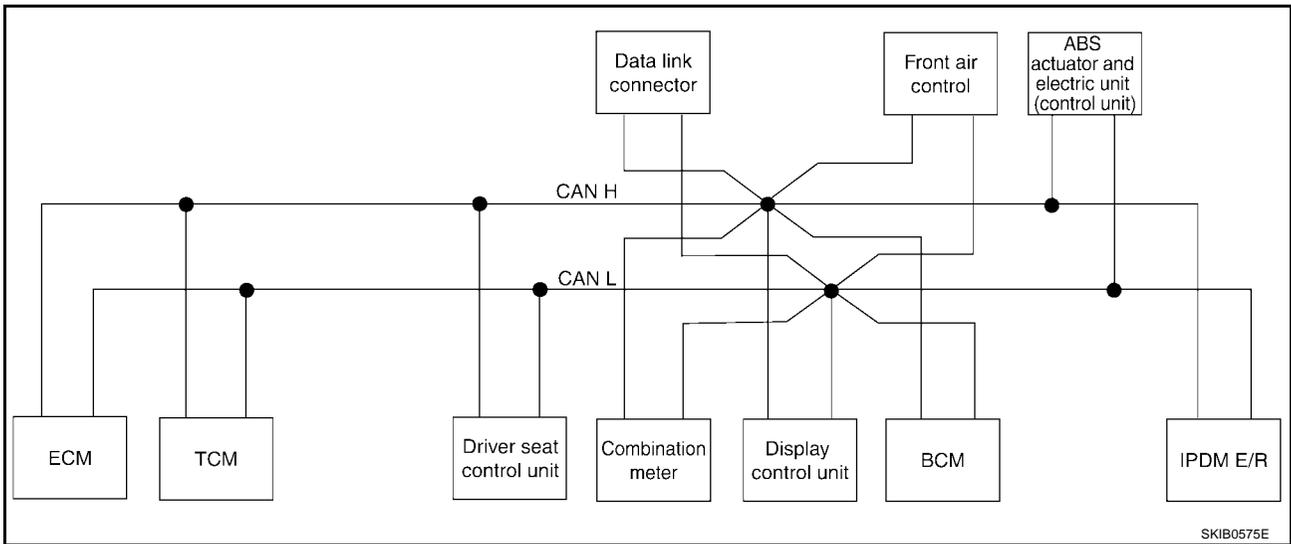
[CAN]

● Type 2



SKIB0574E

● Type 3



SKIB0575E

Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	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		
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

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CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
P range signal		T	R						
Stop lamp switch signal		R		T					
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				R		T			R
Vehicle speed signal				R			R	T	
	R	R	R	T	R	R	R		
Sleep wake up signal			R	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					
Malfunction indicator lamp signal	T			R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Theft warning horn request signal						T			R
Horn chirp signal						T			R
ABS warning lamp signal				R				T	
Brake warning lamp signal				R				T	
SLIP indicator lamp signal				R				T	

CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Front air control	ABS actuator and electric unit (control unit)	IPDM E/R
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* ¹		R		T					
4th position switch signal* ¹		R		T					
Manual mode switch signal* ²		R		T					
Not manual mode switch signal* ²		R		T					
Manual mode shift up signal* ²		R		T					
Manual mode shift down signal* ²		R		T					
Tow mode switch signal		R		T					
A/T fluid temperature sensor signal		T		R					

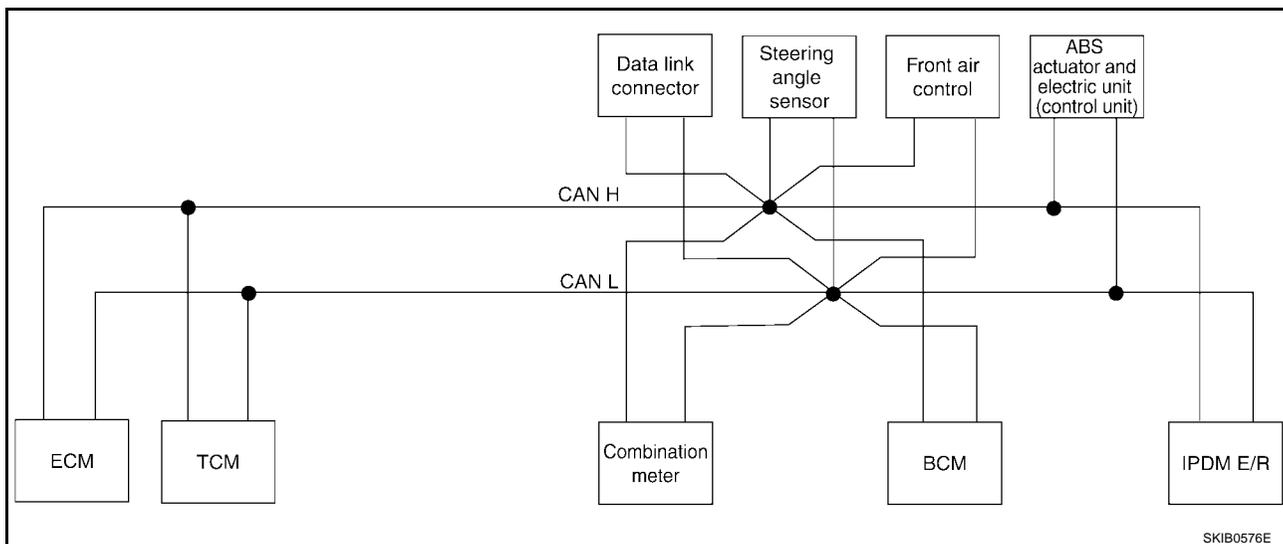
*1: Floor shift model only.

*2: Column shift model only.

TYPE 4/TYPE 5/TYPE 6

System diagram

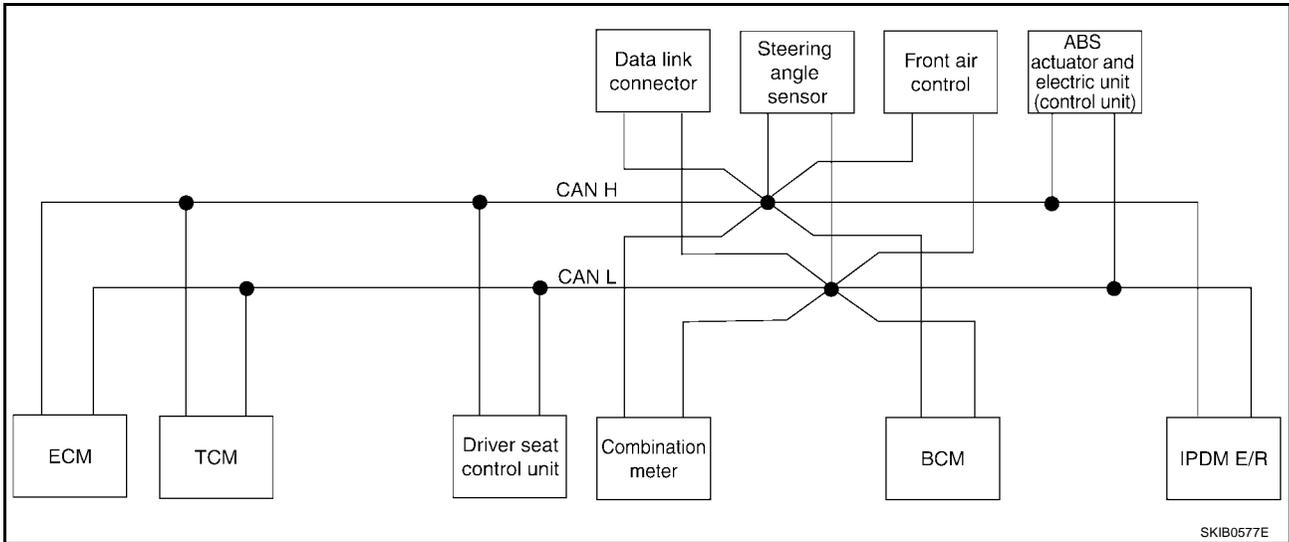
- Type 4



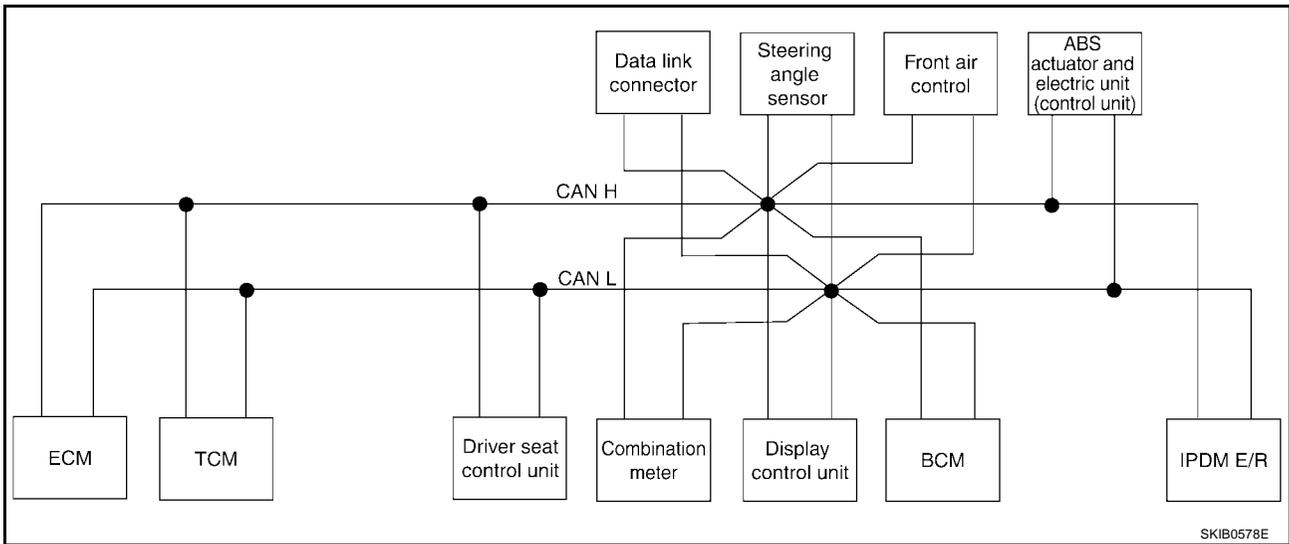
CAN COMMUNICATION

[CAN]

● Type 5



● Type 6



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		
Engine coolant temperature signal	T			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				

CAN COMMUNICATION

[CAN]

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
Ignition switch signal			R			T				R
P range signal		T	R							
Stop lamp switch signal		R		T						
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				R		T				R
Vehicle speed signal				R				R	T	
	R	R	R	T	R	R		R		
Sleep wake up signal			R	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						
Malfunction indicator lamp signal	T			R						
Front wiper request signal						T				R
Front wiper stop position 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	

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CAN COMMUNICATION

[CAN]

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
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* ¹		R		T						
4th position switch signal* ¹		R		T						
Manual mode switch signal* ²		R		T						
Not manual mode switch signal* ²		R		T						
Manual mode shift up signal* ²		R		T						
Manual mode shift down signal* ²		R		T						
Tow mode switch signal		R		T						
A/T fluid temperature sensor signal		T		R						

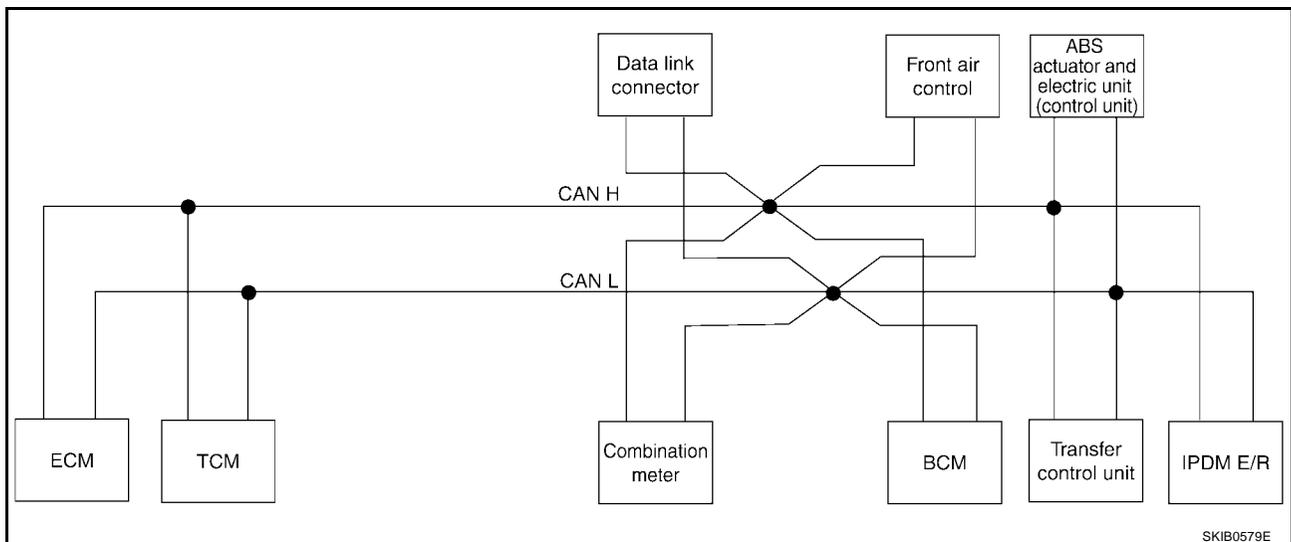
*1: Floor shift model only.

*2: Column shift model only.

TYPE 7/TYPE 8/TYPE 9

System diagram

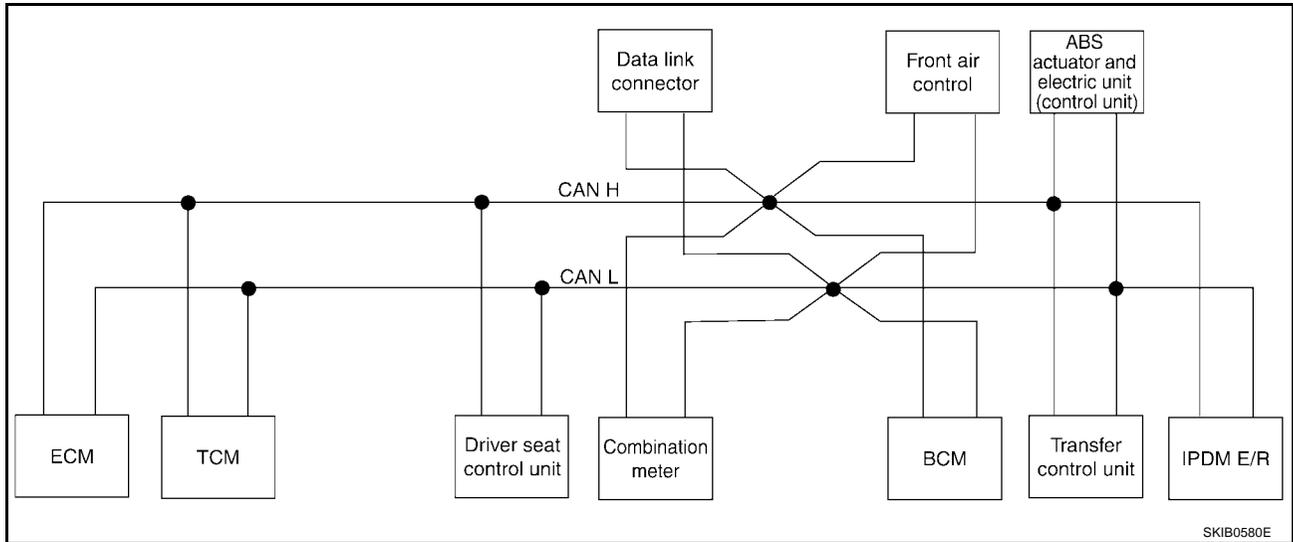
- Type 7



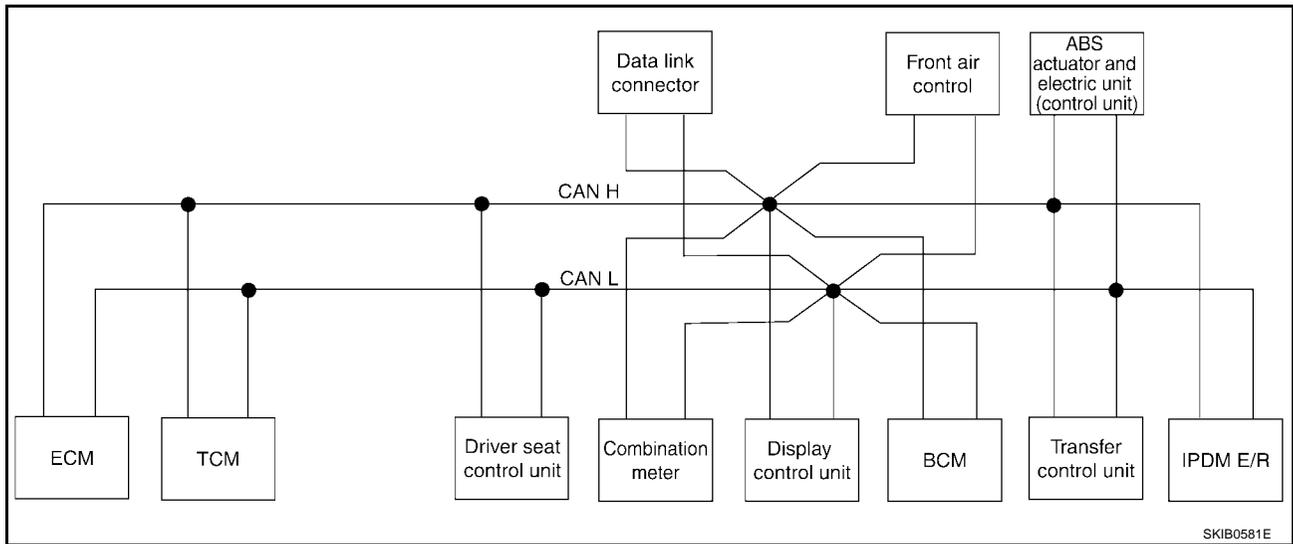
CAN COMMUNICATION

[CAN]

● Type 8



● Type 9



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	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	T	
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								

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LAN

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CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDME/R
Engine speed signal	T	R		R	R			R	R	
Engine status signal	T					R	R			
Engine coolant temperature signal	T			R			R			
Accelerator pedal position signal	T	R							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				R		T				R
Vehicle speed signal				R			R	R	T	
	R	R	R	T	R	R	R			
Sleep wake up signal			R	R		T				R
Door switch signal			R	R	R	T				R
Key fob ID signal			R			T				
Key fob door unlock signal			R			T				
Buzzer output signal				R		T				
Fuel level sensor signal	R			T						
ASCD SET lamp signal	T			R						
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
Theft warning horn request signal						T				R
Horn chirp signal						T				R
ABS warning lamp signal				R					T	
SLIP indicator lamp signal				R					T	

CAN COMMUNICATION

[CAN]

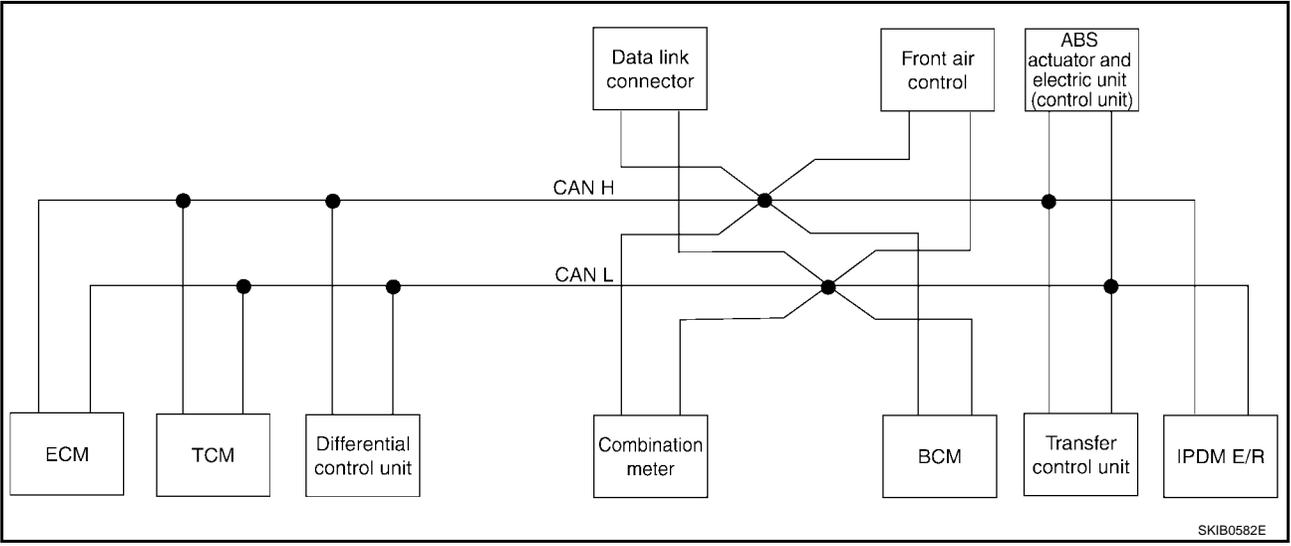
Signals	ECM	TCM	Driver seat control unit	Combination meter	Display control unit	BCM	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Brake warning lamp signal				R					T	
System setting signal			R		T					
			T		R					
Distance to empty signal				T	R					
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*1		R		T						
4th position switch signal*1		R		T						
Manual mode switch signal*2		R		T						
Not manual mode switch signal*2		R		T						
Manual mode shift up signal*2		R		T						
Manual mode shift down signal*2		R		T						
Tow mode switch signal		R		T						
A/T fluid temperature sensor signal		T		R						
4WD shift switch signal	R							T		

*1: Floor shift model only.
 *2: Column shift model only.

TYPE 10/TYPE 11/TYPE 12

System diagram

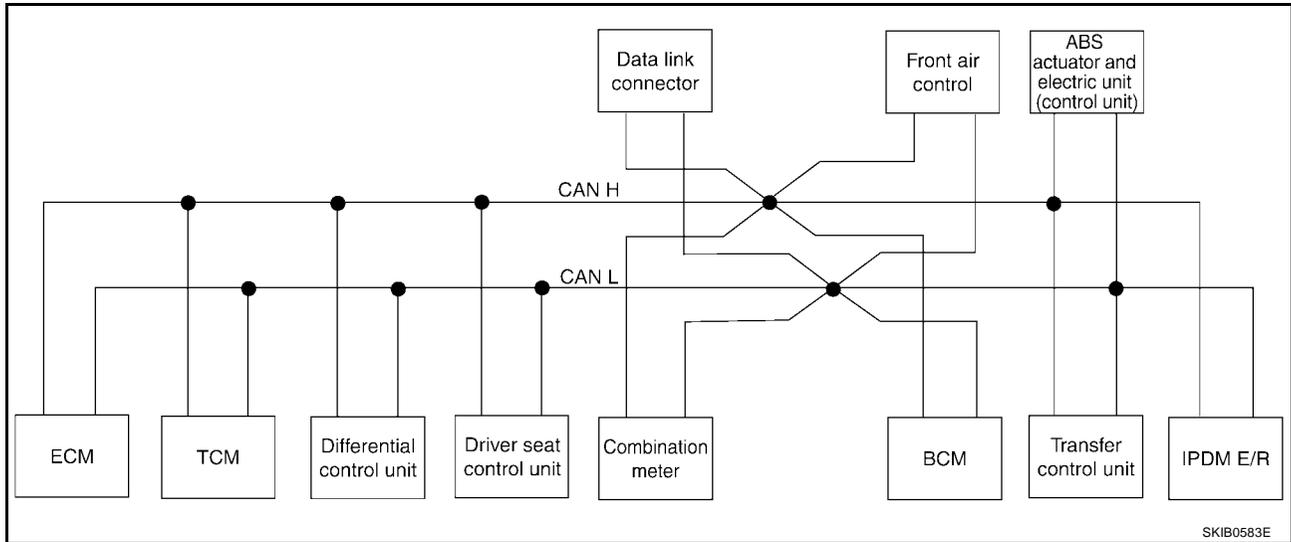
- Type 10



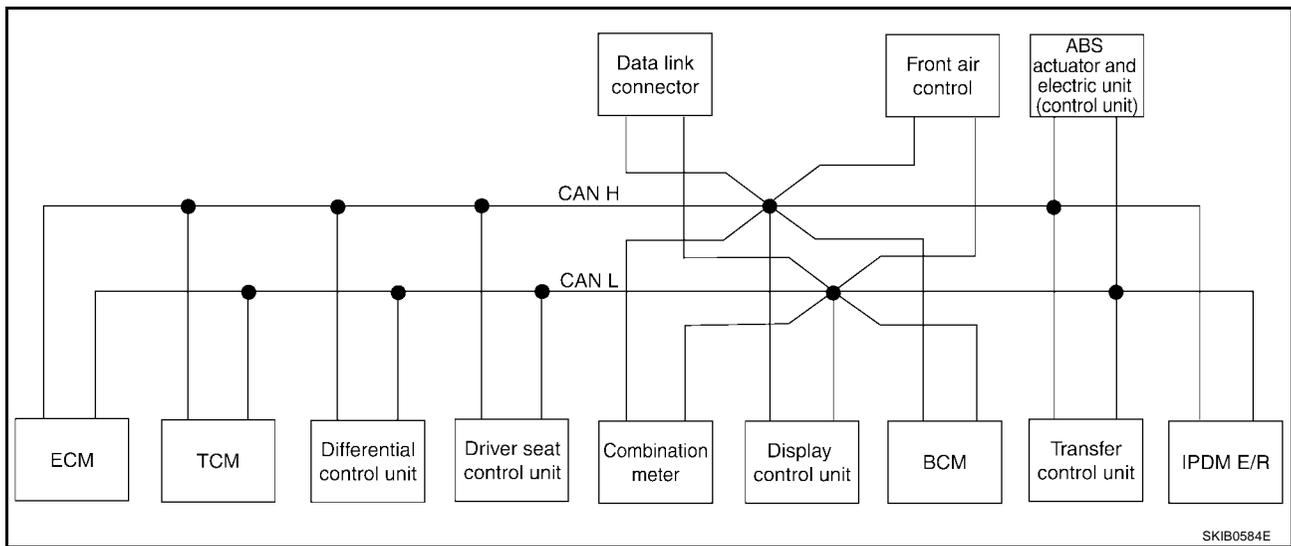
CAN COMMUNICATION

[CAN]

● Type 11



● Type 12



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Differential lock control unit	Driver seat control unit	Combination meter	Display control unit	BCM	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	T	
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									

CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Differential lock control unit	Driver seat control unit	Combination meter	Display control unit	BCM	Front air control	Transfer control unit	ABS actuator and electric unit (control unit)	IPDM E/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			
Accelerator pedal position signal	T	R								R	
Fuel consumption monitor signal	T				R						
Turbine revolution signal	R	T			T	R					
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			
Cooling fan speed request signal	T					R		T			
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					R		T				R
Vehicle speed signal			R		R			R	R	T	
Sleep wake up signal	R	R		R	T	R	R	R			
Door switch signal				R	R	R	T				R
Key fob ID signal				R			T				
Key fob door unlock signal				R			T				
Buzzer output signal					R		T				
Fuel level sensor signal	R				T						
ASCD SET lamp signal	T				R						
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
Theft warning horn request signal							T				R
Horn chirp signal							T				R

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CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Differ- ential lock con- trol unit	Driver seat con- trol unit	Com- bina- tion meter	Dis- play con- trol unit	BCM	Front air con- trol	Transf- er con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
ABS warning 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 ^{*1}		R			T						
4th position switch signal ^{*1}		R			T						
Manual mode switch signal ^{*2}		R			T						
Not manual mode switch signal ^{*2}		R			T						
Manual mode shift up signal ^{*2}		R			T						
Manual mode shift down signal ^{*2}		R			T						
Tow mode switch signal		R			T						
A/T fluid temperature sensor signal		T			R						
4WD shift switch signal	R		R						T		

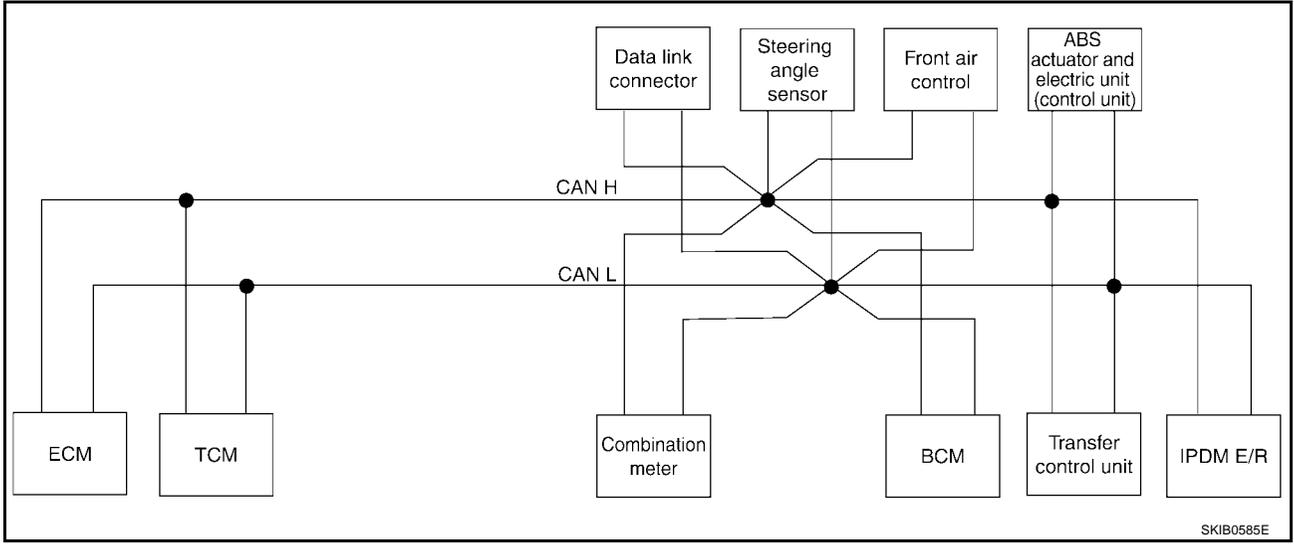
*1: Floor shift model only.

*2: Column shift model only.

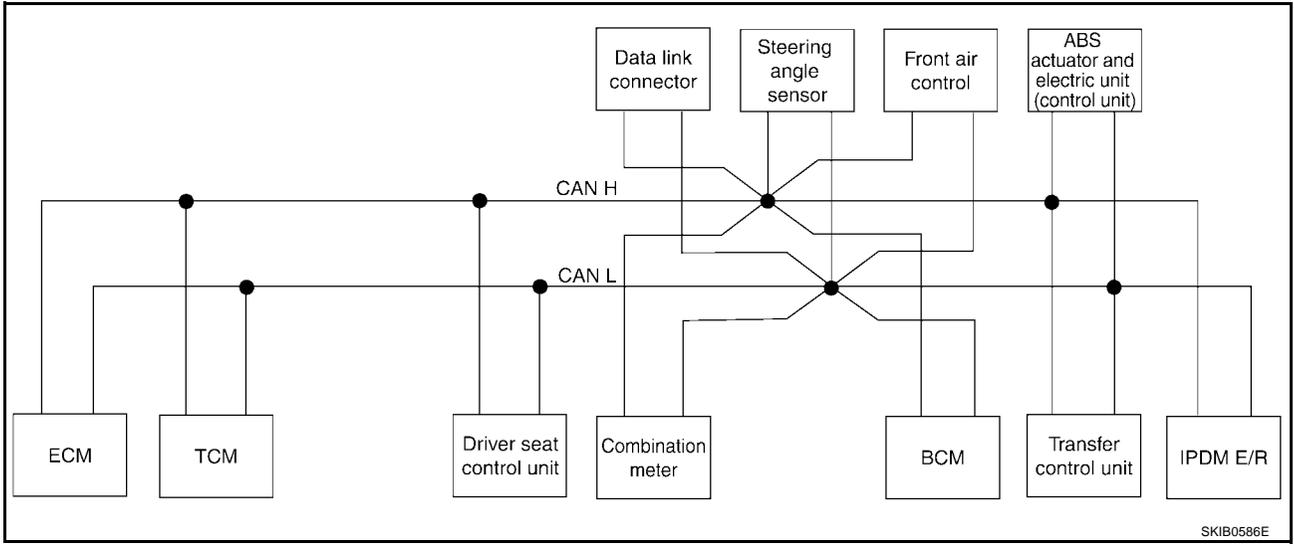
TYPE 13/TYPE 14/TYPE 15

System diagram

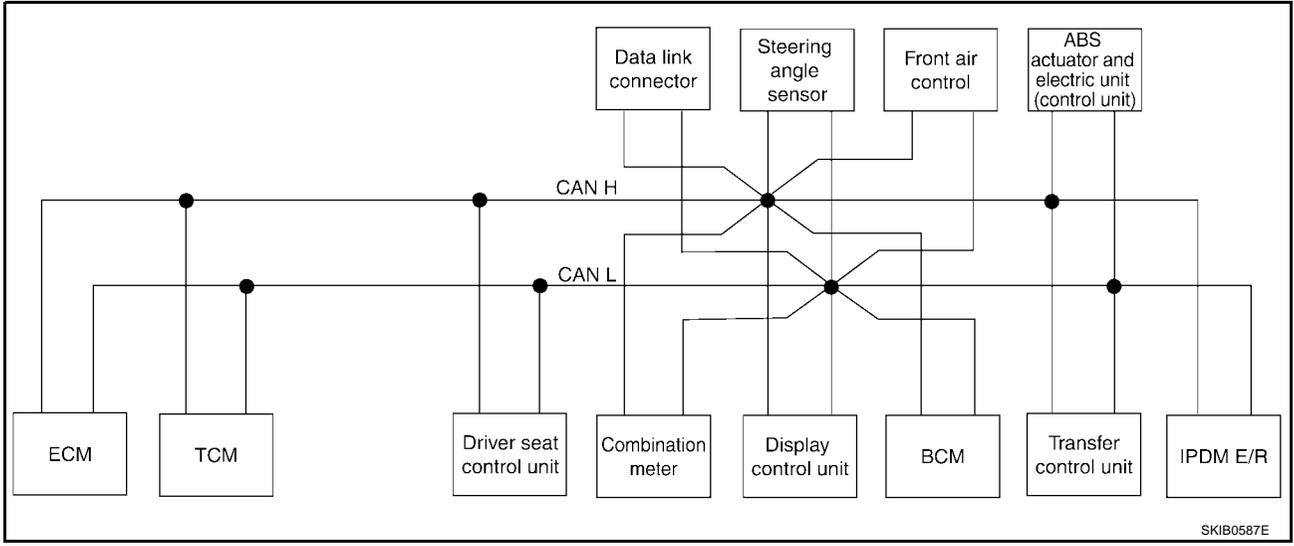
- Type 13



- Type 14



- Type 15



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CAN COMMUNICATION

[CAN]

Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Driver seat control unit	Combina-tion meter	Dis-play control unit	BCM	Steer-ing angle sensor	Front air control	Trans-fer control unit	ABS actua-tor and elec-tric unit (con-trol unit)	IPDM E/R
A/T self-diagnosis signal	R	T									
Stop lamp switch signal		R		T							
									R	T	
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			
Accelerator pedal position signal	T	R								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				R		T					R
Vehicle speed signal				R				R	R	T	
	R	R	R	T	R	R		R			
Sleep wake up signal			R	R		T					R
Door switch signal			R	R	R	T					R
Key fob ID signal			R			T					
Key fob door unlock signal			R			T					
Buzzer output signal				R		T					

CAN COMMUNICATION

[CAN]

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
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
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 ^{*1}		R		T							
4th position switch signal ^{*1}		R		T							
Manual mode switch signal ^{*2}		R		T							
Not manual mode switch signal ^{*2}		R		T							
Manual mode shift up signal ^{*2}		R		T							
Manual mode shift down signal ^{*2}		R		T							
Tow mode switch signal		R		T							
A/T fluid temperature sensor signal		T		R							
4WD shift switch signal	R								T		

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*1: Floor shift model only.
*2: Column shift model only.

CAN SYSTEM (TYPE 1)

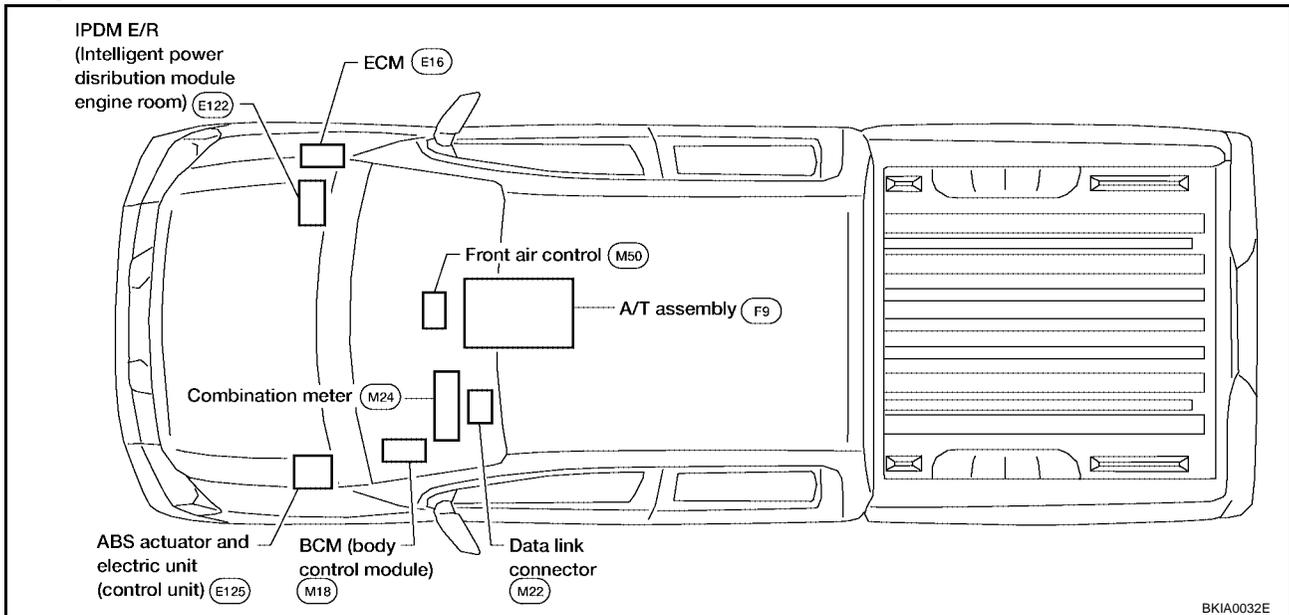
System Description

UKS001AK

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

UKS001AL

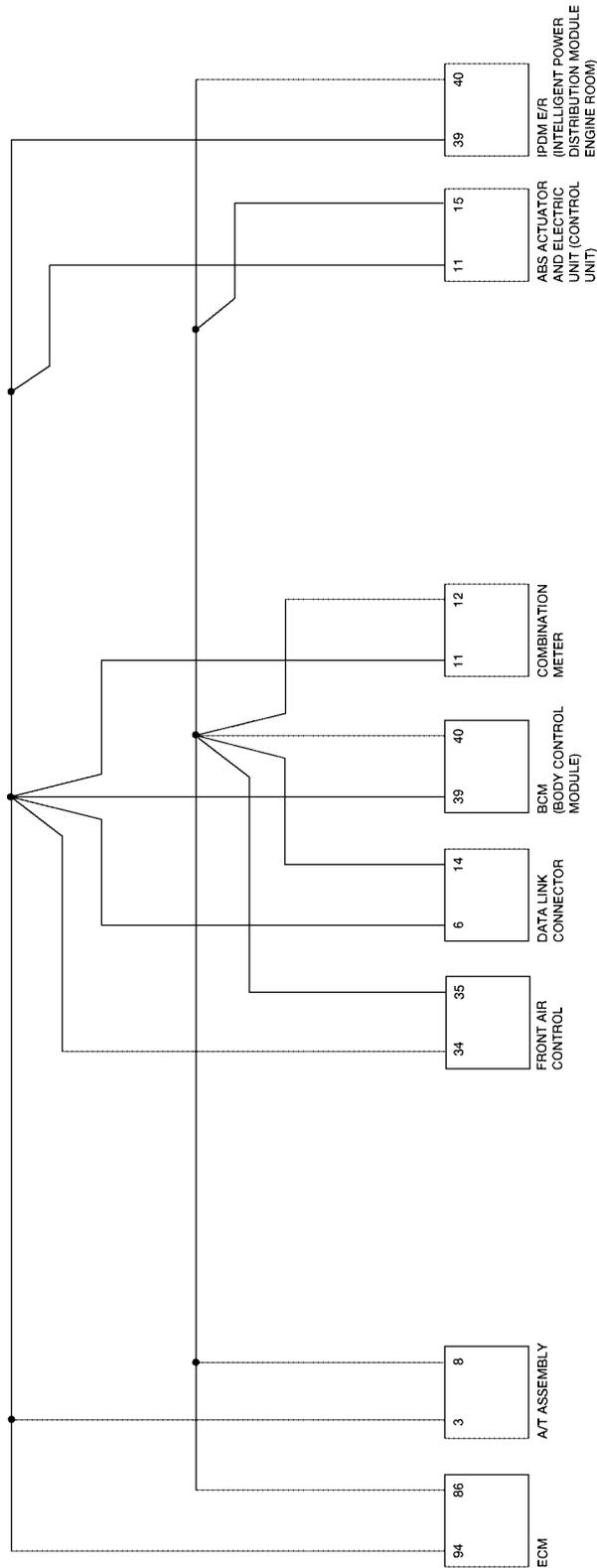


CAN SYSTEM (TYPE 1)

[CAN]

Schematic

UKS001AM



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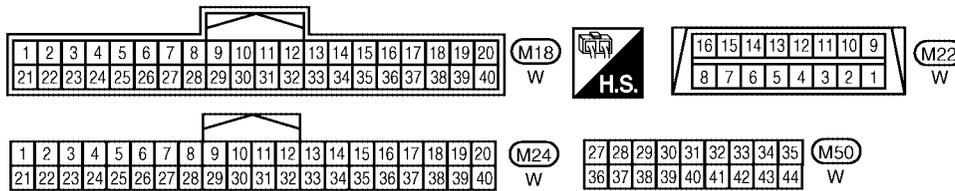
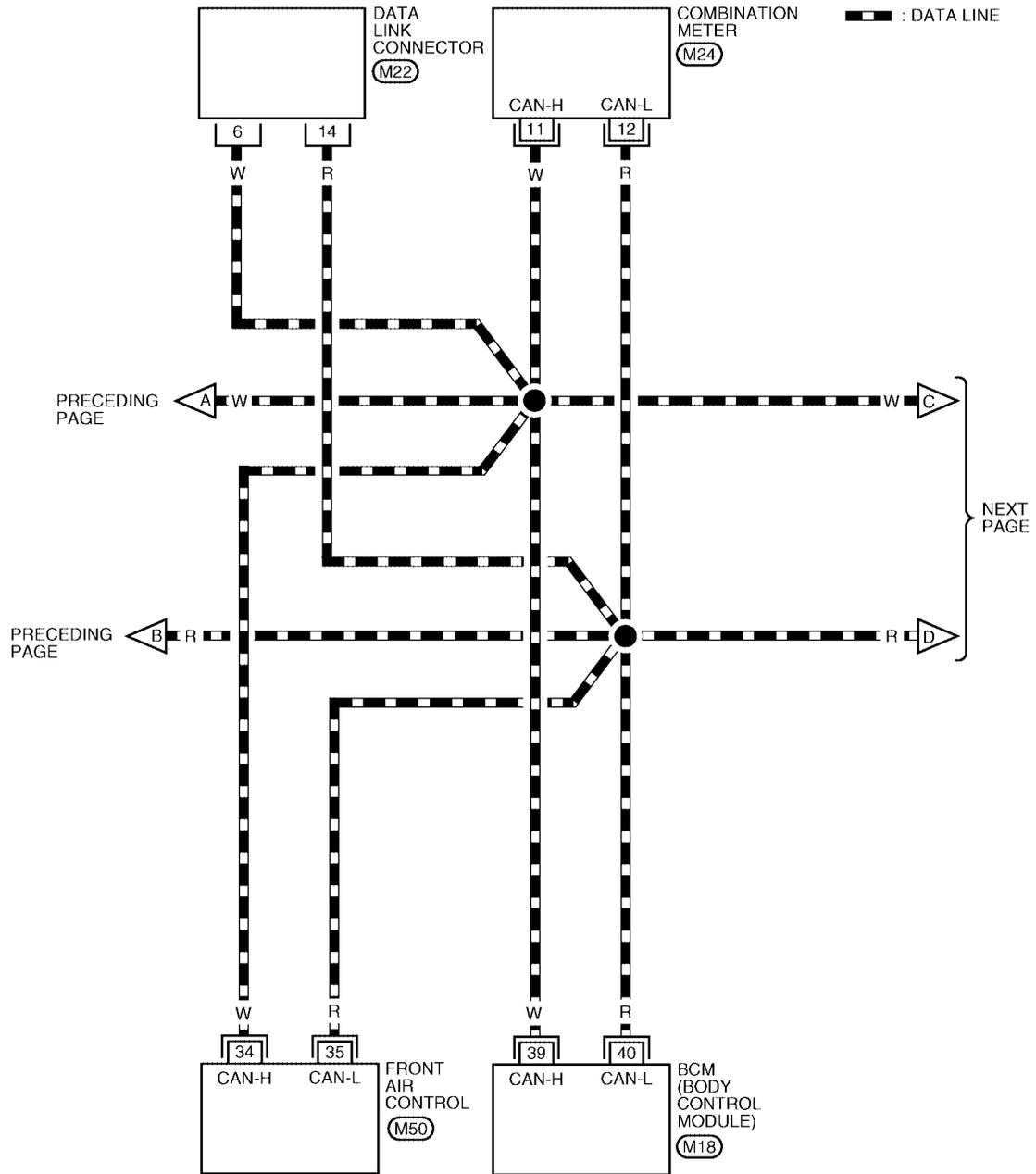
LAN

BKWA0130E

CAN SYSTEM (TYPE 1)

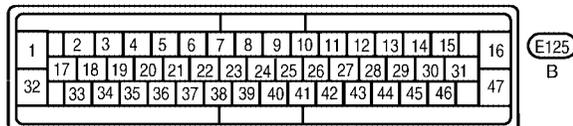
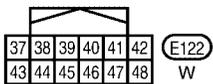
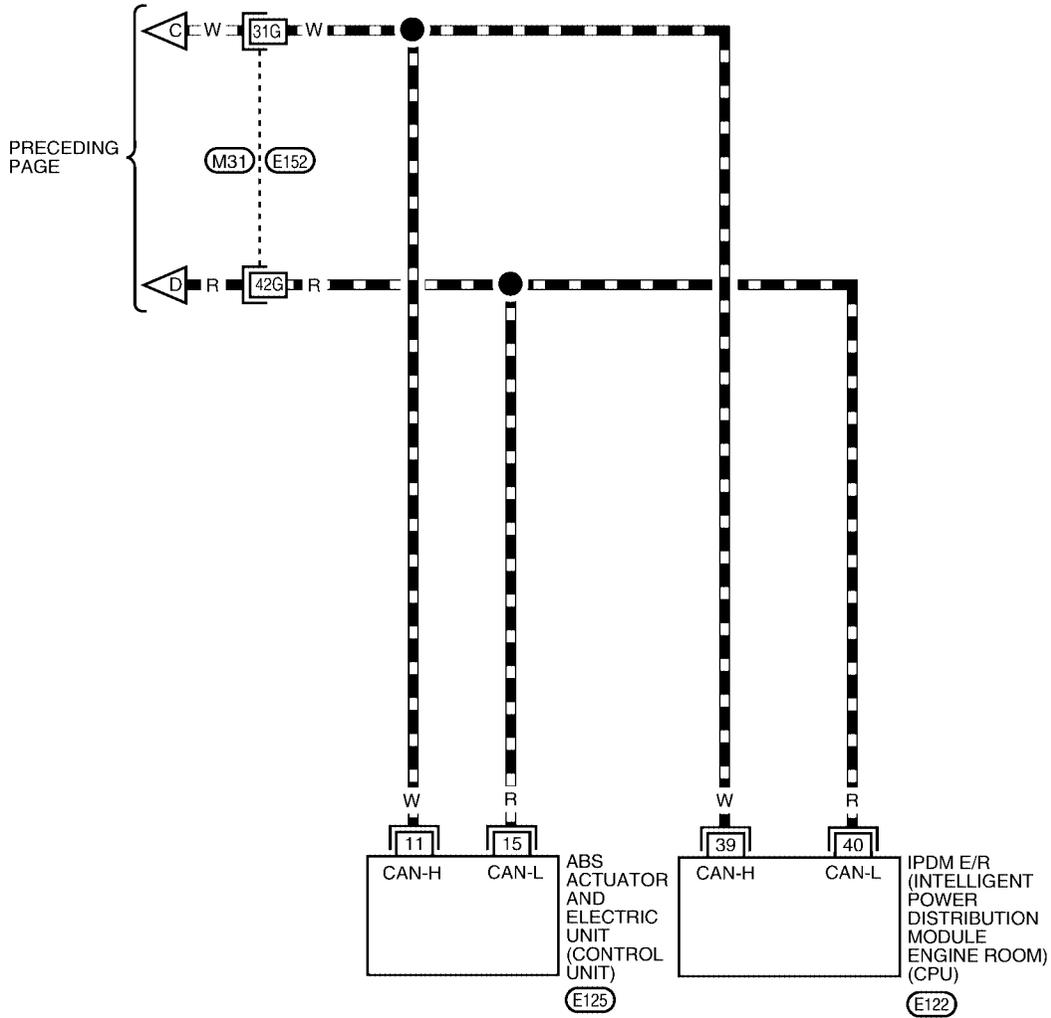
[CAN]

LAN-CAN-02



BKWA0131E

▬ : DATA LINE



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

BKWA0020E

Work Flow

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

(Example)

NISSAN CONSULT-II ENGINE START (NISSAN BASED VHCL) START (RENAULT BASED VHCL) SUB MODE LIGHT COPY		SELECT SYSTEM ENGINE A/T ABS AIR BAG BCM METER A/C AMP BACK LIGHT COPY
-----------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------

PKIA2093E

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

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		SELF-DIAG RESULTS DTC RESULTS TIME <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> F.F.DATA ERASE PRINT MODE BACK LIGHT COPY	CAN COMM CIRCUIT (U1000)	0				
CAN COMM CIRCUIT (U1000)	0							

PKIA8260E

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

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		CAN DIAG SUPPORT MNTR ENGINE <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="width: 40%; text-align: center;">PRSNR</td> </tr> <tr> <td>INITIAL DIAG</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>TRANSMIT DIAG</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>TCM</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>VDC/TCS/ABS</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>METER/M&A</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>ICC</td> <td style="text-align: center;">UNKWN</td> </tr> <tr> <td>BCM/SEC</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>IPDM E/R</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>AWD/4WD/e4WD</td> <td style="text-align: center;">UNKWN</td> </tr> </table> PRINT Scroll Down MODE BACK LIGHT COPY		PRSNR	INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN
	PRSNR																					
INITIAL DIAG	OK																					
TRANSMIT DIAG	OK																					
TCM	OK																					
VDC/TCS/ABS	OK																					
METER/M&A	OK																					
ICC	UNKWN																					
BCM/SEC	OK																					
IPDM E/R	OK																					
AWD/4WD/e4WD	UNKWN																					

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-30, "CHECK SHEET"](#).

- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-30, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-32, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 1)

[CAN]

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Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
A/T
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA9135E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

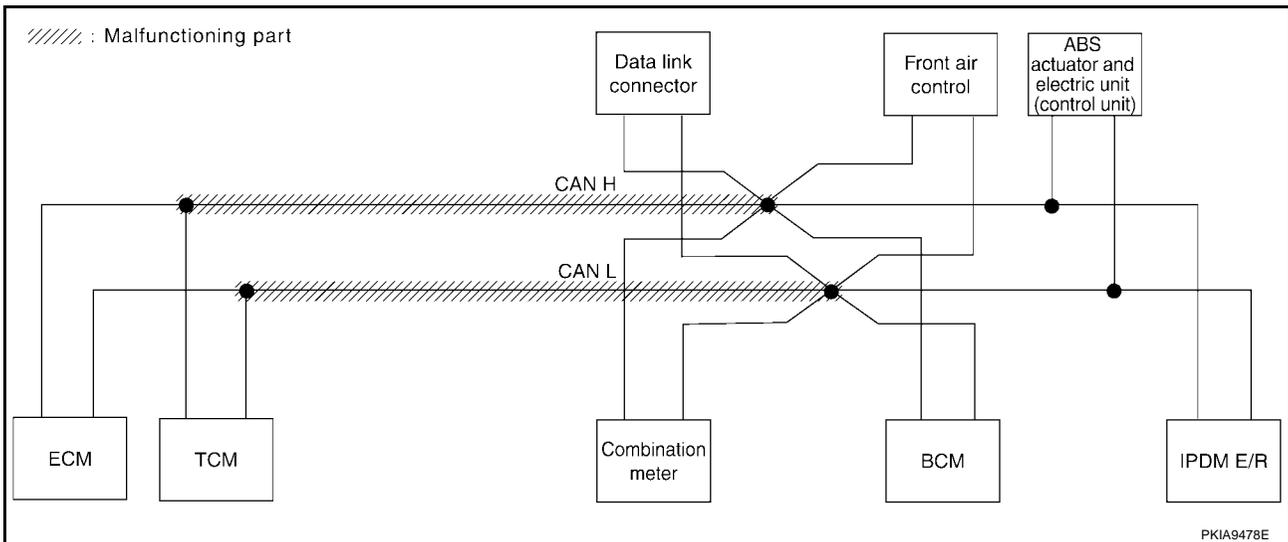
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to [LAN-42, "Circuit Check Between TCM and Data Link Connector"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—

PKIA9337E



CAN SYSTEM (TYPE 1)

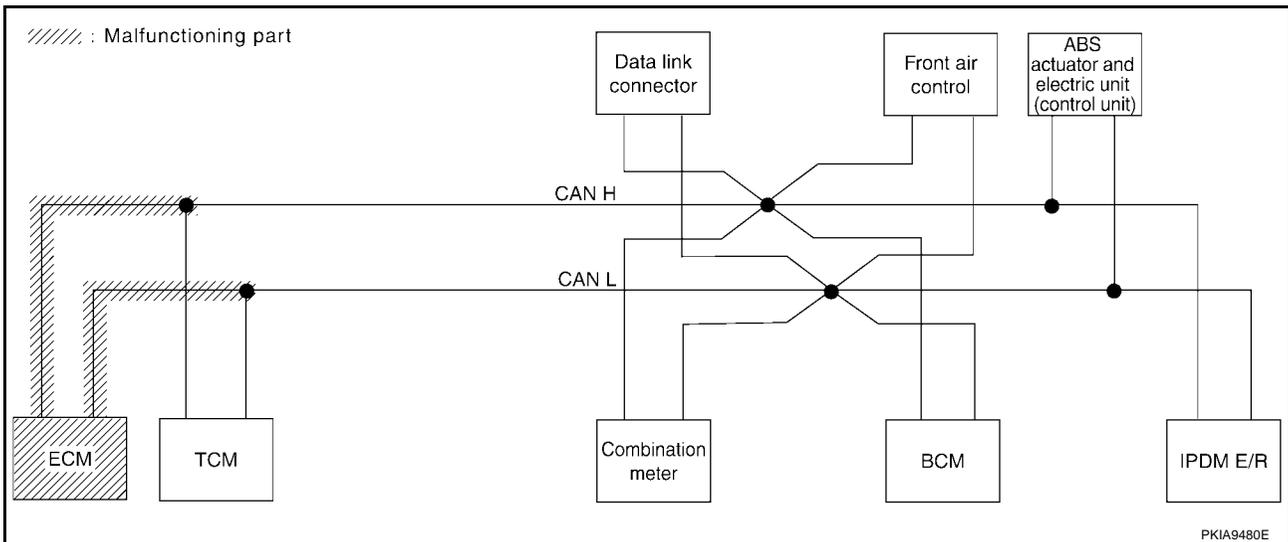
[CAN]

Case 3

Check ECM circuit. Refer to [LAN-44, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—

PKIA9342E



PKIA9480E

CAN SYSTEM (TYPE 1)

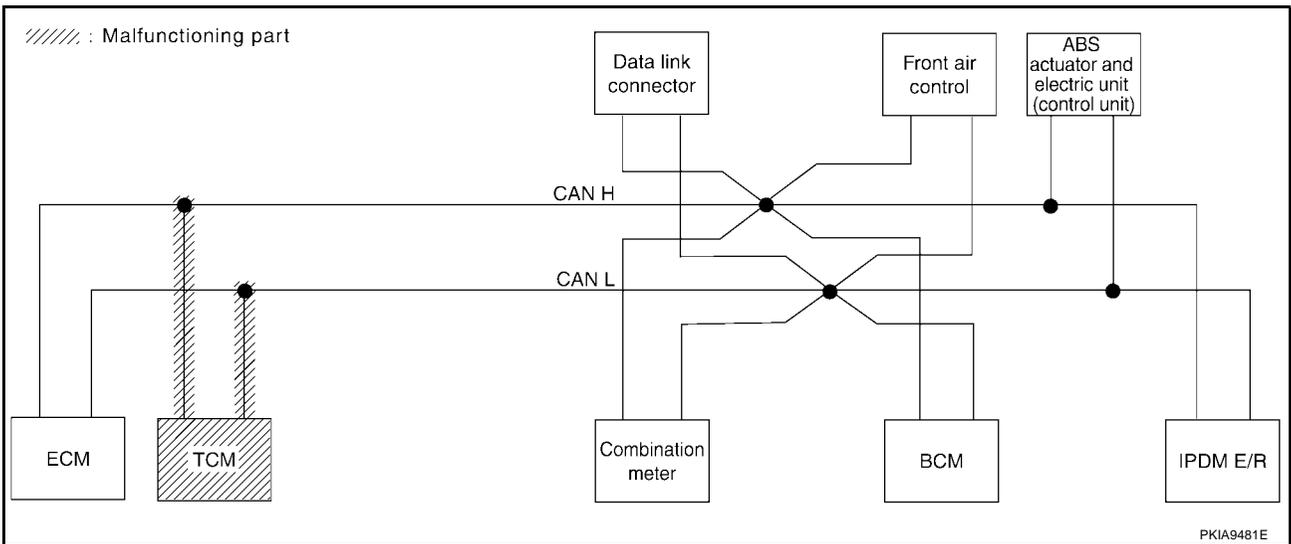
[CAN]

Case 4

Check TCM circuit. Refer to [LAN-45, "TCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN ✓	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9343E



CAN SYSTEM (TYPE 1)

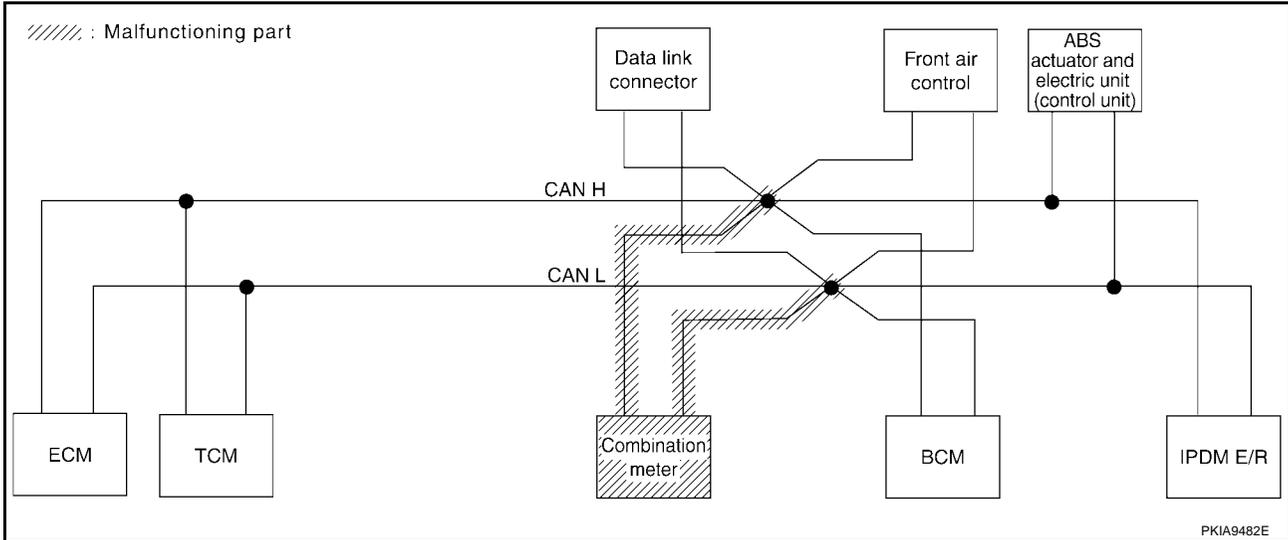
[CAN]

Case 5

Check combination meter circuit. Refer to [LAN-45, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN ✓	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9344E



PKIA9482E

CAN SYSTEM (TYPE 1)

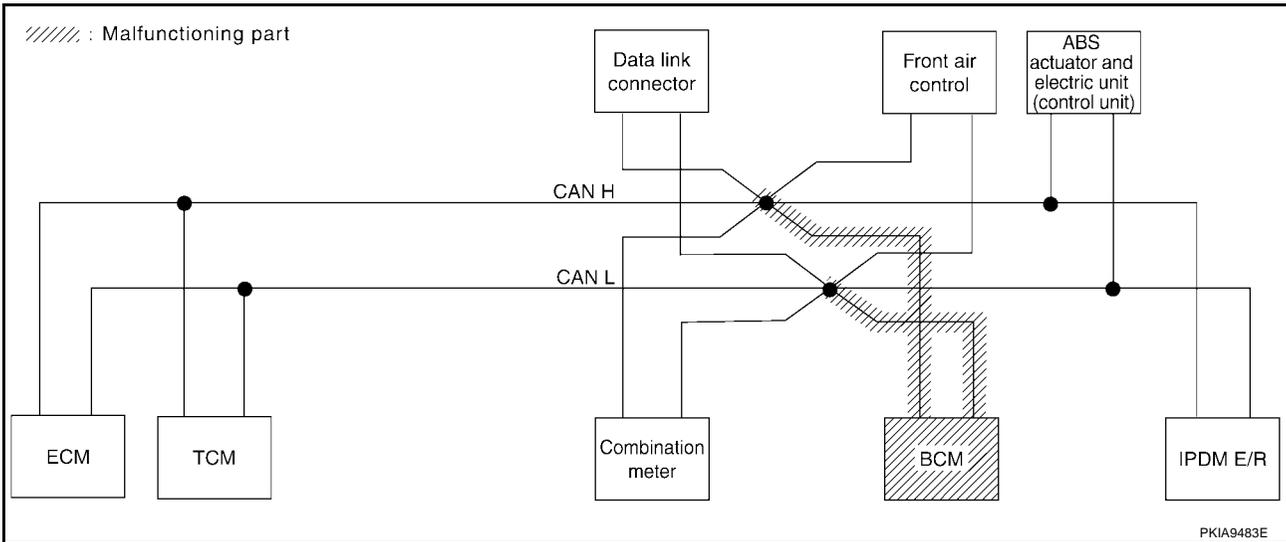
[CAN]

Case 6

Check BCM circuit. Refer to [LAN-46, "BCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—

PKIA9345E



PKIA9483E

CAN SYSTEM (TYPE 1)

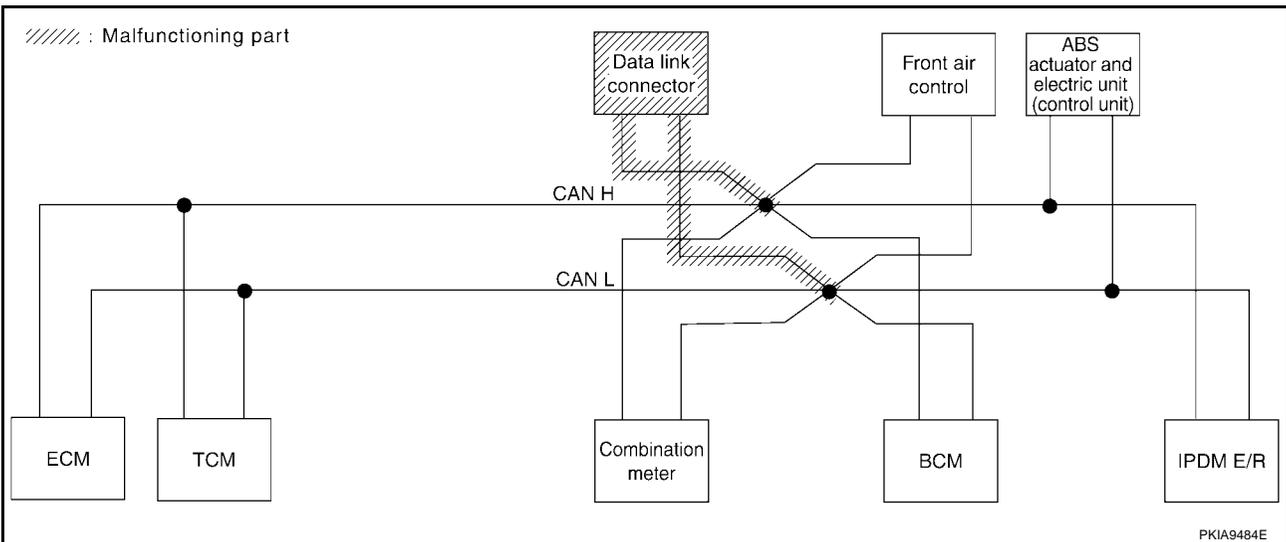
[CAN]

Case 7

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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9346E



PKIA9484E

CAN SYSTEM (TYPE 1)

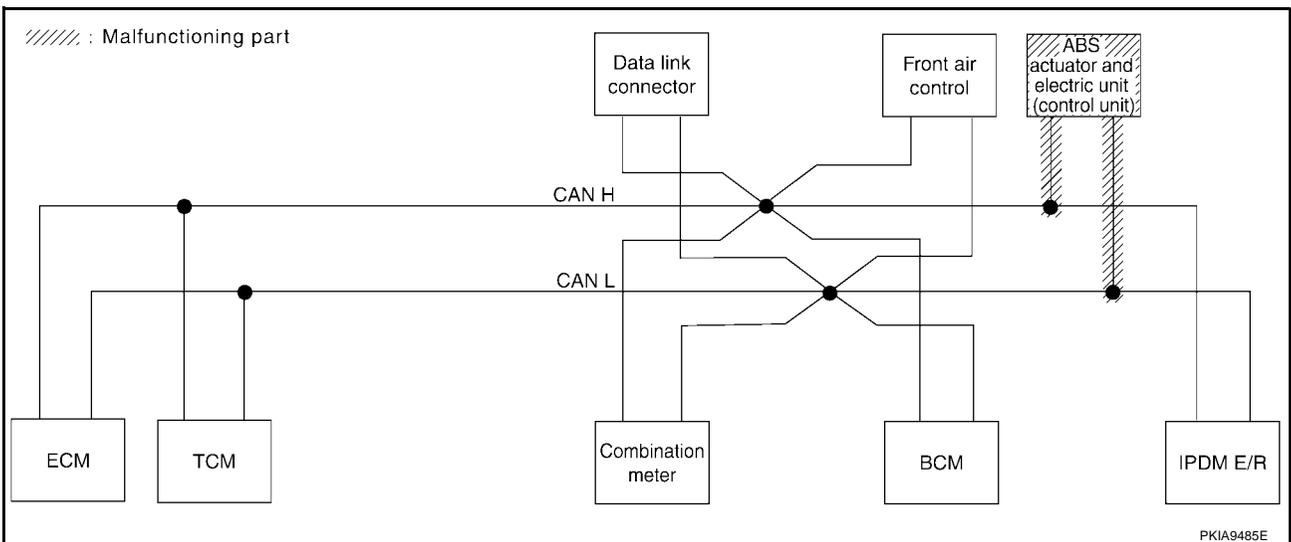
[CAN]

Case 8

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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9347E



PKIA9485E

CAN SYSTEM (TYPE 1)

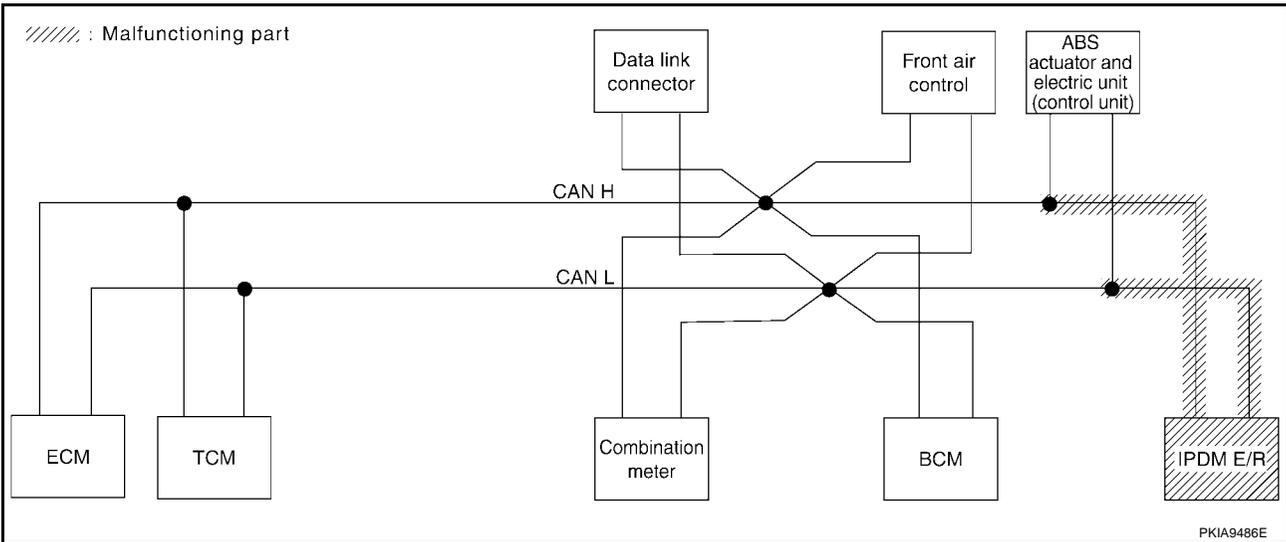
[CAN]

Case 9

Check IPDM E/R circuit. Refer to [LAN-47, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9348E



PKIA9486E

CAN SYSTEM (TYPE 1)

[CAN]

Case 10

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	IPDM E/R
ENGINE	—	NG	UNKW N [✓]	—	UNKW N [✓]	UNKW N [✓]	UNKW N [✓]	UNKW N [✓]
A/T	—	NG	UNKW N [✓]	UNKW N [✓]	—	UNKW N [✓]	—	—
BCM	No indication [✓]	NG	UNKW N [✓]	UNKW N [✓]	—	UNKW N [✓]	—	UNKW N [✓]
ABS	—	NG [✓]	UNKW N [✓]	UNKW N [✓]	—	—	—	—
IPDM E/R	No indication [✓]	—	UNKW N [✓]	UNKW N [✓]	—	—	UNKW N [✓]	—

PKIA9349E

Case 11

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	IPDM E/R
ENGINE	—	NG	UNKW N [✓]	—	UNKW N [✓]	UNKW N [✓]	UNKW N [✓]	UNKW N [✓]
A/T	—	NG	UNKW N [✓]	UNKW N [✓]	—	UNKW N [✓]	—	—
BCM	No indication	NG	UNKW N [✓]	UNKW N [✓]	—	UNKW N [✓]	—	UNKW N [✓]
ABS	—	NG	UNKW N [✓]	UNKW N [✓]	—	—	—	—
IPDM E/R	No indication	—	UNKW N [✓]	UNKW N [✓]	—	—	UNKW N [✓]	—

PKIA9350E

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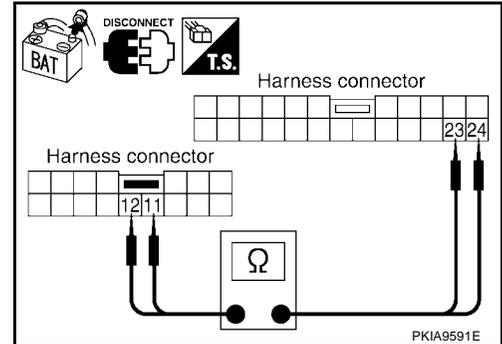
3. CHECK HARNESS FOR OPEN CIRCUIT

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.



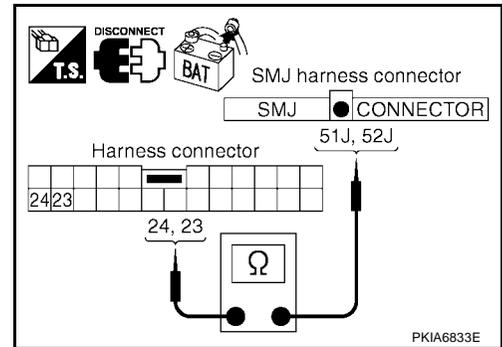
4. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



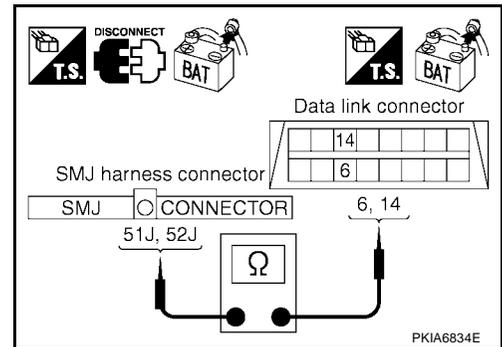
5. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-29, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001AQ

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).

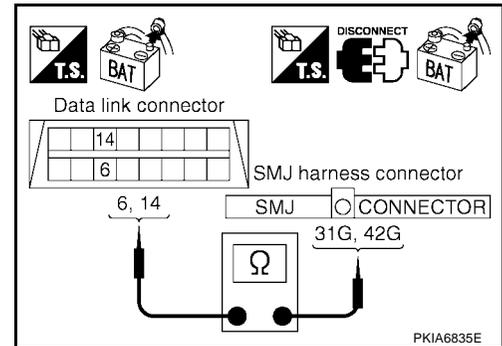
6 (W) - 31G (W) : Continuity should exist.

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).

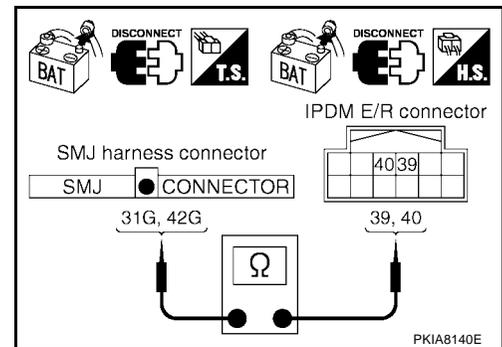
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-29, "Work Flow"](#).

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

UKS001AR

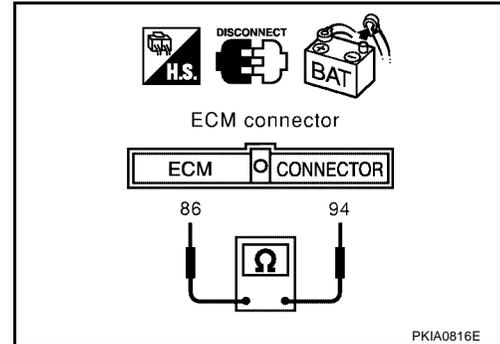
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS001AS

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

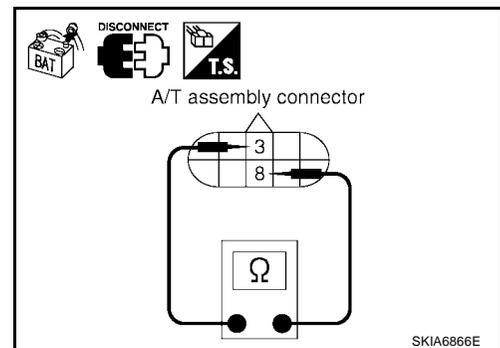
2. CHECK HARNESS FOR OPEN CIRCUIT

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



UKS001AT

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

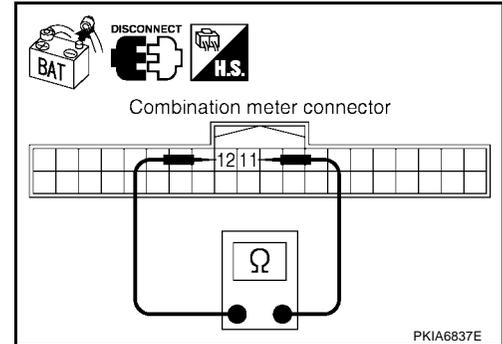
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



UKS001AU

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

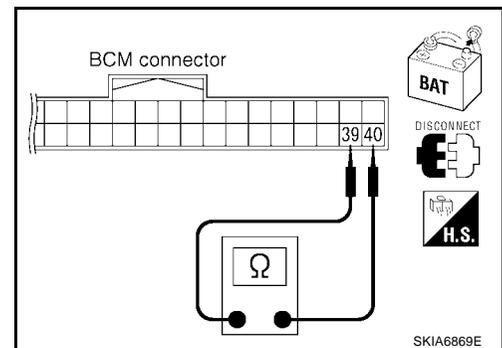
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



UKS001AV

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

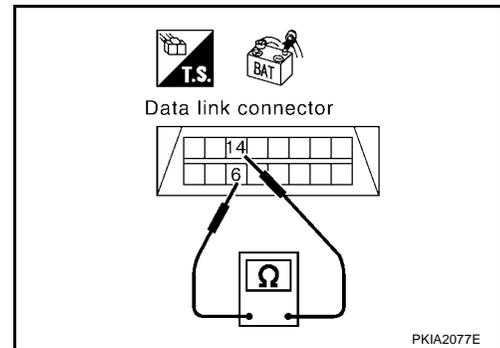
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-29, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



PKIA2077E

ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001AX

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.

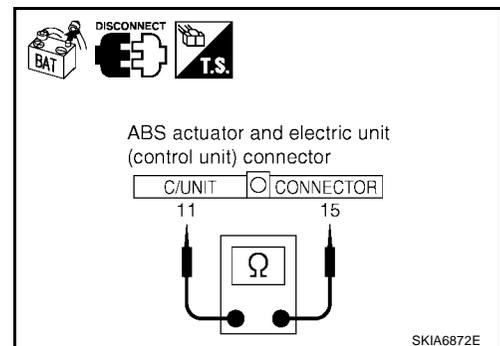
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



SKIA6872E

IPDM E/R Circuit Check

UKS001AY

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.

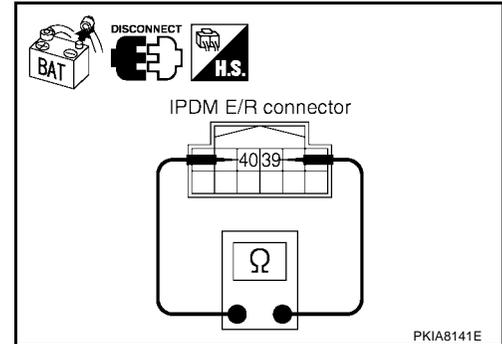
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS001AZ

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Combination meter
 - BCM
 - 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.

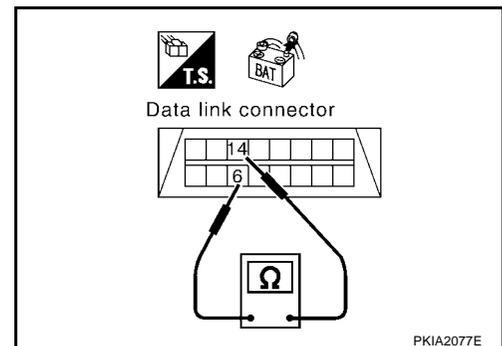
2. CHECK HARNESS FOR SHORT CIRCUIT

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.



PKIA2077E

3. CHECK HARNESS FOR SHORT CIRCUIT

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

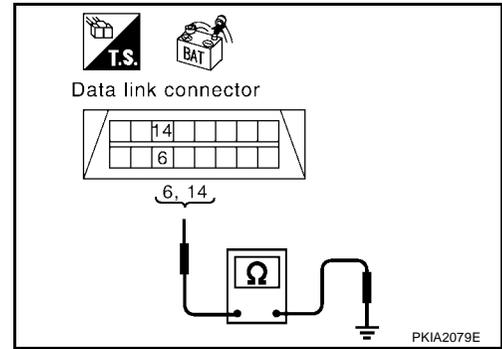
6 (W) - Ground : Continuity should not exist.

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

UKS001B0

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

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

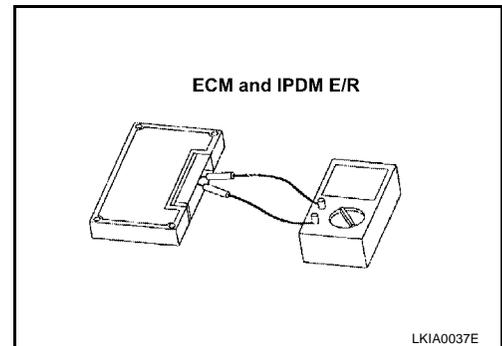
Component Inspection

UKS001B1

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 2)

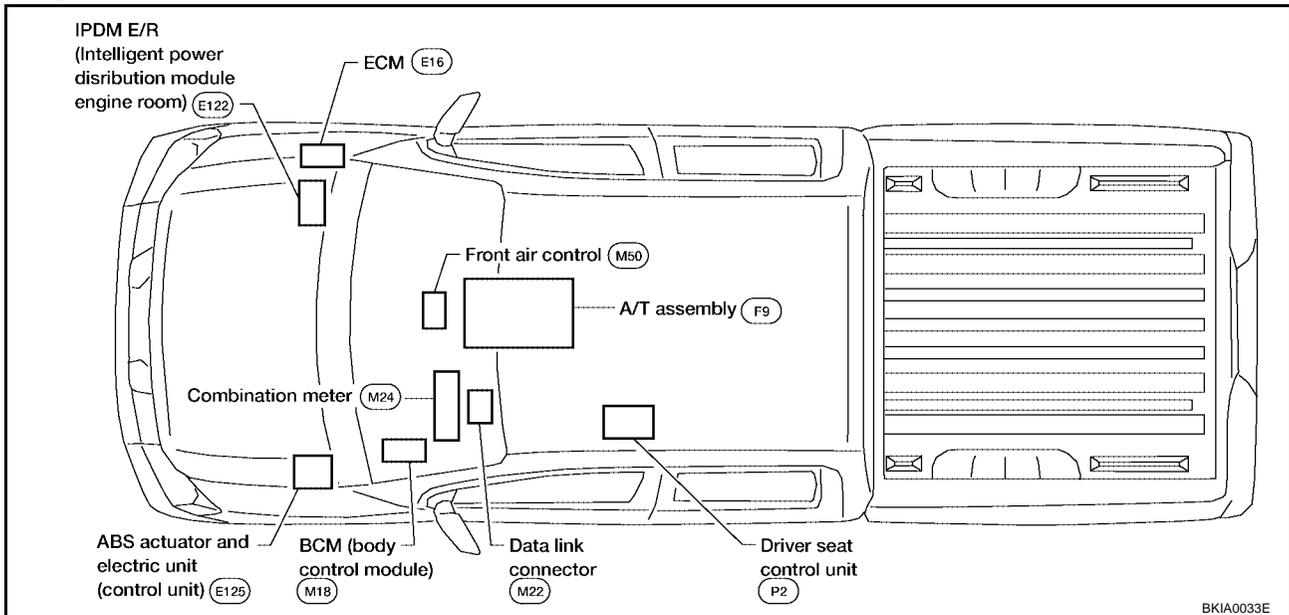
System Description

UKS001B2

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

UKS001B3

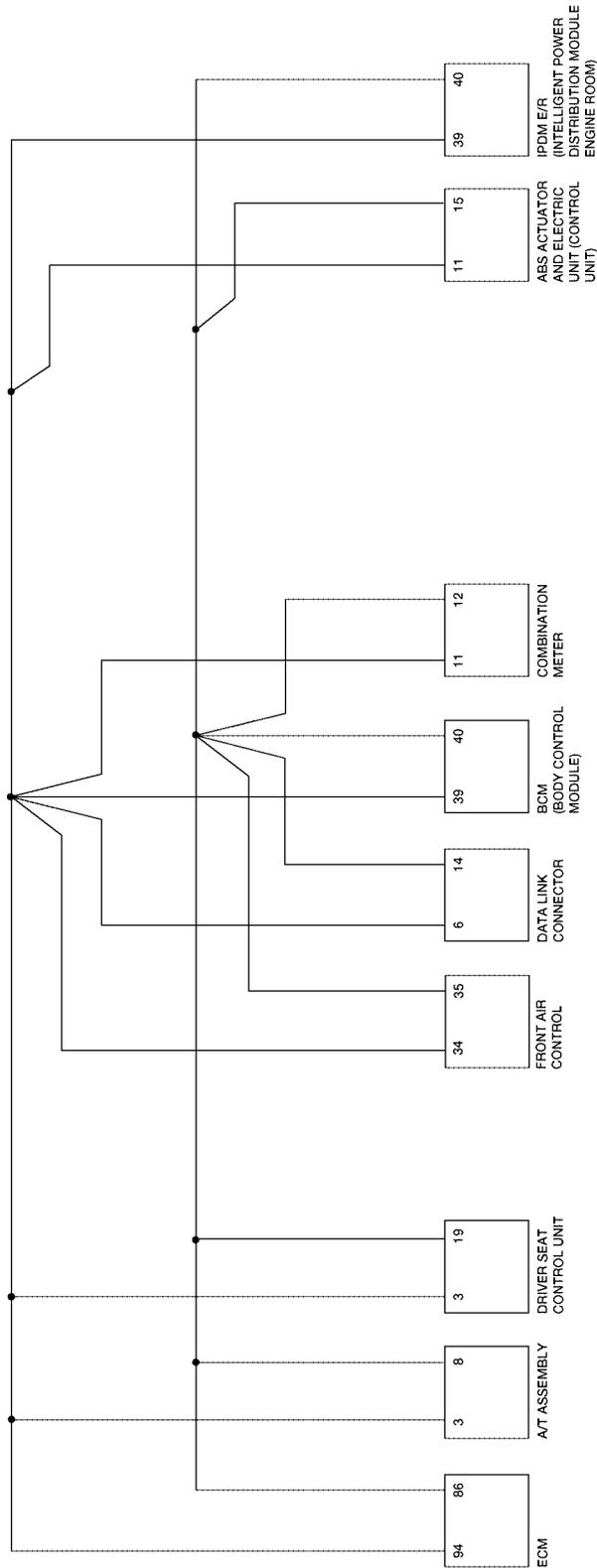


CAN SYSTEM (TYPE 2)

[CAN]

Schematic

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CAN SYSTEM (TYPE 2)

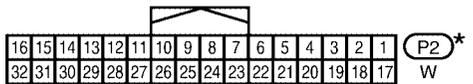
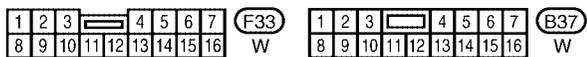
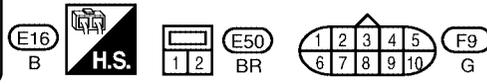
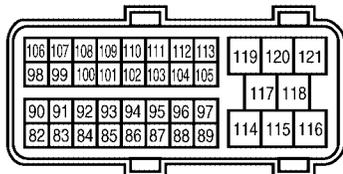
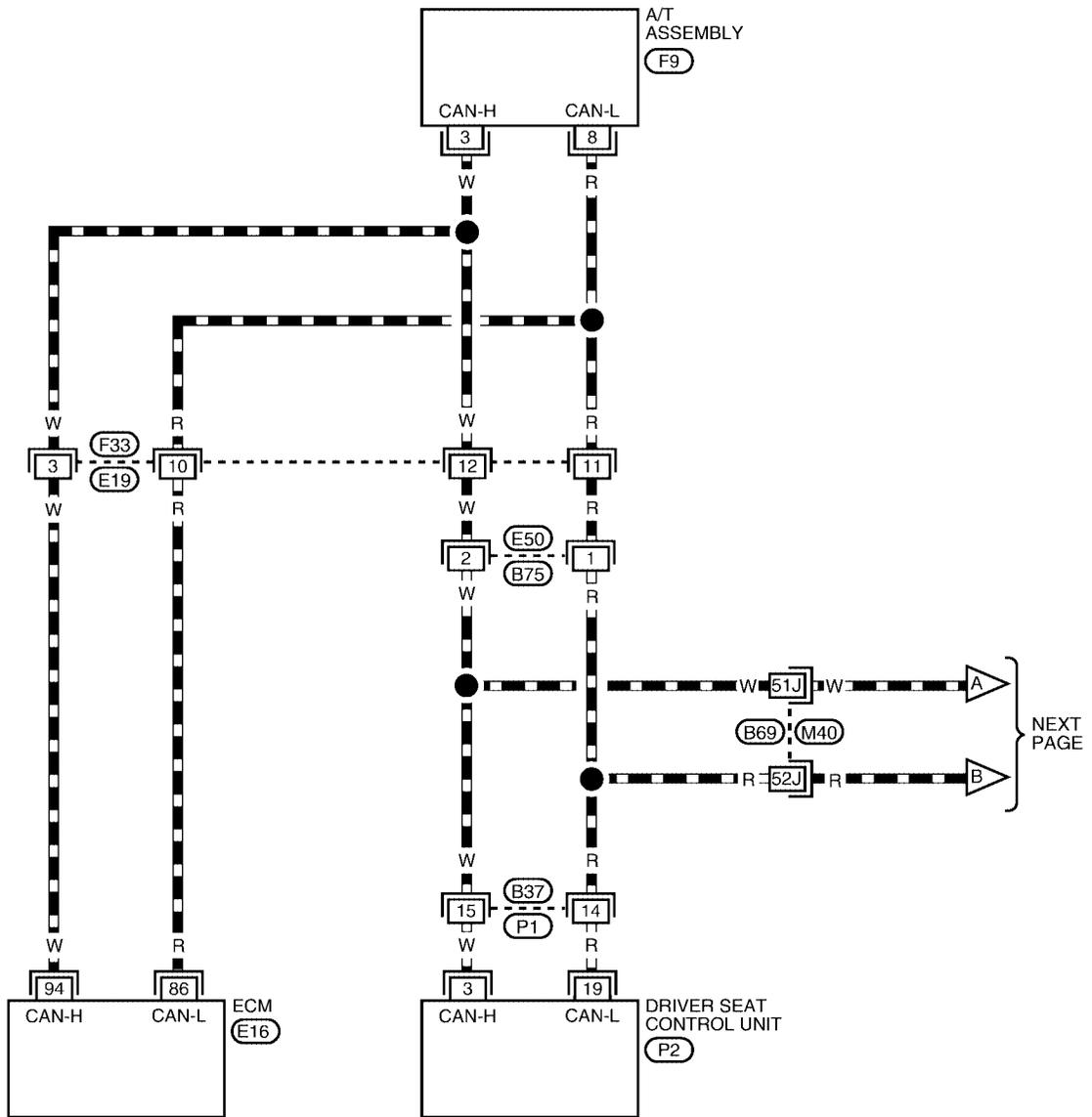
[CAN]

UKS001B5

Wiring Diagram - CAN -

LAN-CAN-04

▬ : DATA LINE



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

REFER TO THE FOLLOWING.

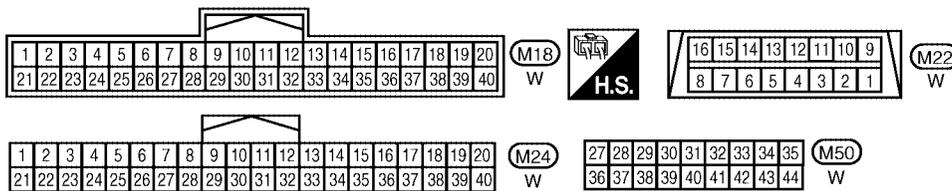
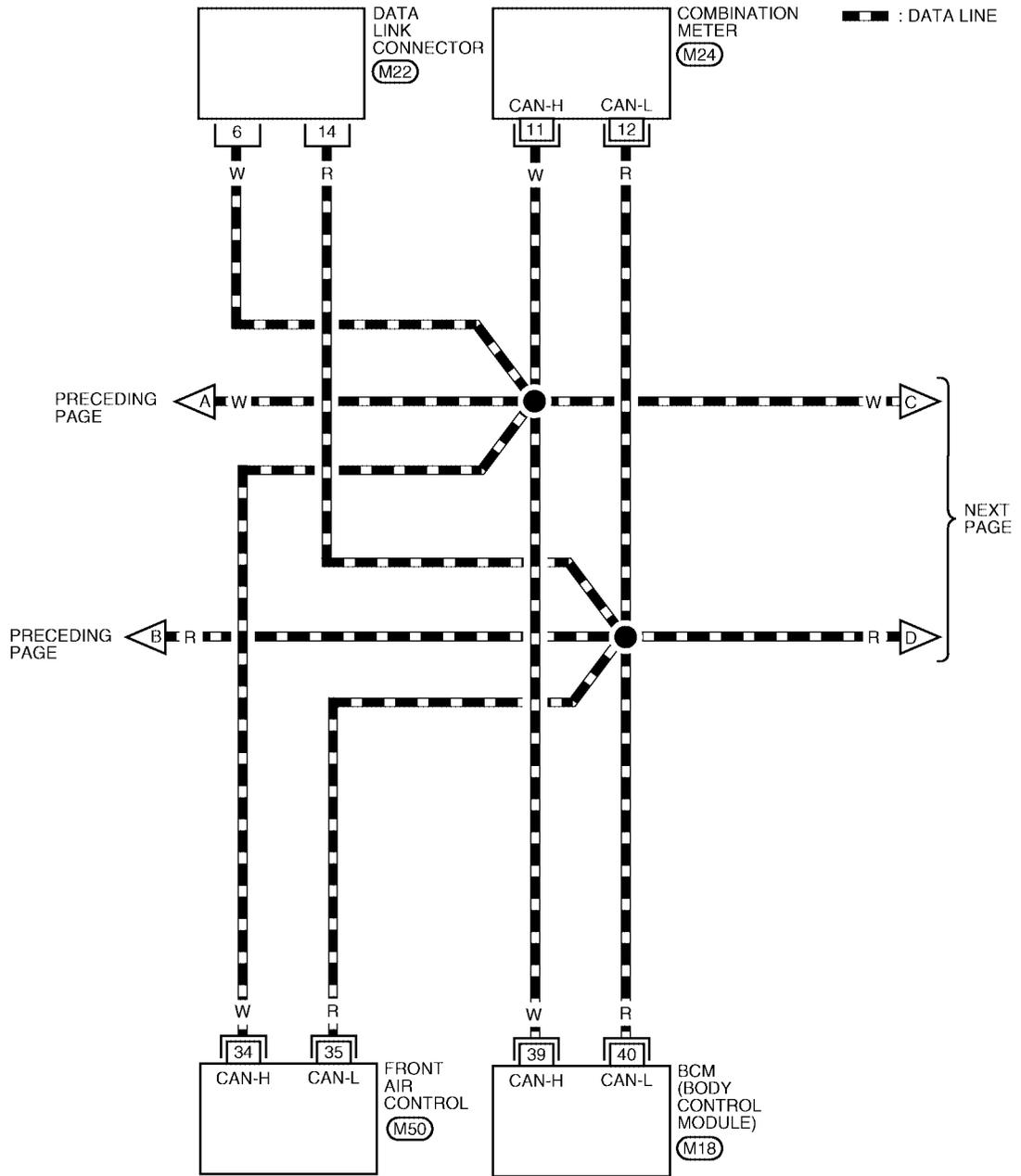
M40 - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0031E

CAN SYSTEM (TYPE 2)

[CAN]

LAN-CAN-05

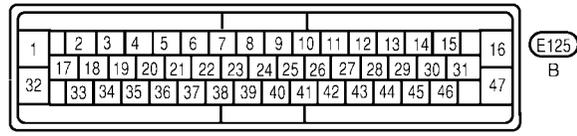
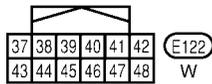
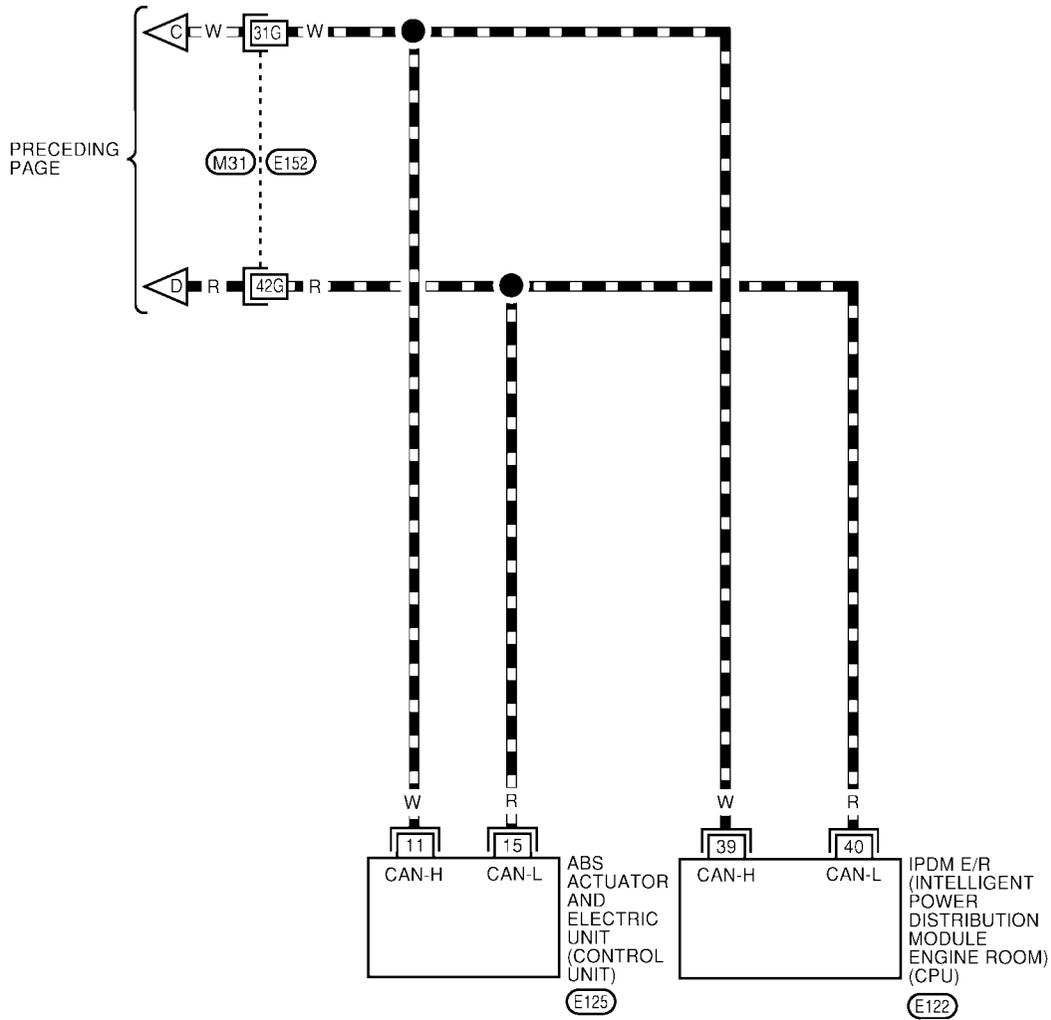


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BKWA0133E

LAN-CAN-06

▬ : DATA LINE



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

BKWA0033E

Work Flow

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

(Example)

NISSAN CONSULT-II ENGINE START (NISSAN BASED VHCL) START (RENAULT BASED VHCL) SUB MODE LIGHT COPY		SELECT SYSTEM ENGINE A/T ABS AIR BAG BCM METER A/C AMP BACK LIGHT COPY
-----------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------

PKIA2093E

- 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.

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		SELF-DIAG RESULTS DTC RESULTS TIME <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> F.F.DATA ERASE PRINT MODE BACK LIGHT COPY	CAN COMM CIRCUIT (U1000)	0						
CAN COMM CIRCUIT (U1000)	0									

PKIA8260E

- 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.

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		CAN DIAG SUPPORT MNTR ENGINE <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"> </td> <td style="width: 40%;">PRSRNT</td> </tr> <tr> <td>INITIAL DIAG</td> <td>OK</td> </tr> <tr> <td>TRANSMIT DIAG</td> <td>OK</td> </tr> <tr> <td>TCM</td> <td>OK</td> </tr> <tr> <td>VDC/TCS/ABS</td> <td>OK</td> </tr> <tr> <td>METER/M&A</td> <td>OK</td> </tr> <tr> <td>ICC</td> <td>UNKWN</td> </tr> <tr> <td>BCM/SEC</td> <td>OK</td> </tr> <tr> <td>IPDM E/R</td> <td>OK</td> </tr> <tr> <td>AWD/4WD/e4WD</td> <td>UNKWN</td> </tr> <tr> <td>PRINT</td> <td>Scroll Down</td> </tr> <tr> <td>MODE BACK LIGHT COPY</td> <td> </td> </tr> </table>		PRSRNT	INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT	Scroll Down	MODE BACK LIGHT COPY	
	PRSRNT																									
INITIAL DIAG	OK																									
TRANSMIT DIAG	OK																									
TCM	OK																									
VDC/TCS/ABS	OK																									
METER/M&A	OK																									
ICC	UNKWN																									
BCM/SEC	OK																									
IPDM E/R	OK																									
AWD/4WD/e4WD	UNKWN																									
PRINT	Scroll Down																									
MODE BACK LIGHT COPY																										

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-56, "CHECK SHEET"](#).

- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-56, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-58, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 2)

[CAN]

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Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
A/T
CAN DIAG SUPPORT
MNTR

Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
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MNTR

Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA9137E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

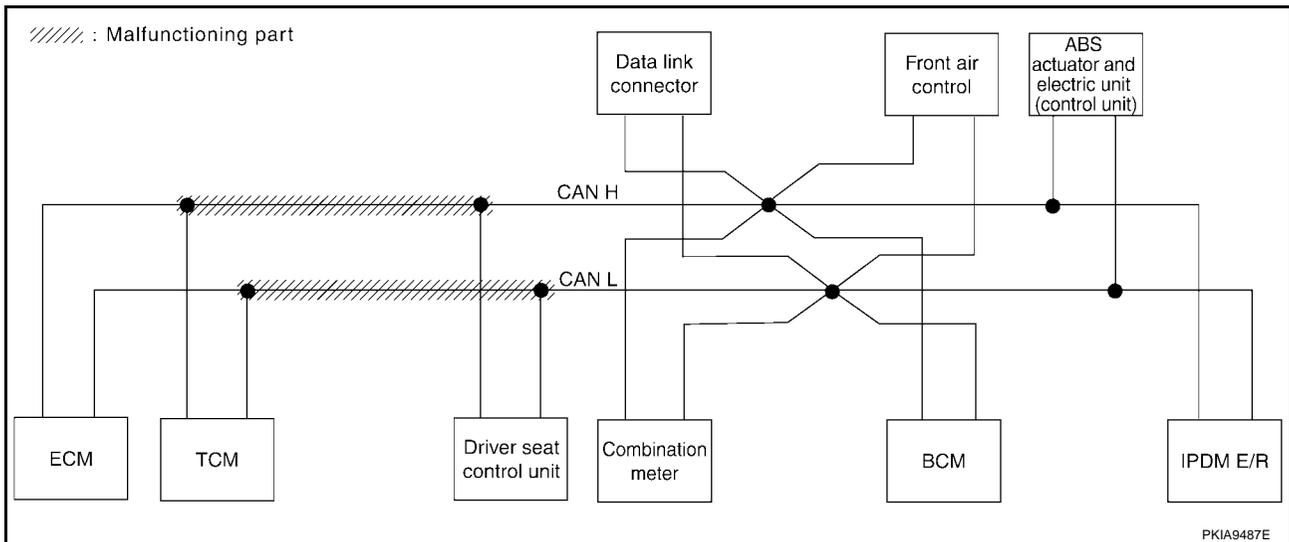
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-70, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—

PKIA9352E

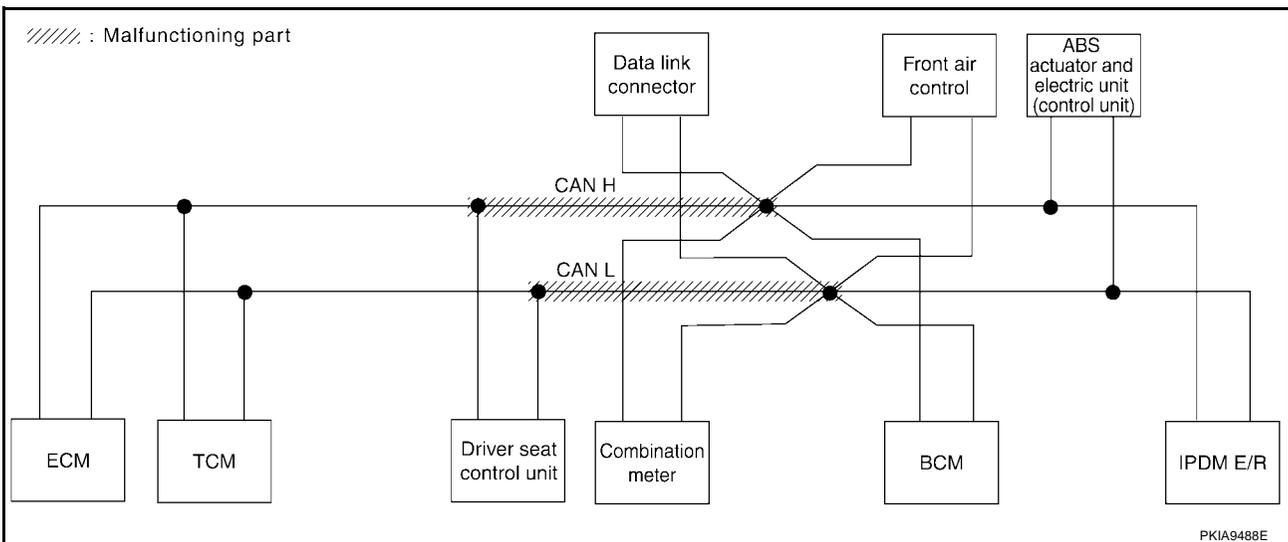


Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-71, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—

PKIA9353E



CAN SYSTEM (TYPE 2)

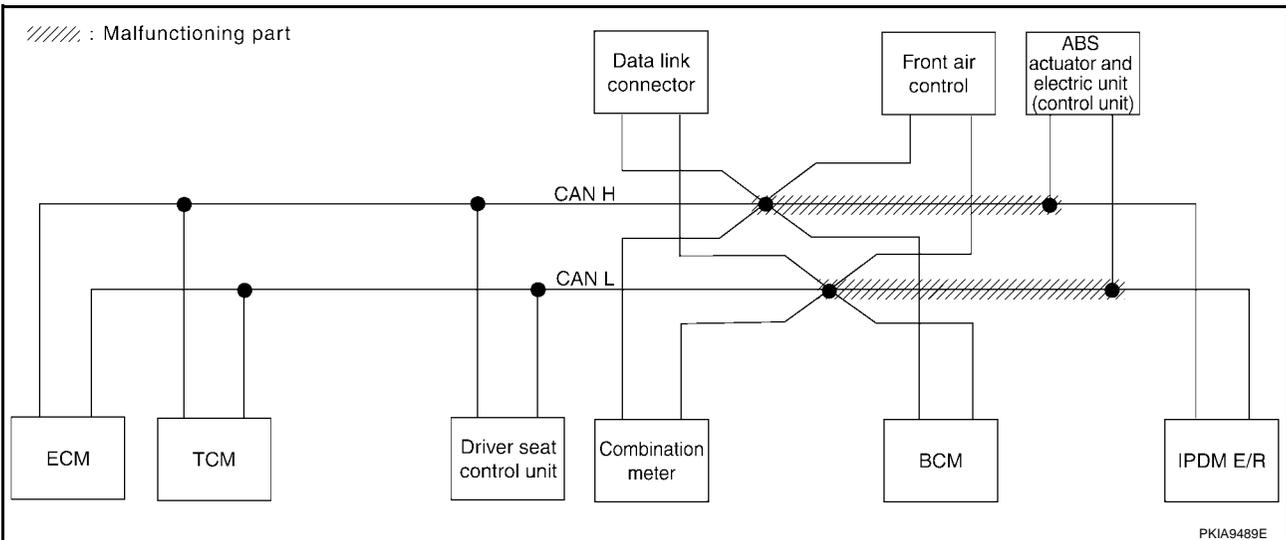
[CAN]

Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-72, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9354E



PKIA9489E

CAN SYSTEM (TYPE 2)

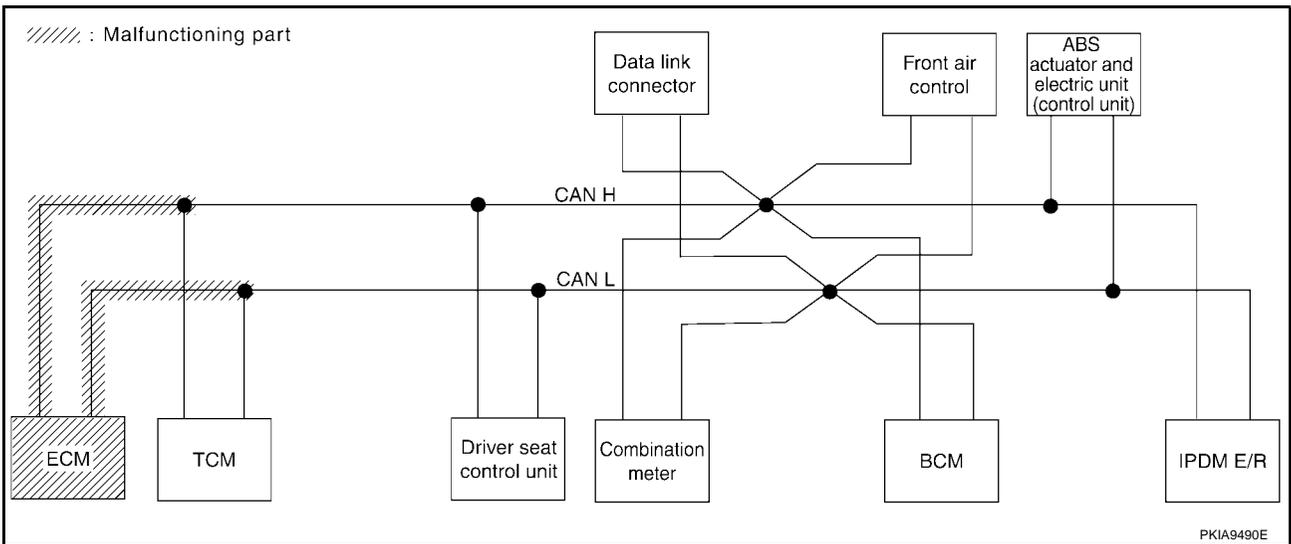
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-73, "ECM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	—	—	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—

PKIA9355E



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CAN SYSTEM (TYPE 2)

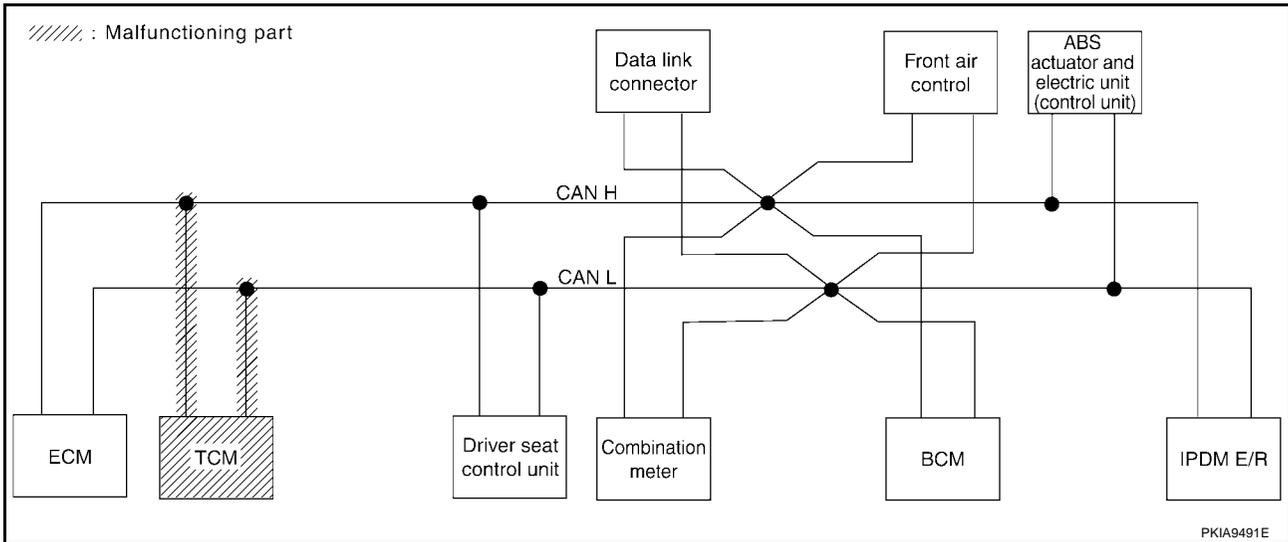
[CAN]

Case 5

Check TCM circuit. Refer to [LAN-73, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN ✓	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9356E



PKIA9491E

CAN SYSTEM (TYPE 2)

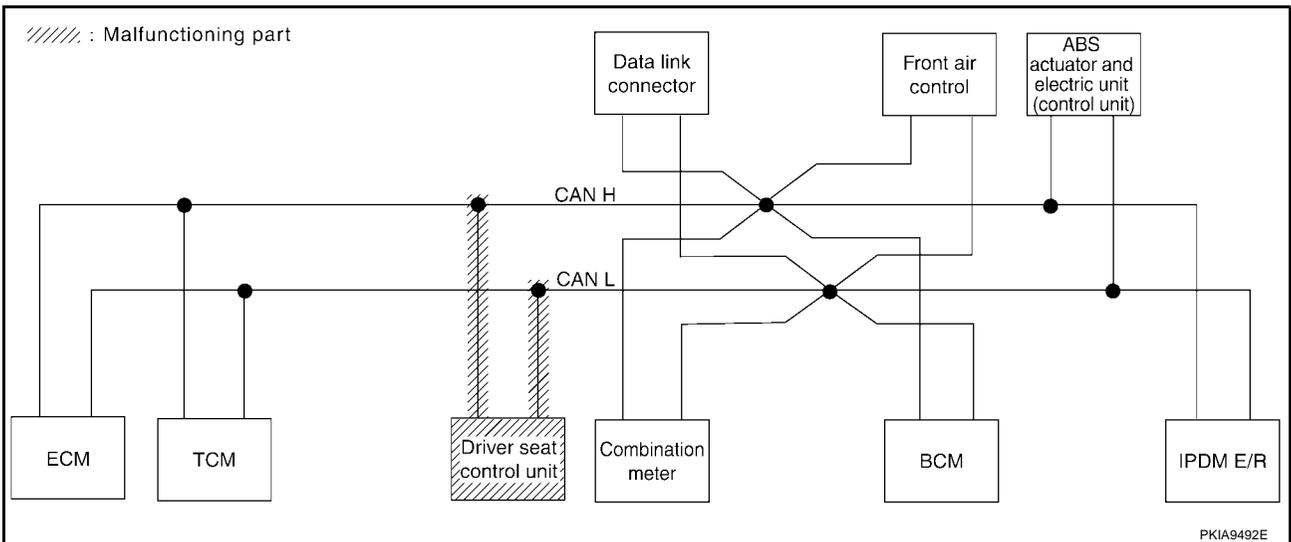
[CAN]

Case 6

Check driver seat control unit circuit. Refer to [LAN-74, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

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PKIA9492E

CAN SYSTEM (TYPE 2)

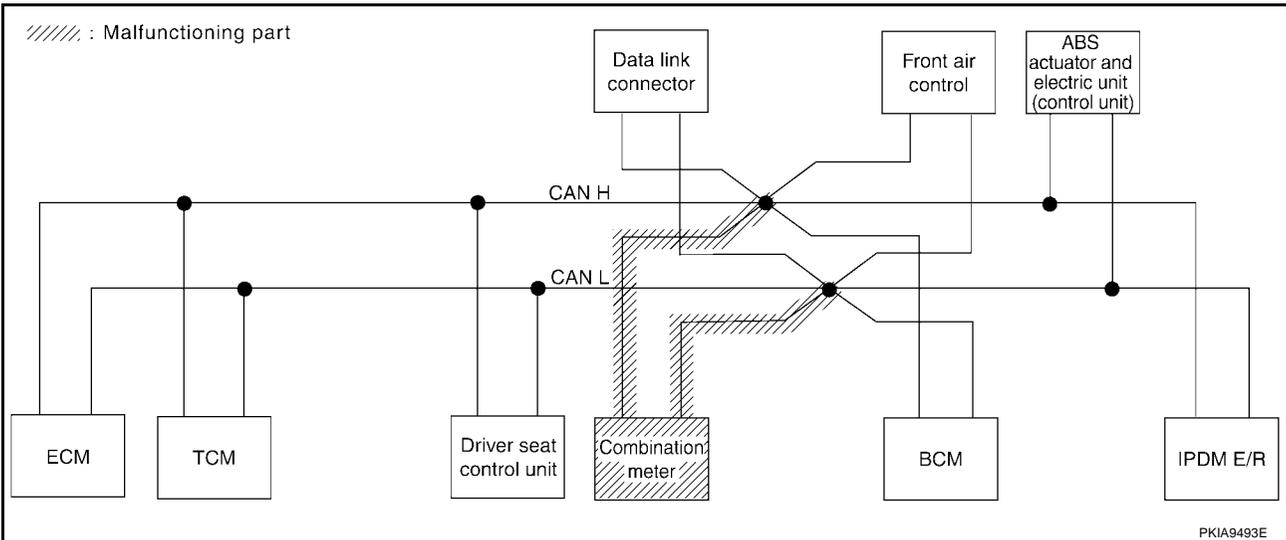
[CAN]

Case 7

Check combination meter circuit. Refer to [LAN-74, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN ✓	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

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PKIA9493E

CAN SYSTEM (TYPE 2)

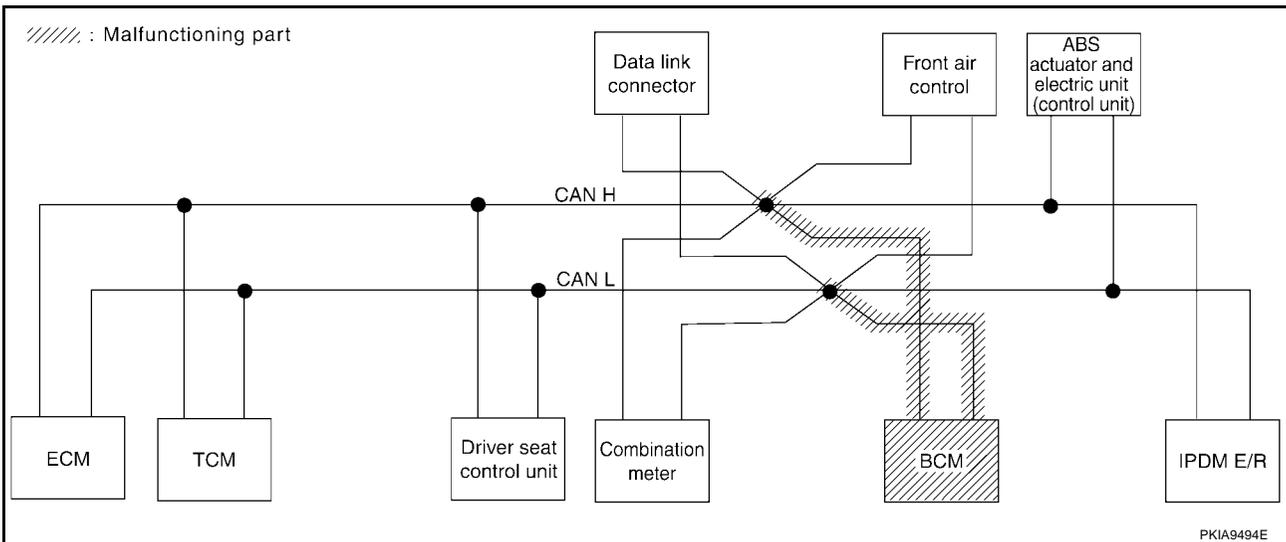
[CAN]

Case 8

Check BCM circuit. Refer to [LAN-75, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—

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PKIA9494E

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CAN SYSTEM (TYPE 2)

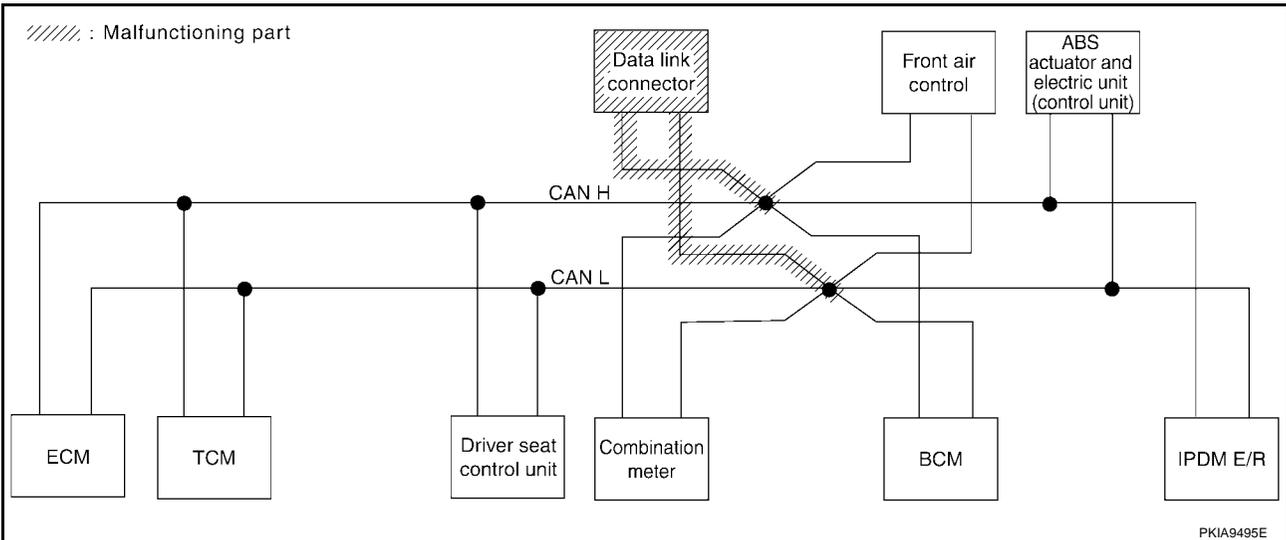
[CAN]

Case 9

Check data link connector circuit. Refer to [LAN-75, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9360E



PKIA9495E

CAN SYSTEM (TYPE 2)

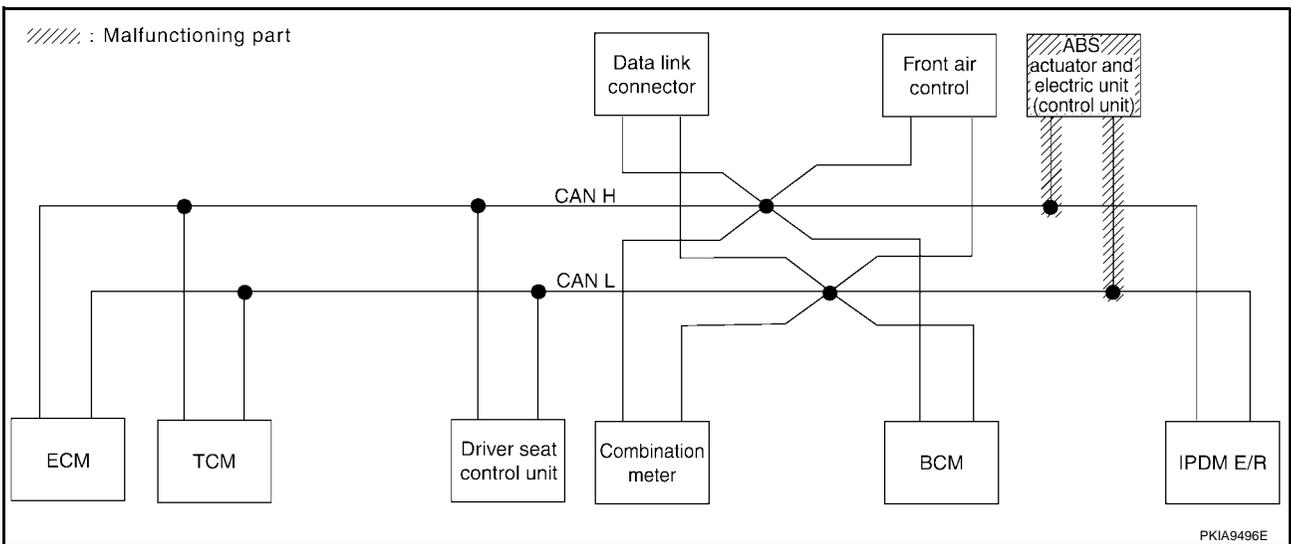
[CAN]

Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-76, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9361E



CAN SYSTEM (TYPE 2)

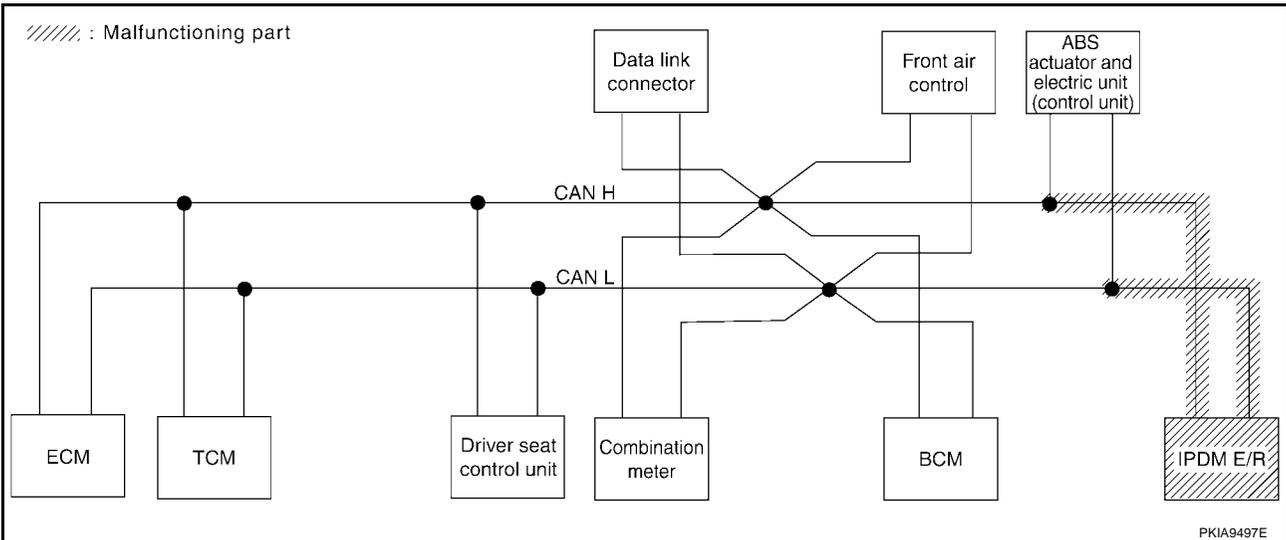
[CAN]

Case 11

Check IPDM E/R circuit. Refer to [LAN-76, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9362E



PKIA9497E

CAN SYSTEM (TYPE 2)

[CAN]

Case 12

Check CAN communication circuit. Refer to [LAN-77, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	TCM	METER /M&A	BCM/SEC	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—
BCM	No indication ✓	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N
ABS	—	NG ✓	UNKW N	UNKW N	—	—	—	—
IPDM E/R	No indication ✓	—	UNKW N	UNKW N	—	—	UNKW N	—

PKIA9363E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-77, "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	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	—	—	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—

PKIA9364E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-77, "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	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—

PKIA9365E

Circuit Check Between TCM and Driver Seat Control Unit

UKS001B7

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 E50
 - Harness connector B75

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).

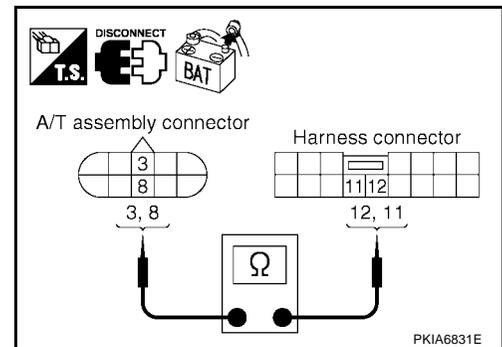
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



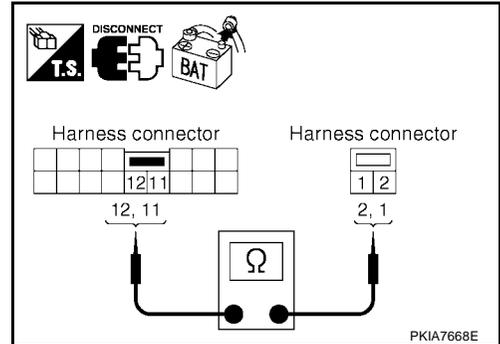
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



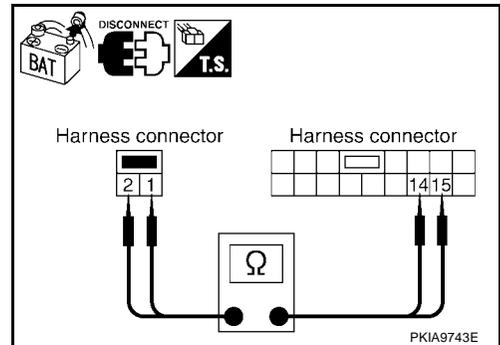
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (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 Driver Seat Control Unit and Data Link Connector

UKS001B8

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.

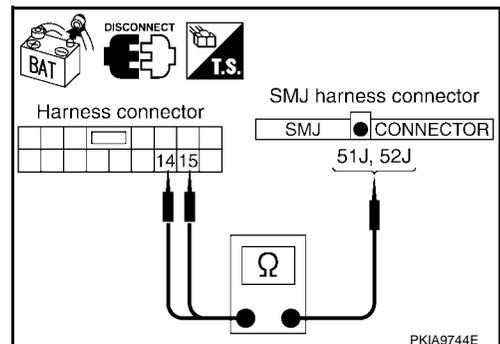
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



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3. CHECK HARNESS FOR OPEN CIRCUIT

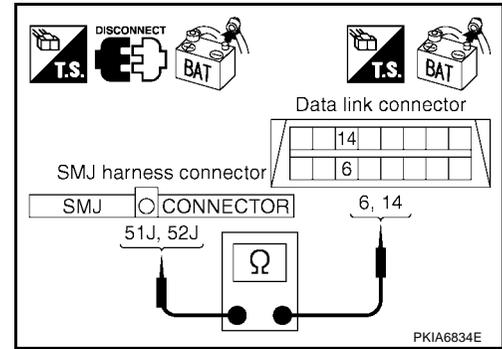
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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

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

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-55, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001B9

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

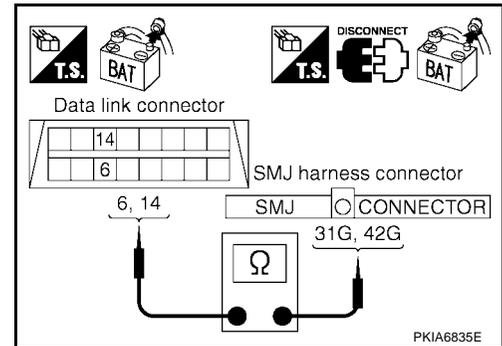
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

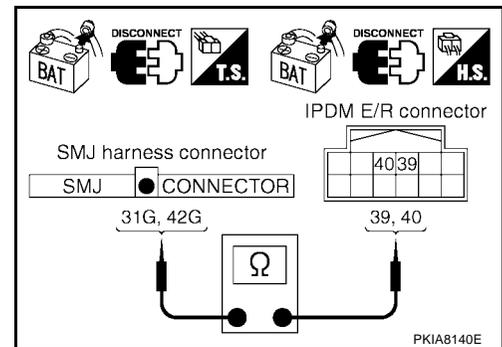
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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**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.

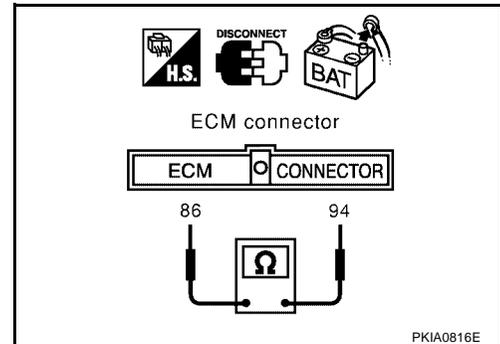
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

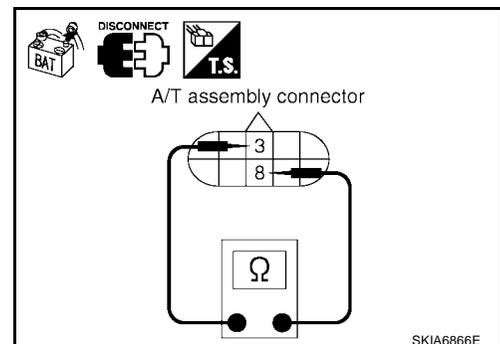
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

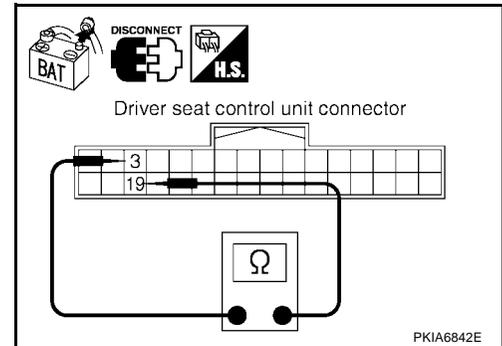
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

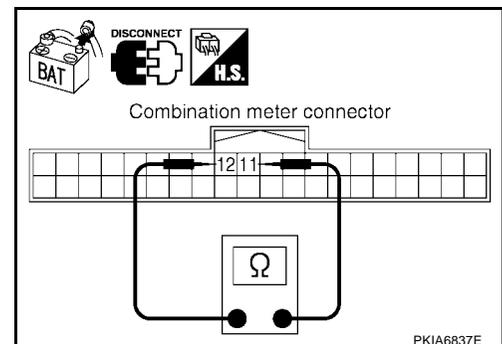
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



BCM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

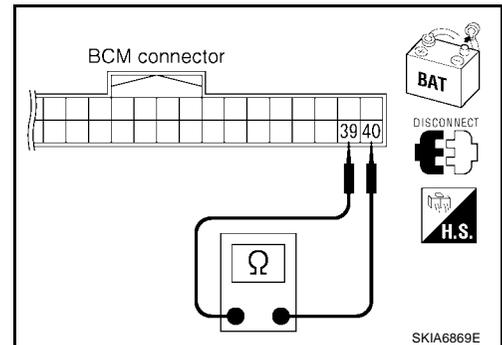
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.

**Data Link Connector Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

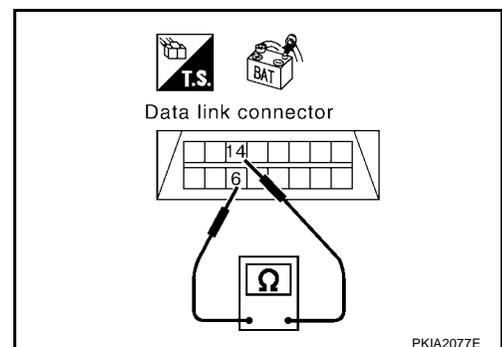
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

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



ABS Actuator and Electric Unit (Control Unit) Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

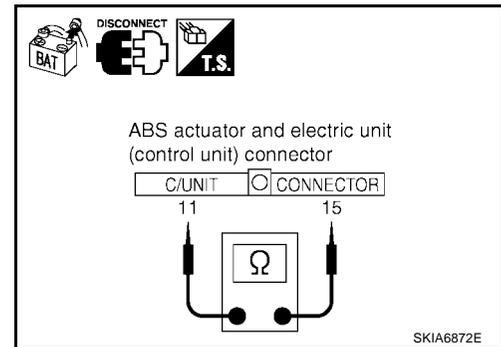
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector 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.



UKS001BI

IPDM E/R Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

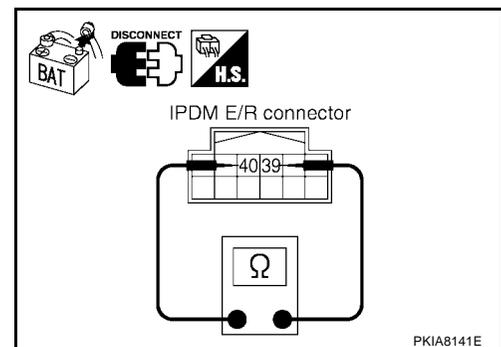
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Driver seat control unit
 - Combination meter
 - BCM
 - 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

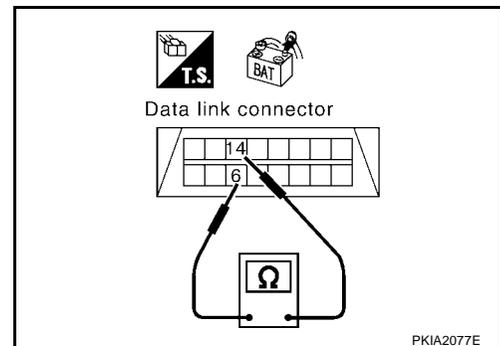
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

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.

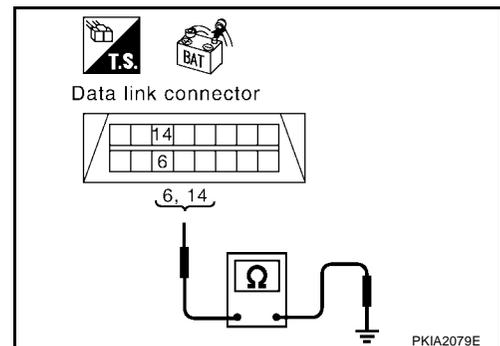
6 (W) - Ground : Continuity should not exist.

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

OK or NG

OK >> Check ECM and IPDM E/R. Refer to [LAN-78, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

NG >> Repair harness.

**IPDM E/R Ignition Relay Circuit Check**

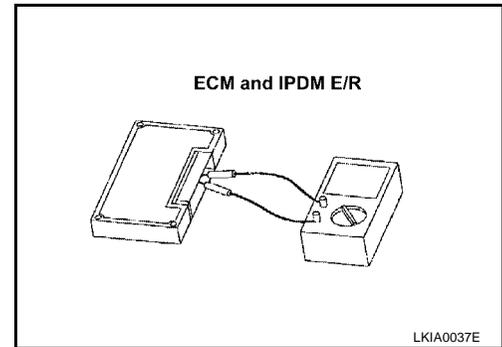
Check the following. If no malfunction is found, replace the IPDM E/R.

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

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

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

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



CAN SYSTEM (TYPE 3)

PFP:23710

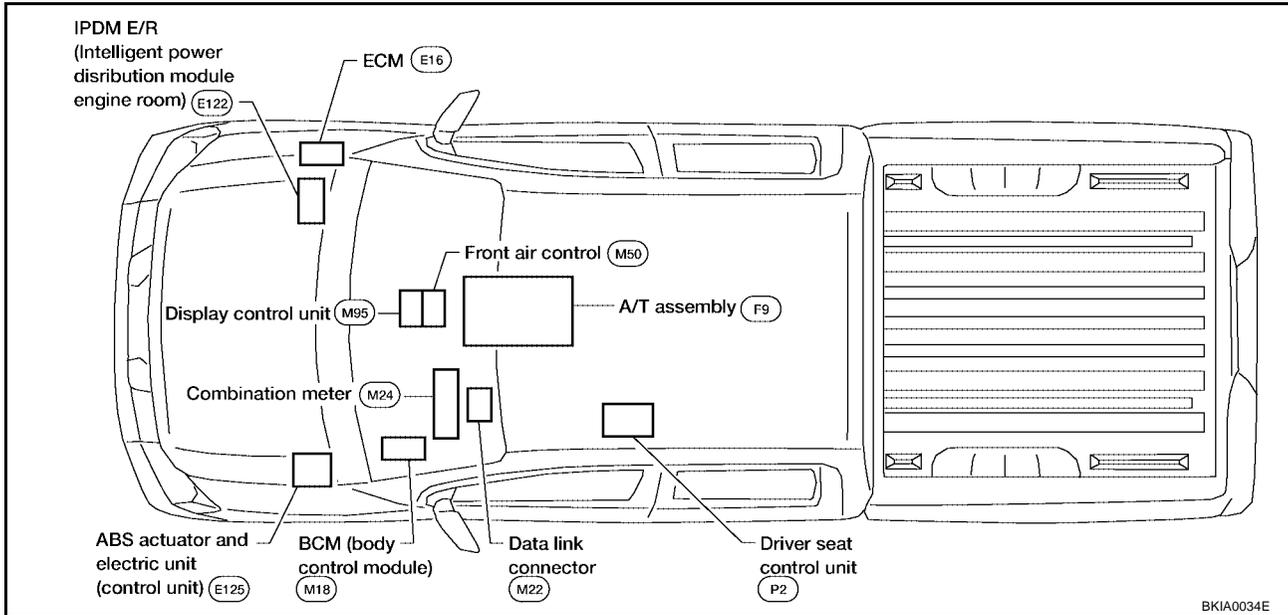
System Description

UKS001BM

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

UKS001BN



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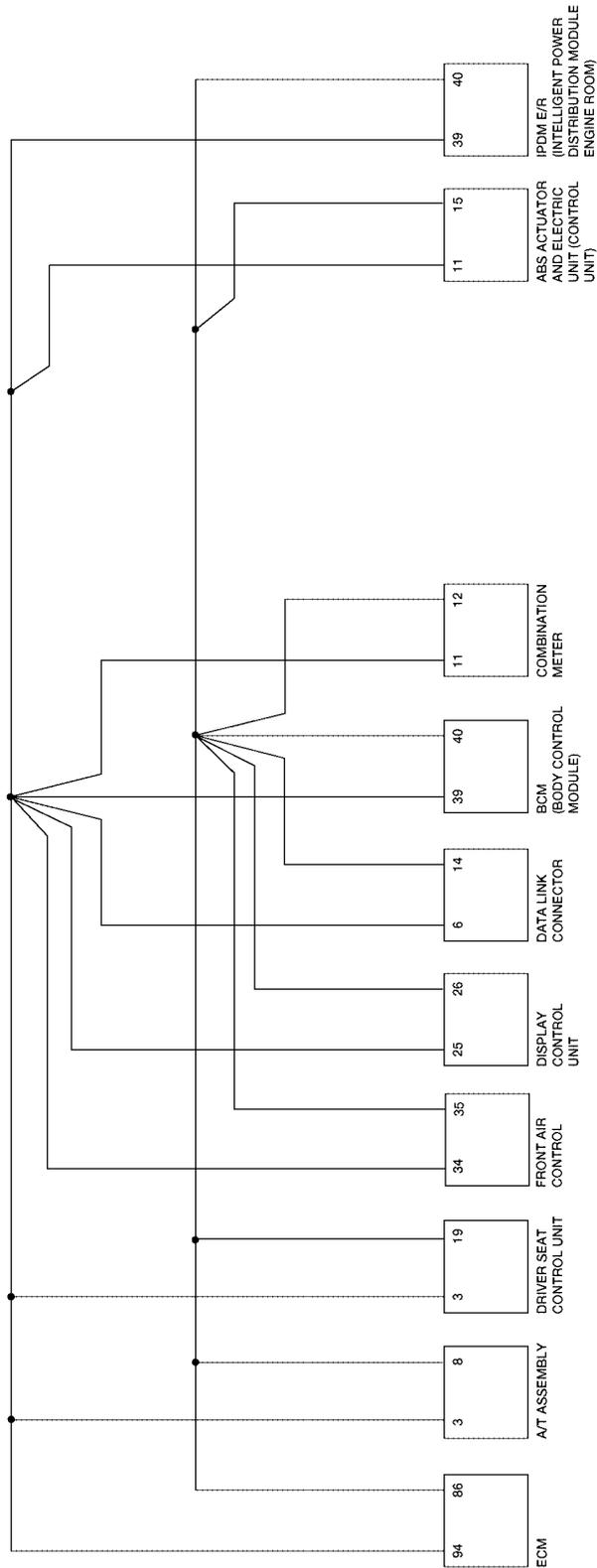
LAN

CAN SYSTEM (TYPE 3)

[CAN]

Schematic

UKS001B0



BKWA0134E

CAN SYSTEM (TYPE 3)

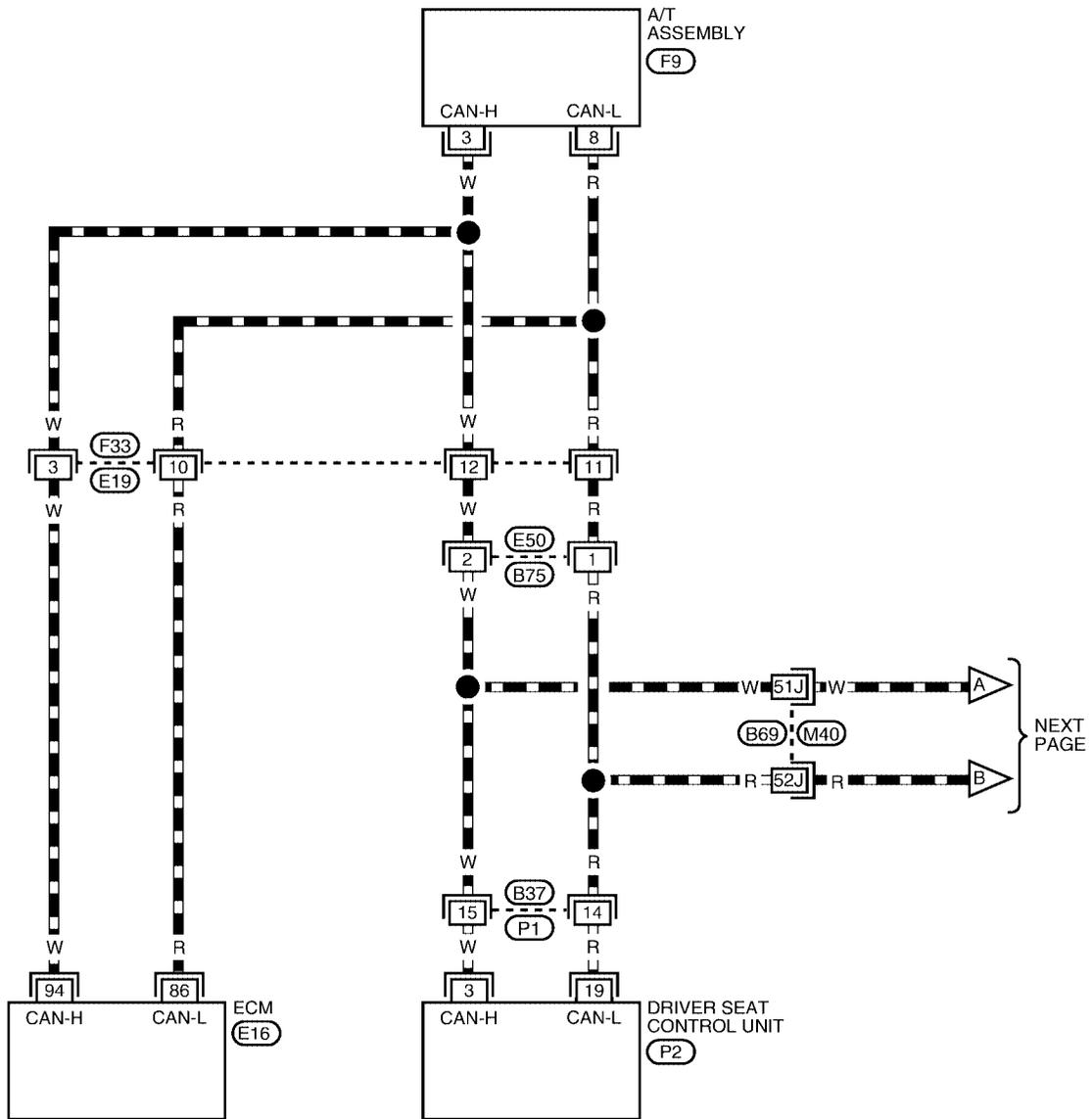
[CAN]

Wiring Diagram - CAN -

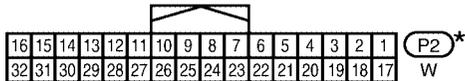
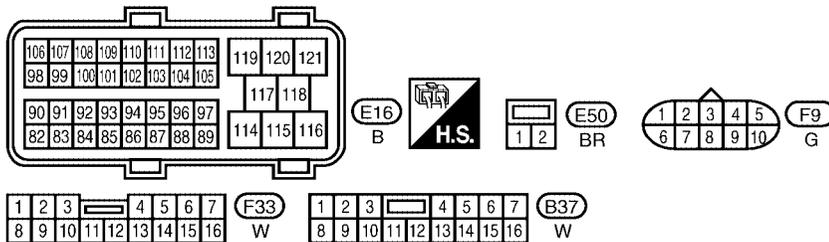
UKS001BP

LAN-CAN-07

— : DATA LINE



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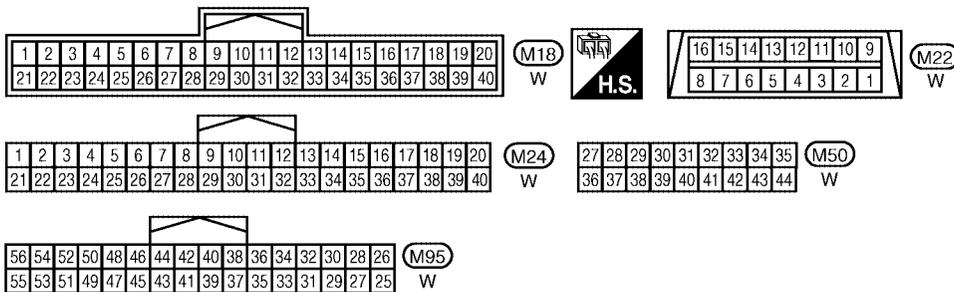
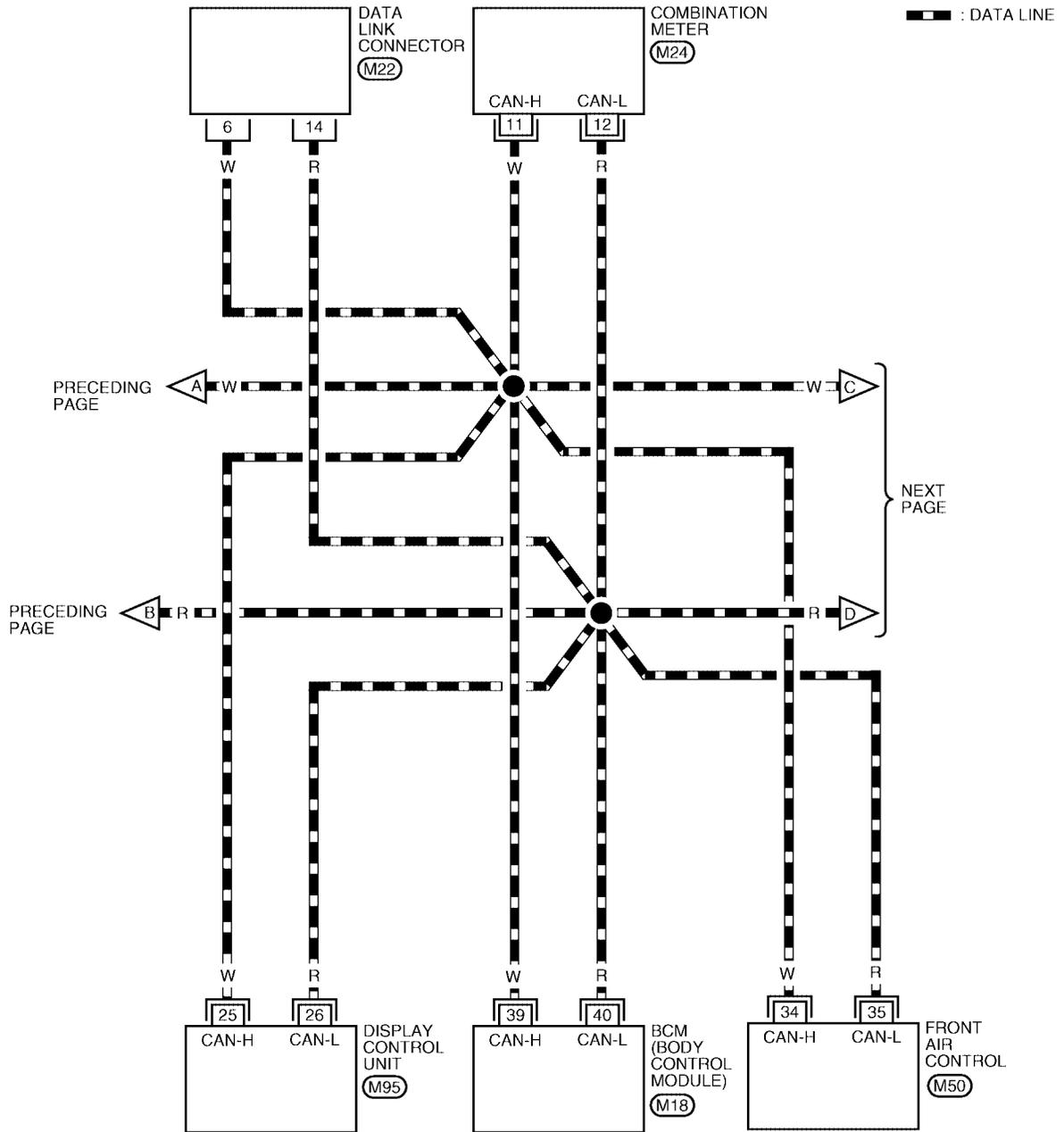


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

REFER TO THE FOLLOWING.

(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0038E



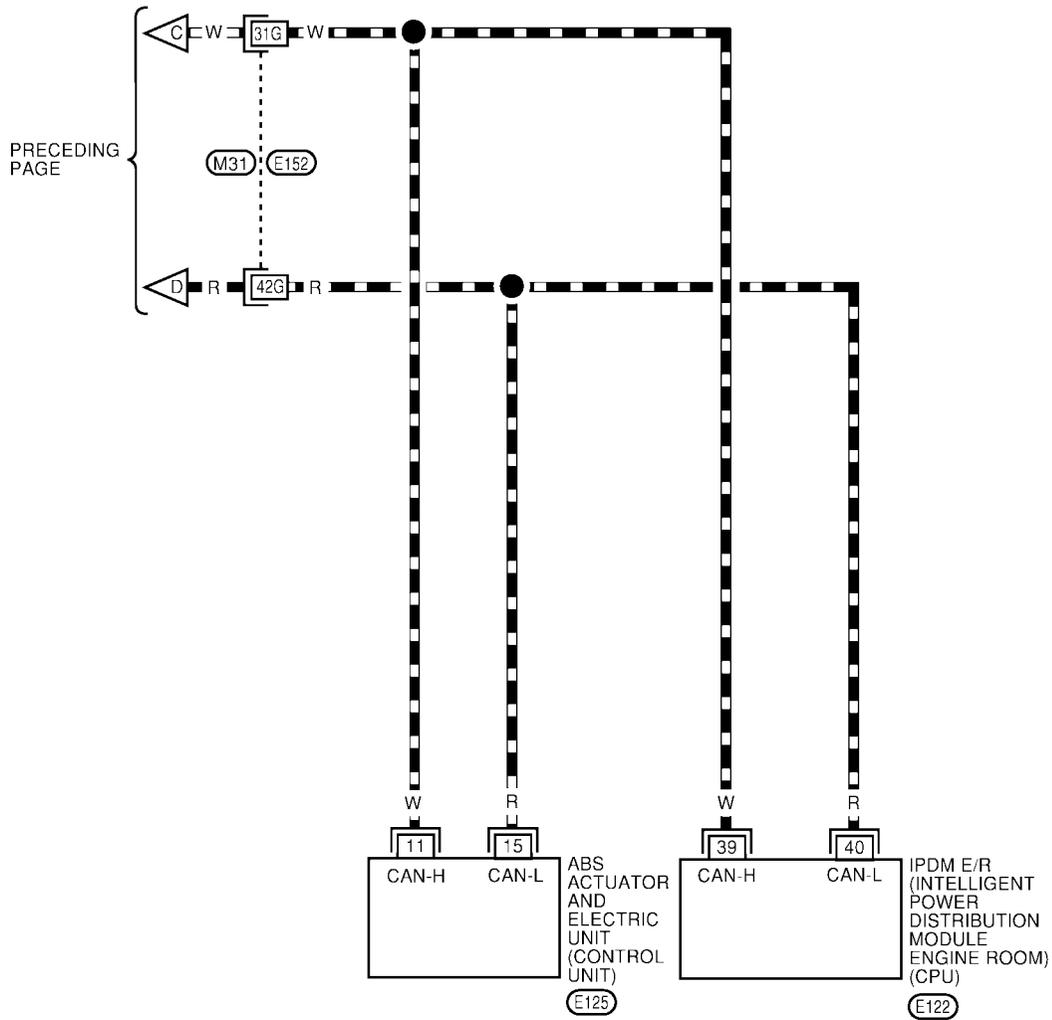
BKWA0135E

CAN SYSTEM (TYPE 3)

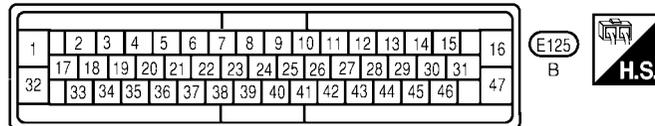
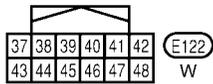
[CAN]

LAN-CAN-09

▬ : DATA LINE



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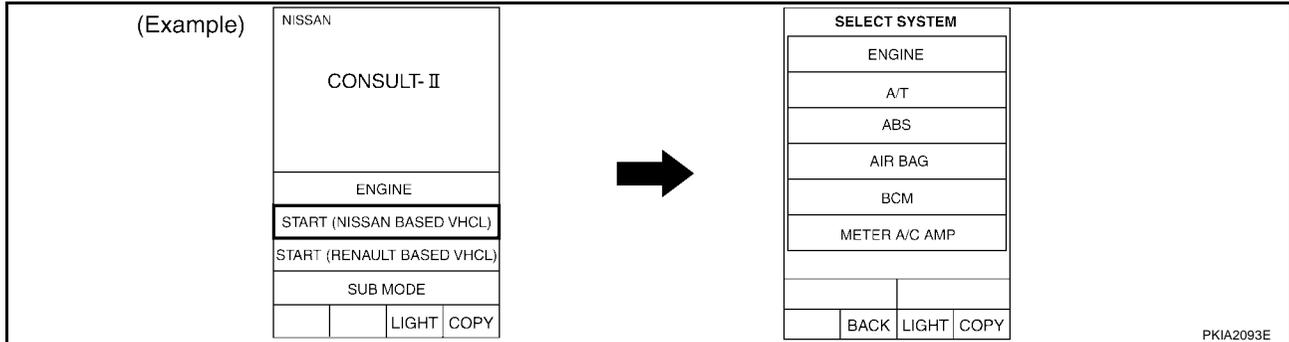


REFER TO THE FOLLOWING.
 (M31) - SUPER MULTIPLE JUNCTION (SMJ)

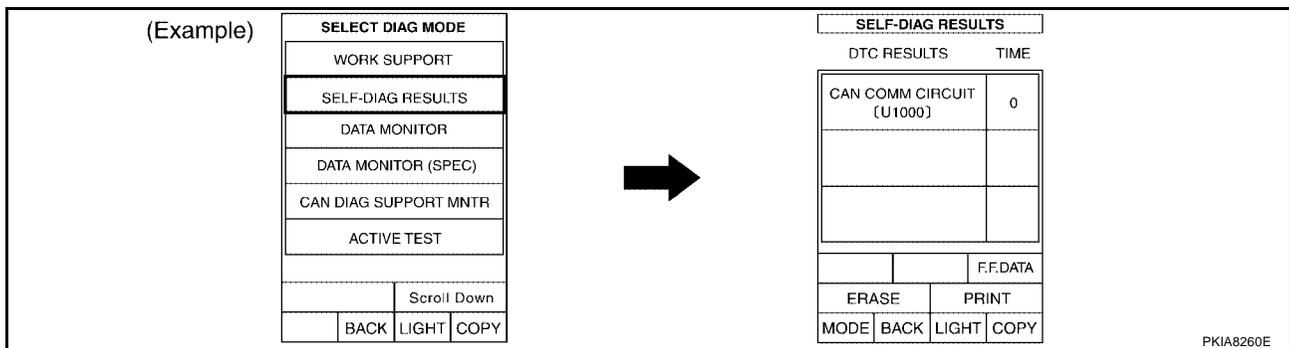
BKWA0040E

Work Flow

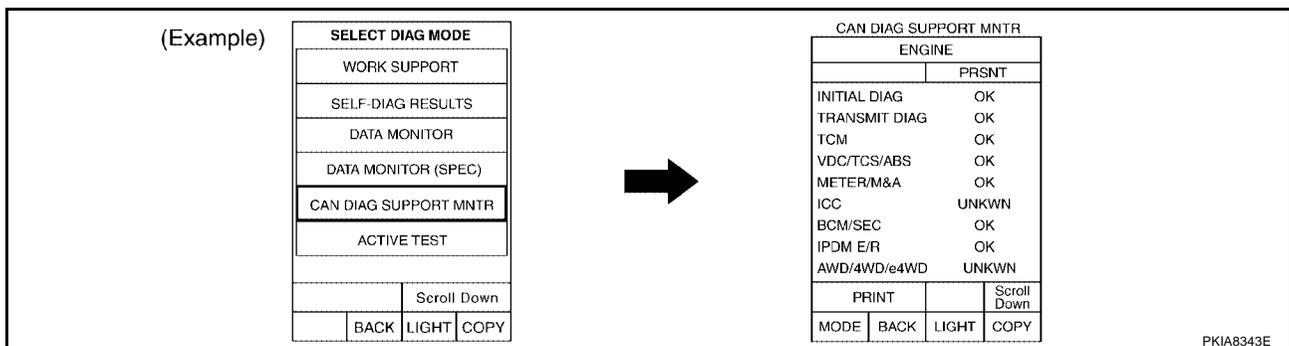
- When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-86, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-86, "CHECK SHEET"](#).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.

- Check CAN communication line of the navigation system. Refer to [AV-149, "CAN Communication Line Check"](#).
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to [LAN-86, "CHECK SHEET"](#).

CAN SYSTEM (TYPE 3)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to [LAN-86, "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-149, "CAN Communication Line Check"](#) .

9. According to the check sheet results (example), start inspection. Refer to [LAN-88, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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CAN SYSTEM (TYPE 3)

[CAN]

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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	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	—	—	—	—	—
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

CAN SYSTEM (TYPE 3)

[CAN]

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Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
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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

PKIA9139E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

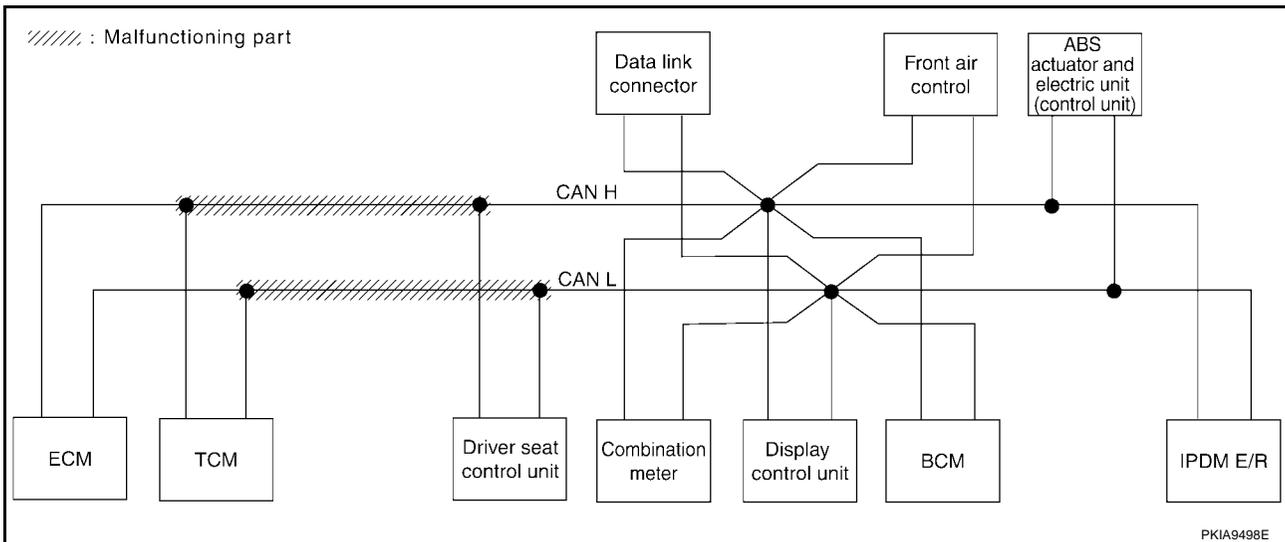
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-102, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	—	UNKWN ✓
A/T	—	NG	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 ✓	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—

PKIA9366E



CAN SYSTEM (TYPE 3)

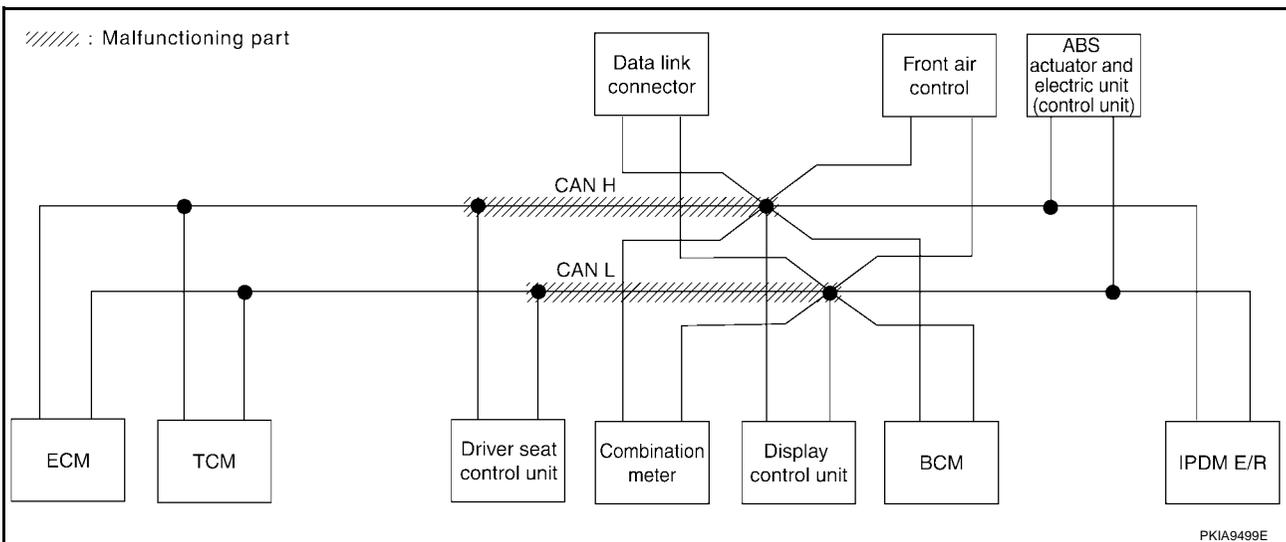
[CAN]

Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-103, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N ✓	UNKW N ✓	—	UNKW N ✓
A/T	—	NG	UNKW N	UNKW N	—	UNKW N ✓	—	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—
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	UNKW N	UNKW N ✓	—	UNKW N	—	—	UNKW N
ABS	—	NG	UNKW N	UNKW N ✓	—	—	—	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N ✓	—	—	UNKW N	—	—

PKIA9367E



CAN SYSTEM (TYPE 3)

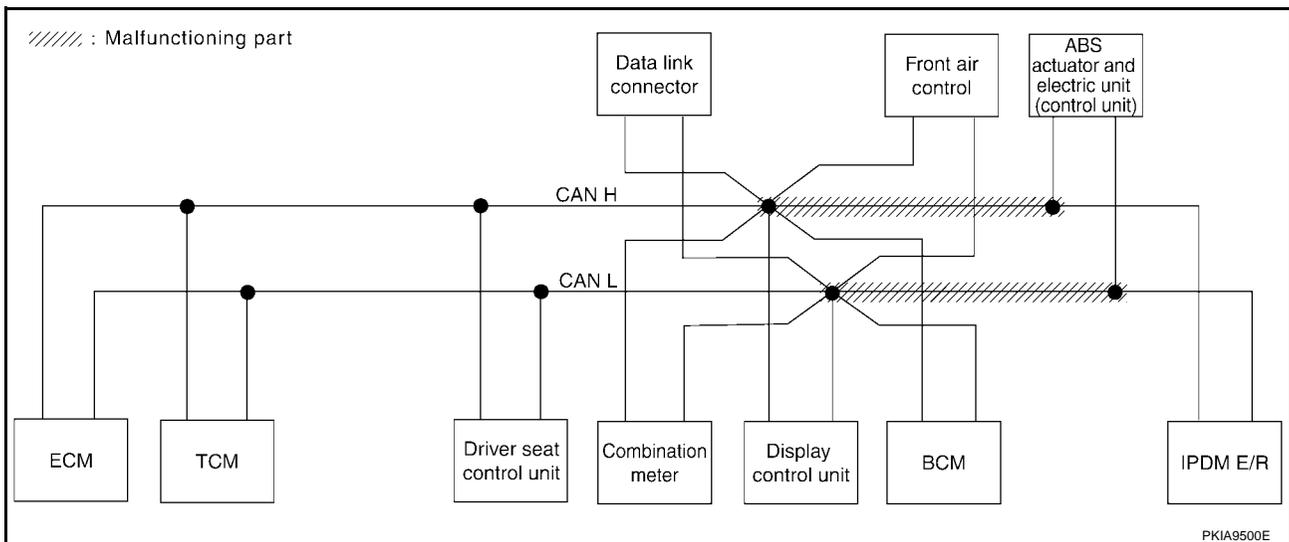
[CAN]

Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-104, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN ✓
A/T	—	NG	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 ✓	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9368E

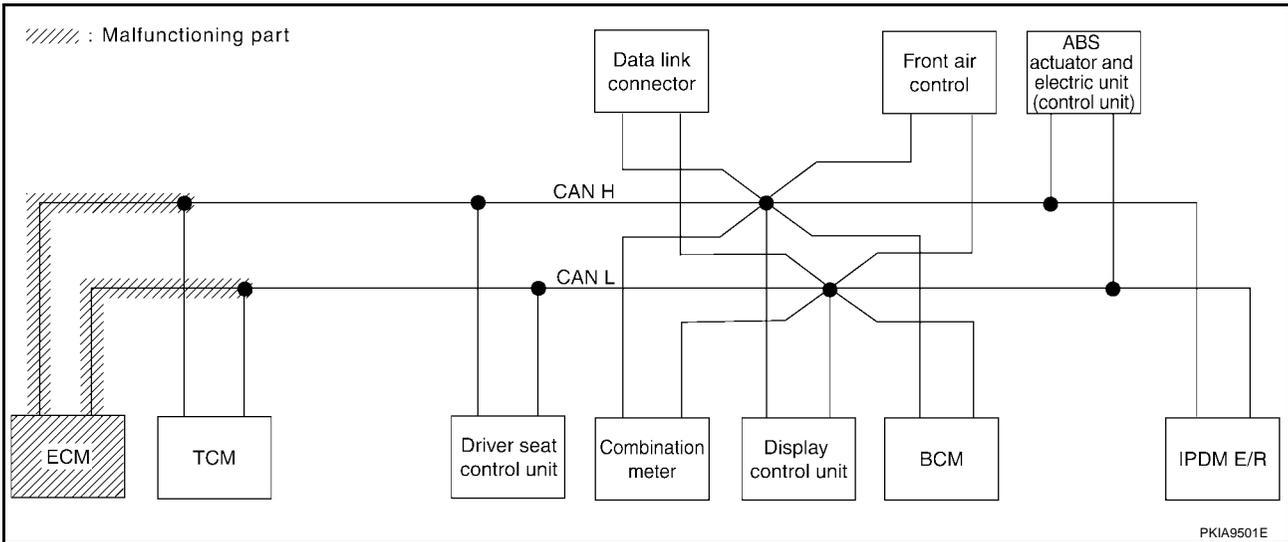


Case 4

Check ECM circuit. Refer to [LAN-105, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	Front air control	IPDM E/R
ENGINE	-	NG	UNKW [✓] N	-	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	-	UNKW [✓] N
A/T	-	NG	UNKW [✓] N	UNKW [✓] N	-	UNKW [✓] N	-	-	-
AUTO DRIVE POS.	No indication	NG	UNKW [✓] N	-	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	-	-
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	UNKW [✓] N	UNKW [✓] N	-	UNKW [✓] N	-	-	UNKW [✓] N
ABS	-	NG	UNKW [✓] N	UNKW [✓] N	-	-	-	-	-
IPDM E/R	No indication	-	UNKW [✓] N	UNKW [✓] N	-	-	UNKW [✓] N	-	-

PKIA9369E



CAN SYSTEM (TYPE 3)

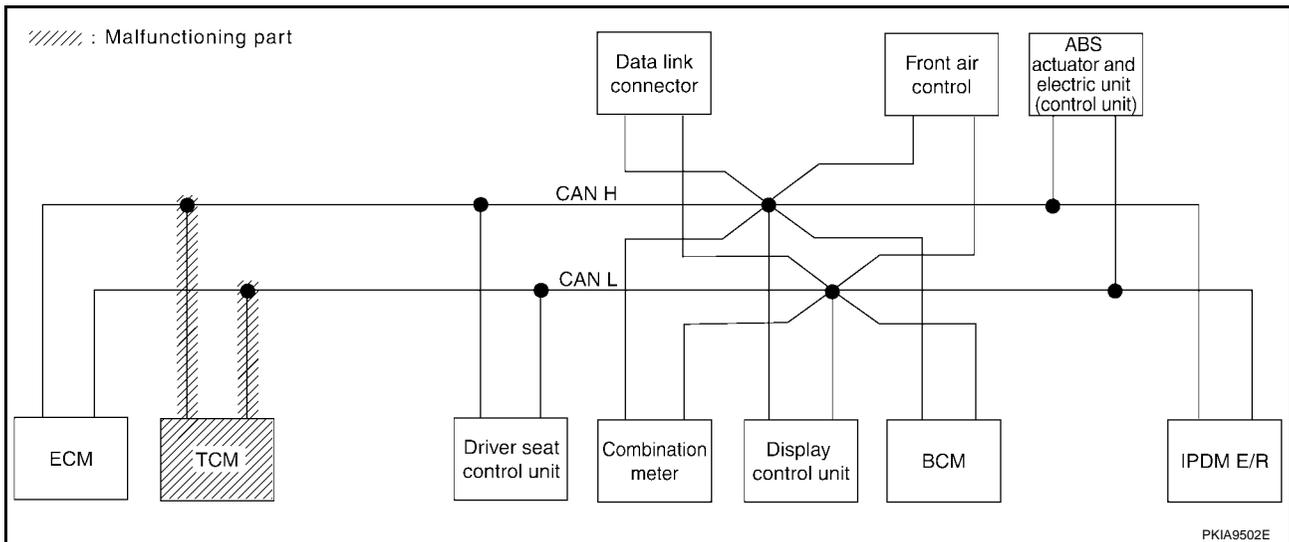
[CAN]

Case 5

Check TCM circuit. Refer to [LAN-105, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	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	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9370E

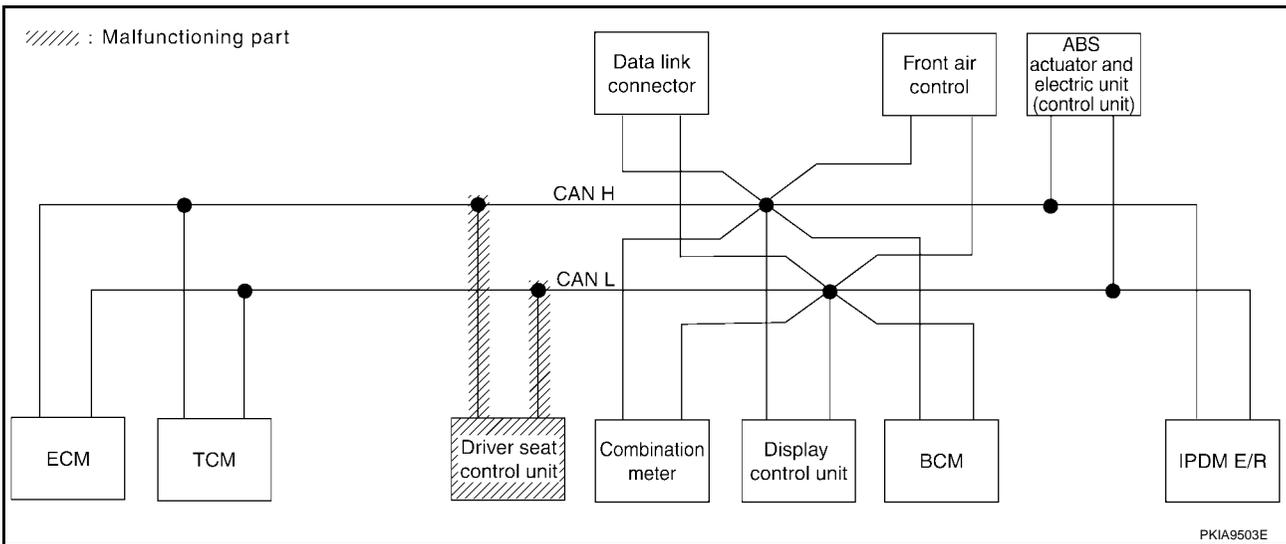


Case 6

Check driver seat control unit circuit. Refer to [LAN-106, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	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	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9371E



CAN SYSTEM (TYPE 3)

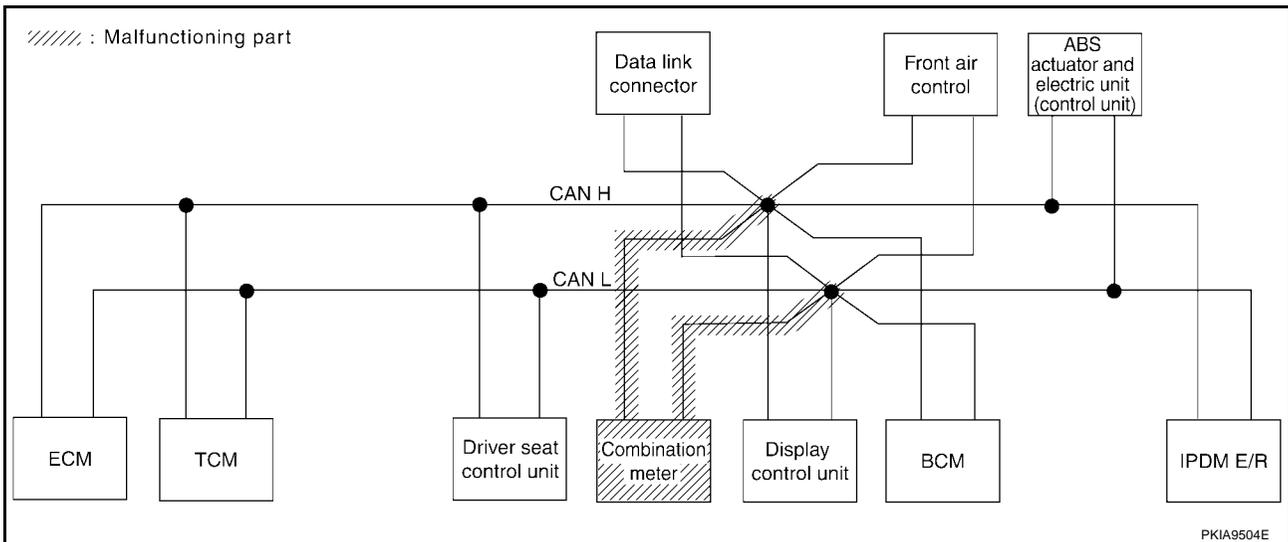
[CAN]

Case 7

Check combination meter circuit. Refer to [LAN-106, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN	—	UNKWN
A/T	—	NG	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	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9372E



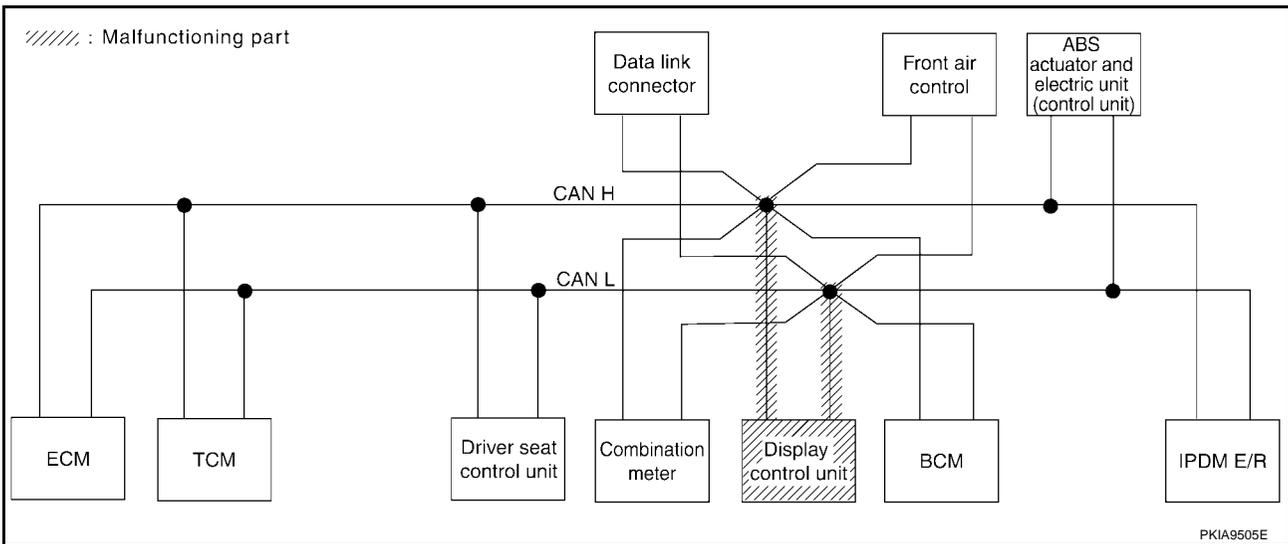
PKIA9504E

Case 8

Check display control unit circuit. Refer to [LAN-107, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—
Display control unit	—	CAN COMM	CAN✓CRC 1	CAN✓CRC 3	—	CAN✓CRC 5	CAN✓CRC 2	CAN✓CRC 4	CAN✓CRC 7
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9373E



CAN SYSTEM (TYPE 3)

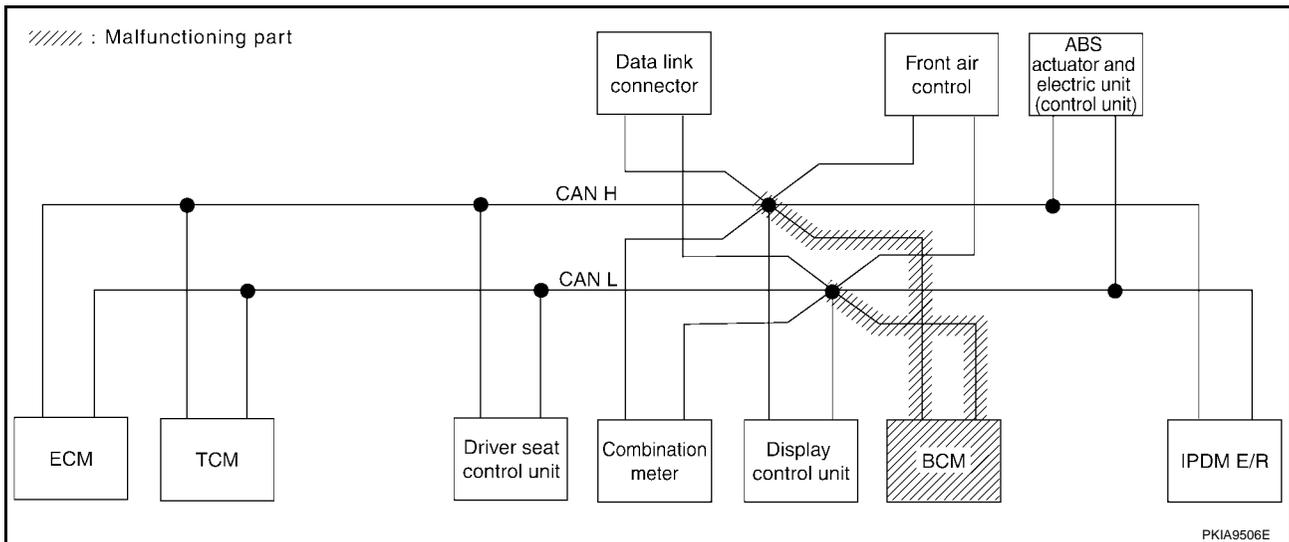
[CAN]

Case 9

Check BCM circuit. Refer to [LAN-107, "BCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	—	UNKWN
A/T	—	NG	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	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—	—

PKIA9374E



CAN SYSTEM (TYPE 3)

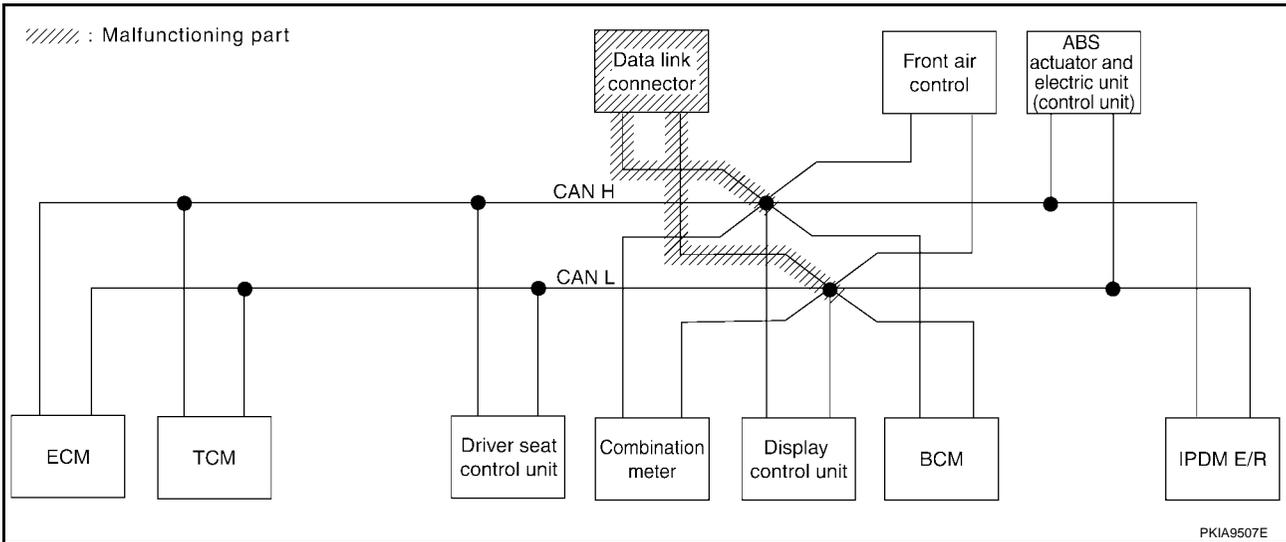
[CAN]

Case 10

Check data link connector circuit. Refer to [LAN-108, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWVN	—	UNKWVN	UNKWVN	UNKWVN	—	UNKWVN
A/T	—	NG	UNKWVN	UNKWVN	—	UNKWVN	—	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKWVN	—	UNKWVN	UNKWVN	UNKWVN	—	—
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	UNKWVN	UNKWVN	—	UNKWVN	—	—	UNKWVN
ABS	—	NG	UNKWVN	UNKWVN	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWVN	UNKWVN	—	—	UNKWVN	—	—

PKIA9375E



CAN SYSTEM (TYPE 3)

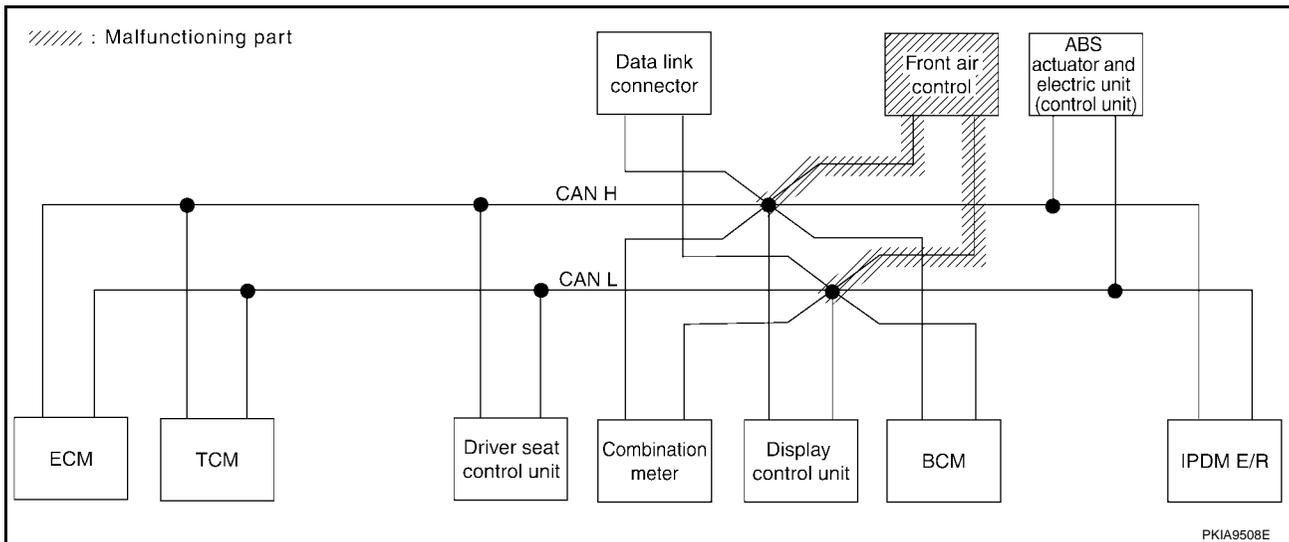
[CAN]

Case 11

Check front air control circuit. Refer to [LAN-108, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	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	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9376E



CAN SYSTEM (TYPE 3)

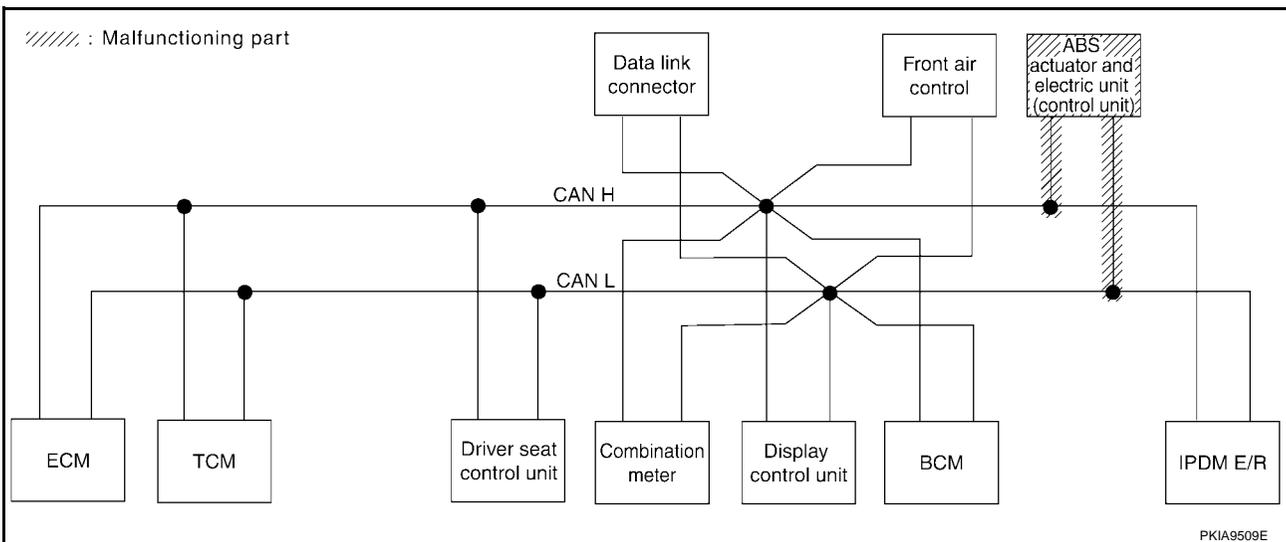
[CAN]

Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-109, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWVN	—	UNKWVN	UNKWVN	UNKWVN	—	UNKWVN
A/T	—	NG	UNKWVN	UNKWVN	—	UNKWVN	—	—	—
AUTO DRIVE POS.	No indication	NG	UNKWVN	—	UNKWVN	UNKWVN	UNKWVN	—	—
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	UNKWVN	UNKWVN	—	UNKWVN	—	—	UNKWVN
ABS	—	NG	UNKWVN	UNKWVN	—	—	—	—	—
IPDM E/R	No indication	—	UNKWVN	UNKWVN	—	—	UNKWVN	—	—

PKIA9377E



CAN SYSTEM (TYPE 3)

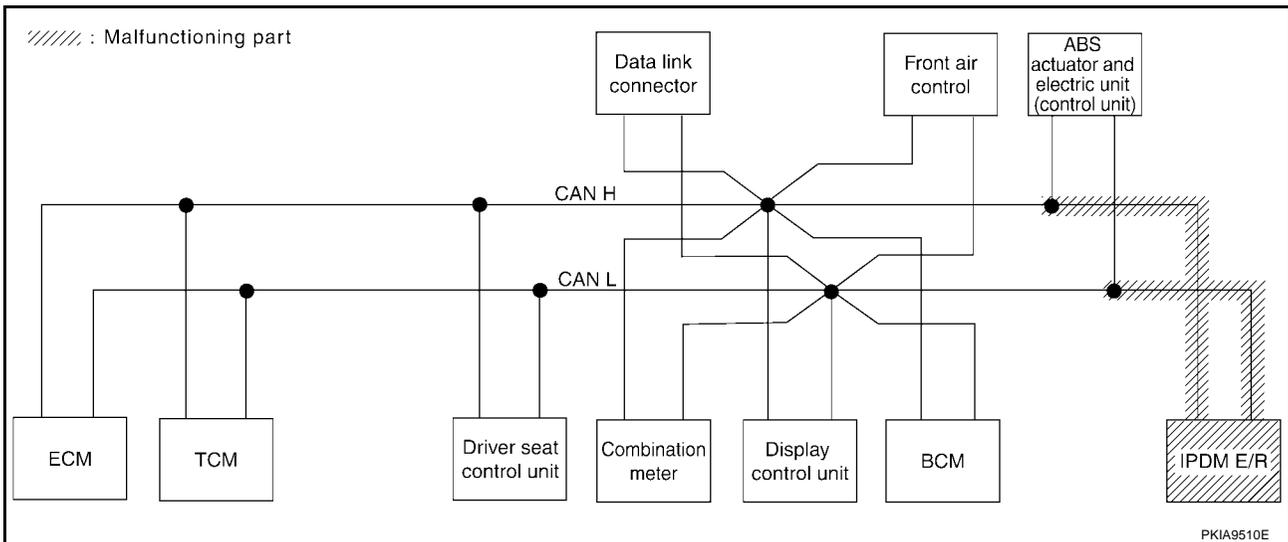
[CAN]

Case 13

Check IPDM E/R circuit. Refer to [LAN-109, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN ✓
A/T	—	NG	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	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA9378E



CAN SYSTEM (TYPE 3)

[CAN]

Case 14

Check CAN communication circuit. Refer to [LAN-110, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	Front air control	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	—
AUTO DRIVE POS.	No indicat ion	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—
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 indicat ion	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	—	—	—	—	—
IPDM E/R	No indicat ion	—	UNKW N	UNKW N	—	—	UNKW N	—	—

PKIA9379E

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-110, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	—
AUTO DRIVE POS.	No indicat ion	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—
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 indicat ion	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	—	—	—	—	—
IPDM E/R	No indicat ion	—	UNKW N	UNKW N	—	—	UNKW N	—	—

PKIA9380E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-110, "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	Front air control	IPDM E/R
ENGINE	—	NG	UNKWVN	—	UNKWVN	UNKWVN	UNKWVN	—	UNKWVN
A/T	—	NG	UNKWVN	UNKWVN ✓	—	UNKWVN ✓	—	—	—
AUTO DRIVE POS.	No indication	NG	UNKWVN	—	UNKWVN	UNKWVN	UNKWVN	—	—
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	UNKWVN	UNKWVN	—	UNKWVN	—	—	UNKWVN
ABS	—	NG	UNKWVN	UNKWVN ✓	—	—	—	—	—
IPDM E/R	No indication	—	UNKWVN	UNKWVN	—	—	UNKWVN	—	—

PKIA9381E

Circuit Check Between TCM and Driver Seat Control Unit

UKS001BR

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 E50
 - Harness connector B75

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).

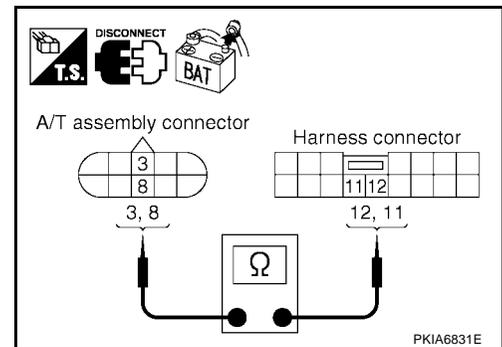
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



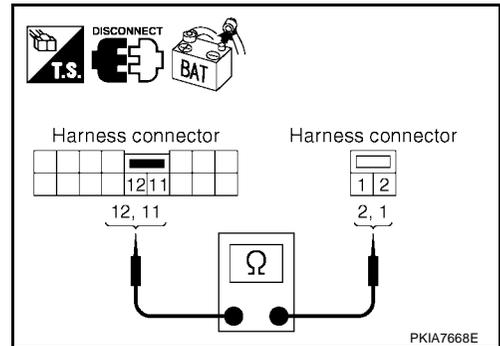
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



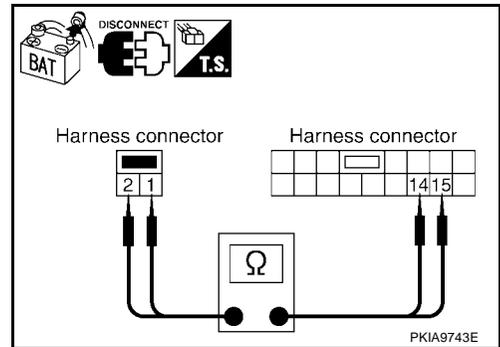
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-84, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS001BS

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.

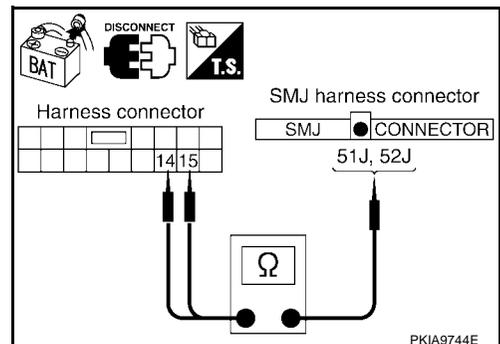
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



A
B
C
D
E
F
G
H
I
J
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M

LAN

3. CHECK HARNESS FOR OPEN CIRCUIT

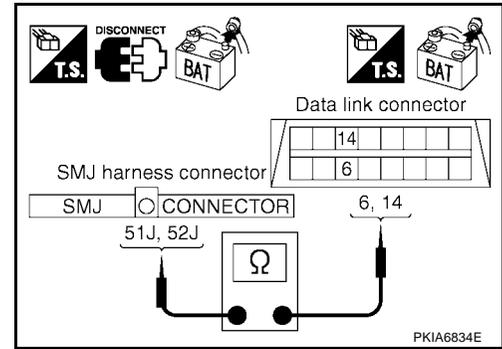
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-84, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001BT

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

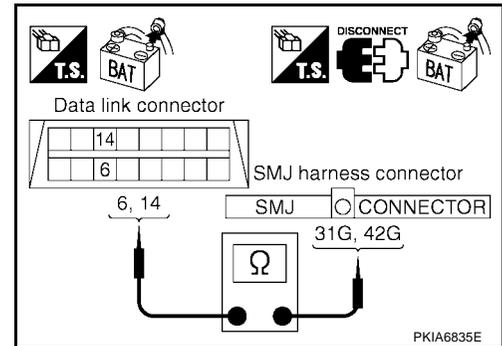
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

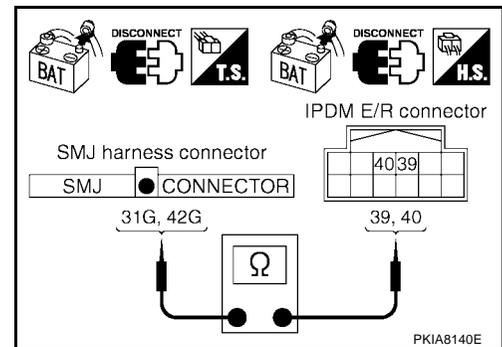
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-84, "Work Flow"](#).
- NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

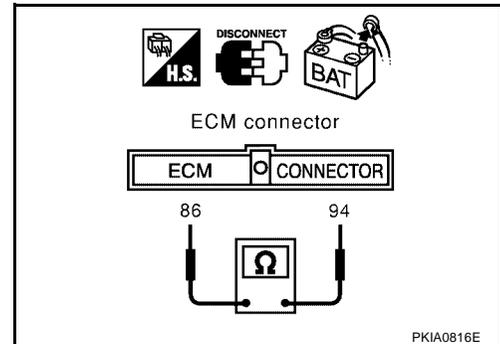
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

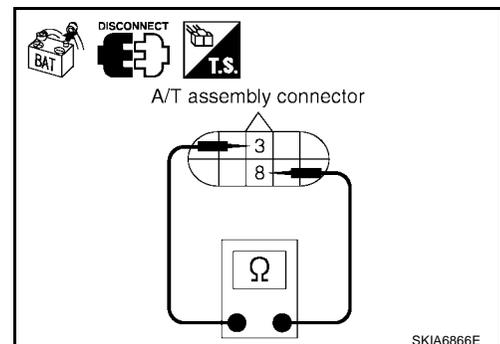
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

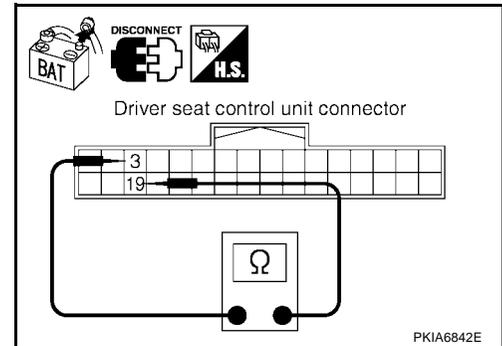
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

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.

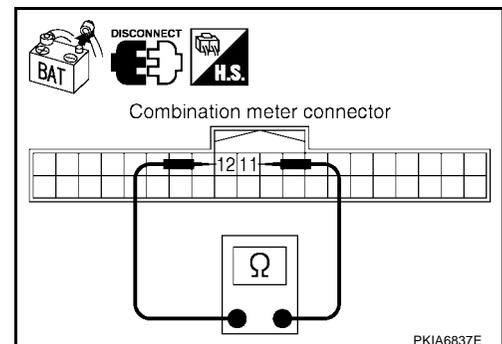
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

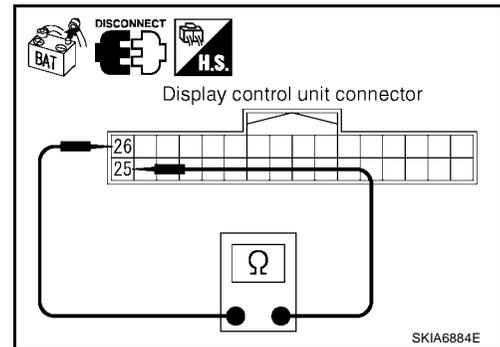
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

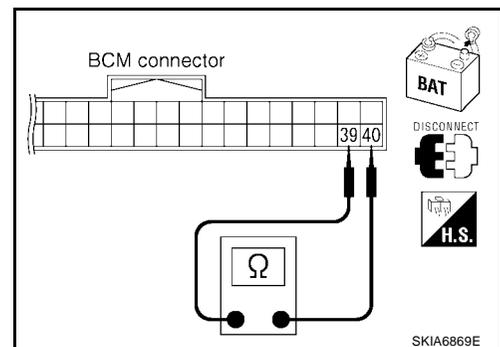
2. CHECK HARNESS FOR OPEN CIRCUIT

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-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



Data Link Connector Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

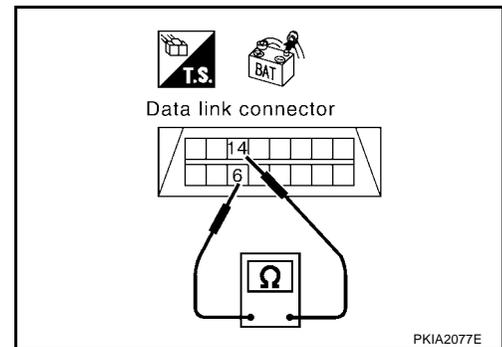
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-84, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.

**Front Air Control Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

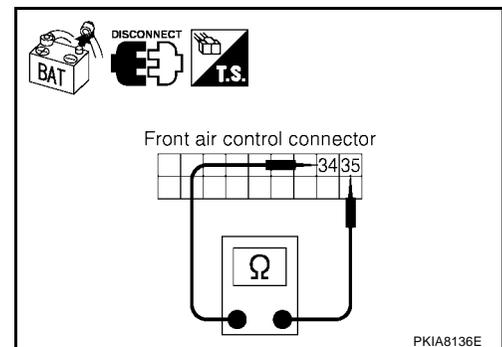
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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**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.

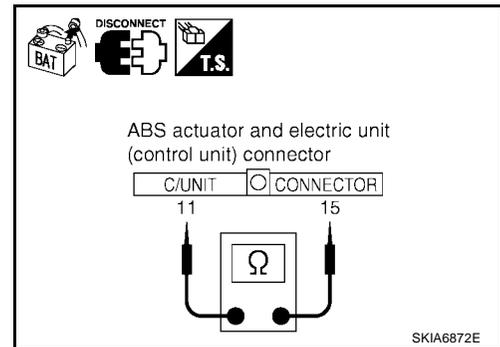
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

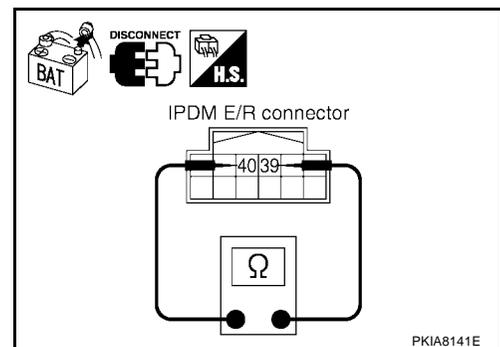
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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
 - 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.

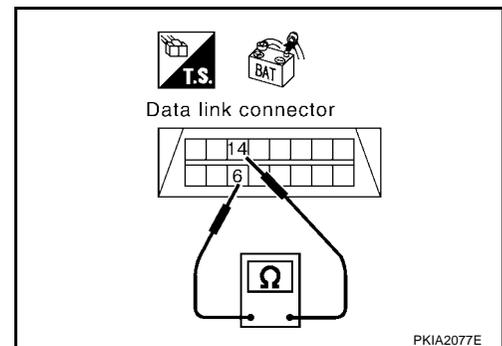
2. CHECK HARNESS FOR SHORT CIRCUIT

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.



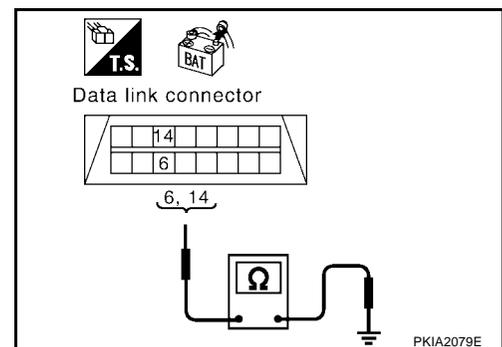
3. CHECK HARNESS FOR SHORT CIRCUIT

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-111, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#) .
 NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

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

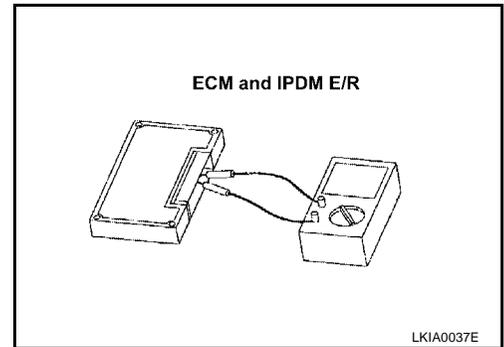
- IPDM E/R power supply circuit. Refer to [PG-26, "IPDM E/R Power/Ground Circuit Inspection"](#) .
- Ignition power supply circuit. Refer to [PG-13, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START"](#) .

Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 4)

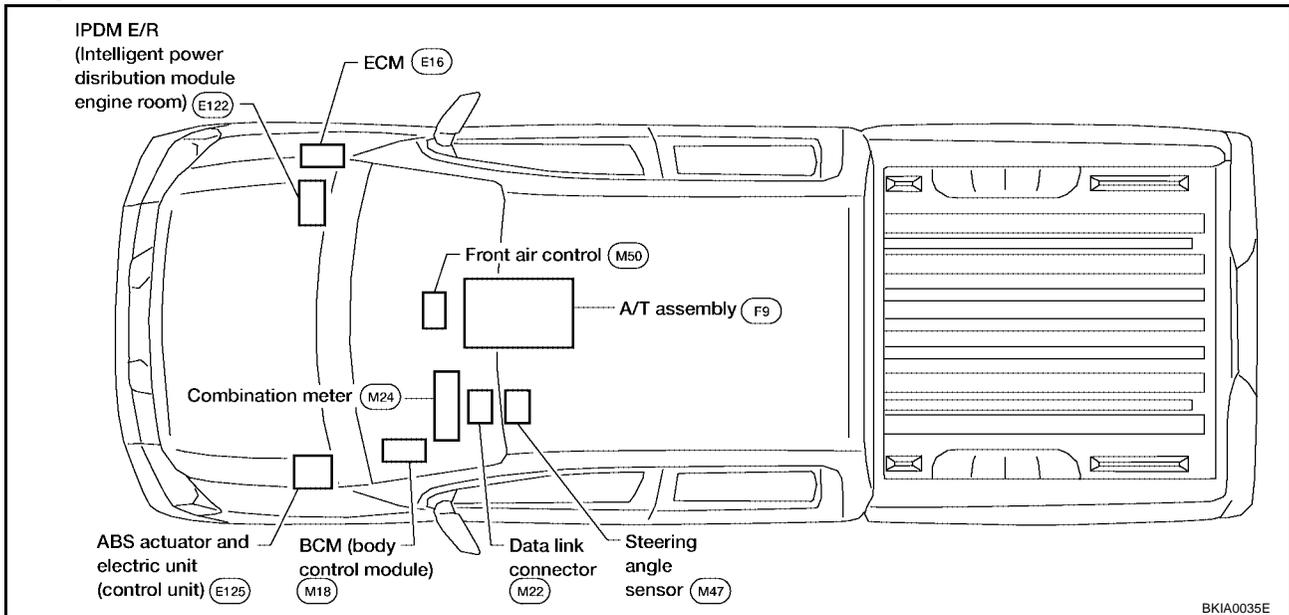
System Description

UKS001DZ

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

UKS001E0

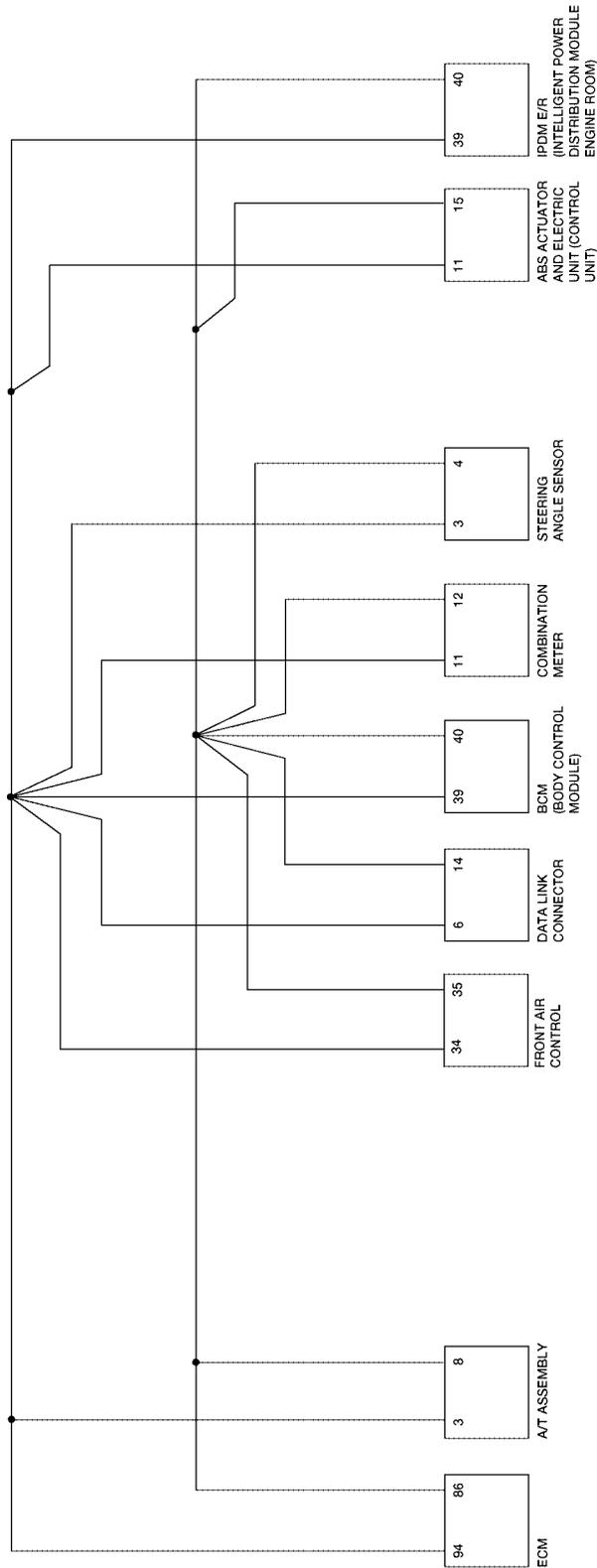


CAN SYSTEM (TYPE 4)

[CAN]

Schematic

UKS001E1



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CAN SYSTEM (TYPE 4)

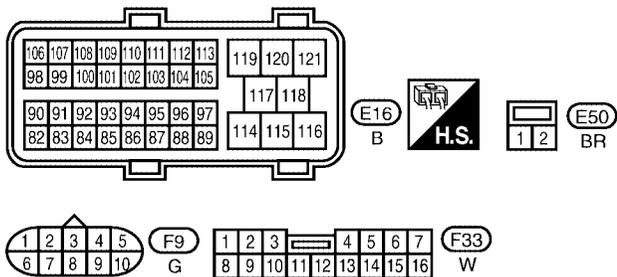
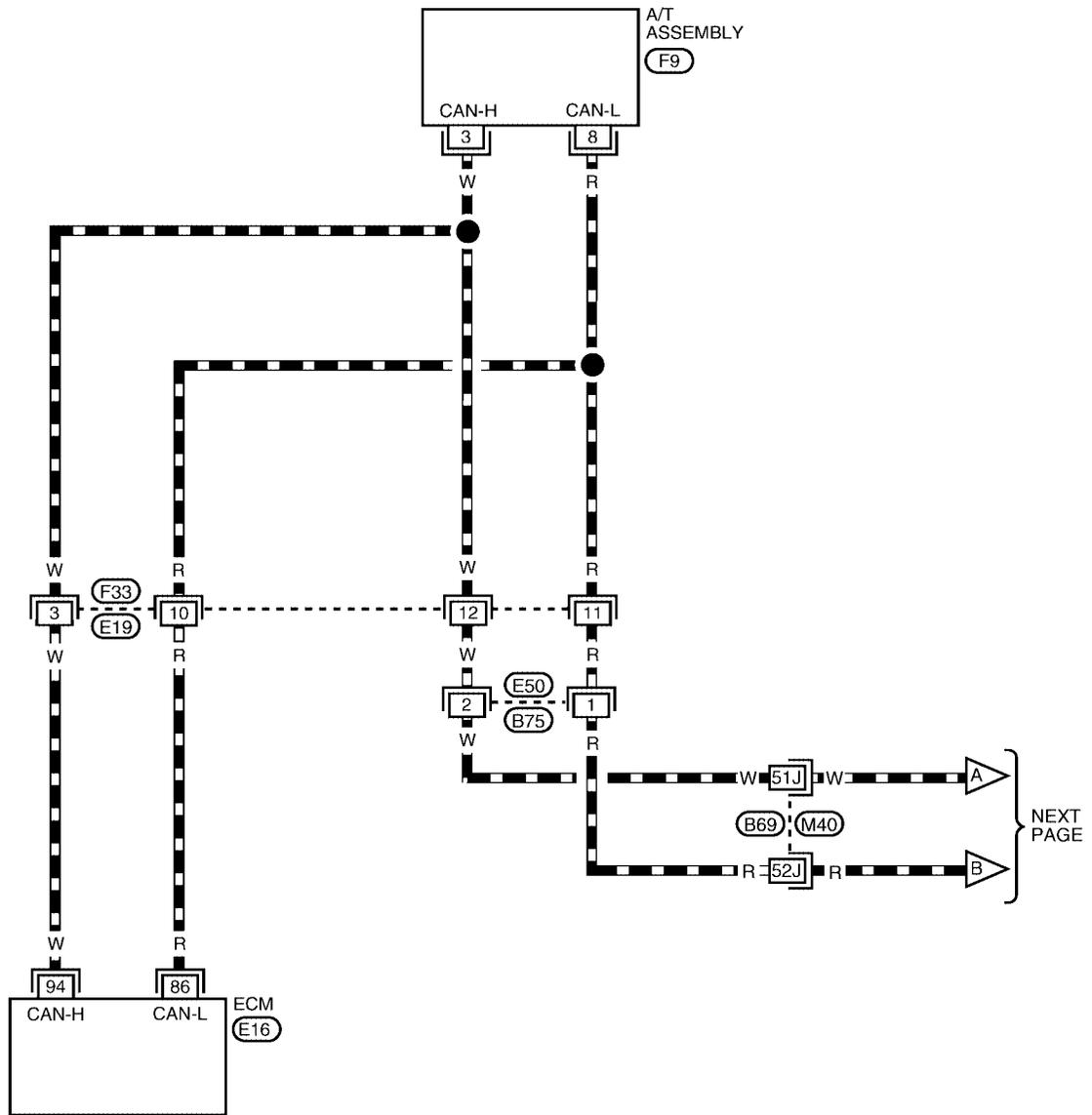
[CAN]

UKS001E2

Wiring Diagram - CAN -

LAN-CAN-10

▬ : DATA LINE



REFER TO THE FOLLOWING.

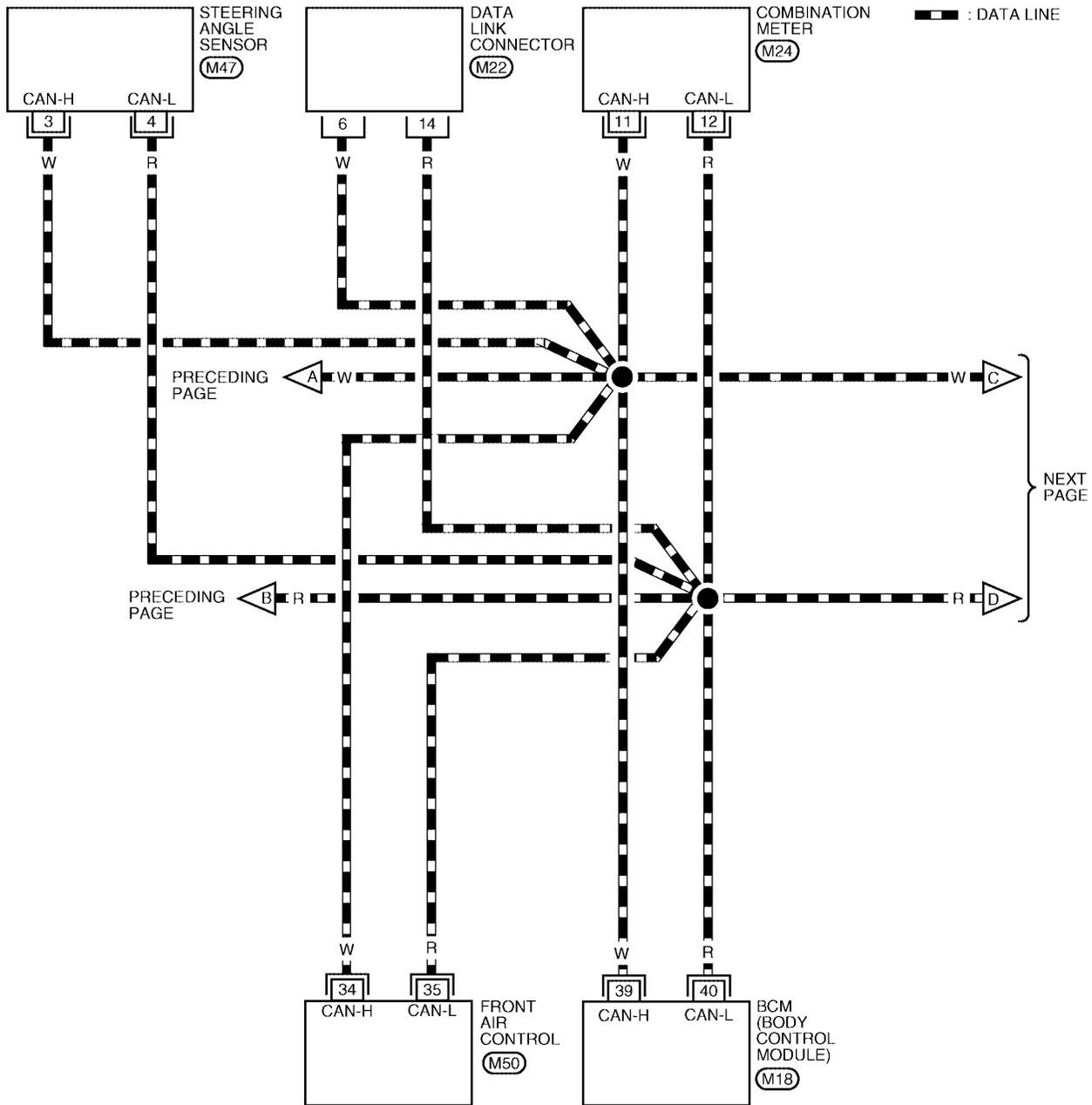
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0027E

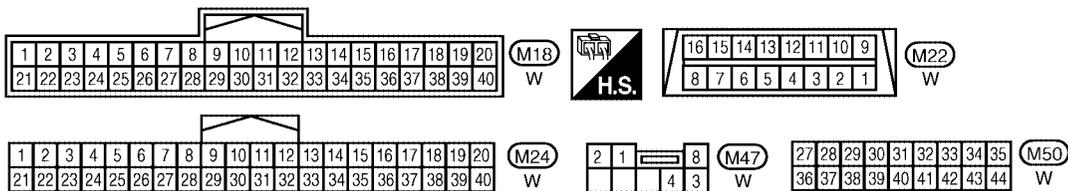
CAN SYSTEM (TYPE 4)

[CAN]

LAN-CAN-11

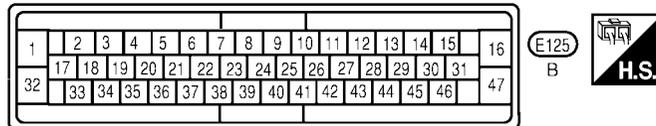
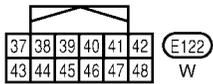
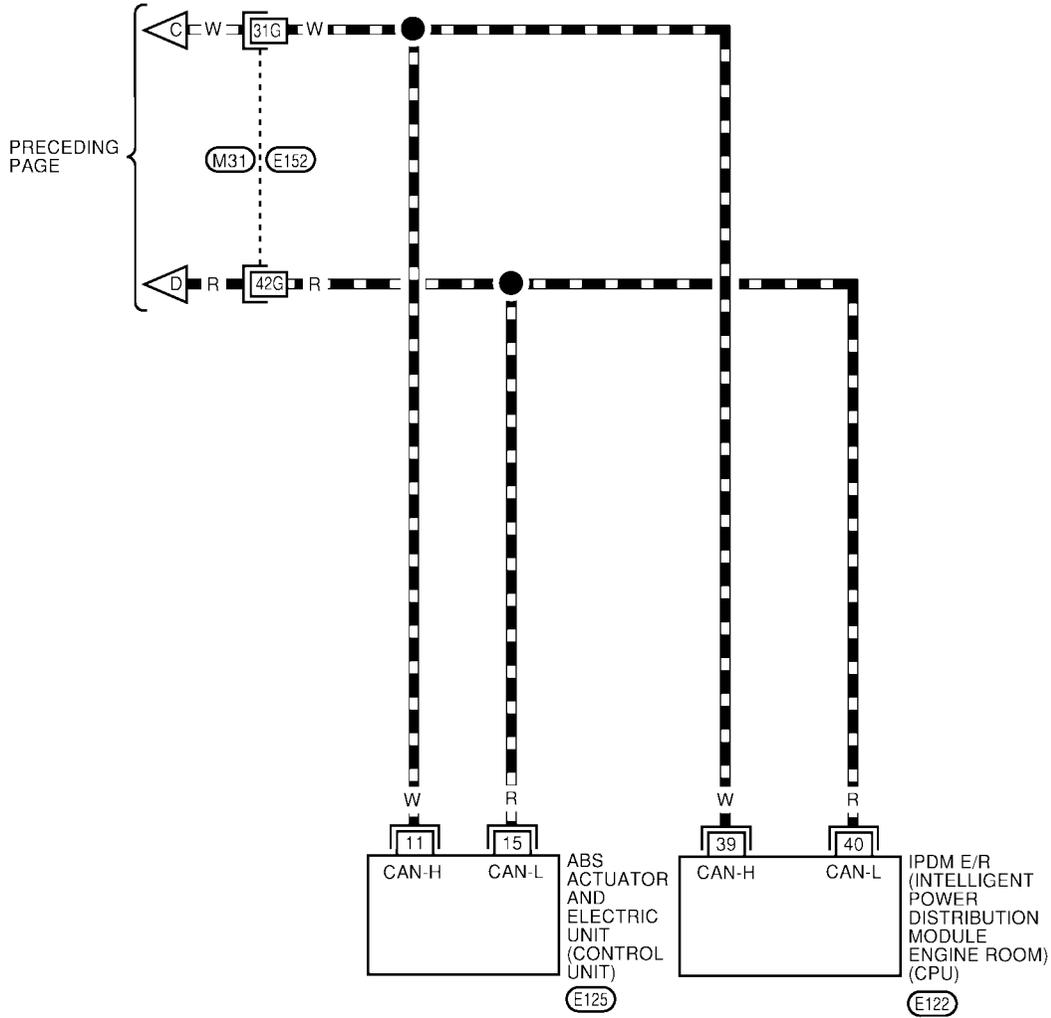


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BKWA0137E

▬ : DATA LINE



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

Work Flow

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

(Example)

NISSAN CONSULT-II ENGINE START (NISSAN BASED VHCL) START (RENAULT BASED VHCL) SUB MODE LIGHT COPY		SELECT SYSTEM ENGINE A/T ABS AIR BAG BCM METER A/C AMP BACK LIGHT COPY
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PKIA2093E

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

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		SELF-DIAG RESULTS DTC RESULTS TIME <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> F.F.DATA ERASE PRINT MODE BACK LIGHT COPY	CAN COMM CIRCUIT (U1000)	0				
CAN COMM CIRCUIT (U1000)	0							

PKIA8260E

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

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		CAN DIAG SUPPORT MNTR ENGINE <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">PRSRNT</td> <td style="width: 40%;"> </td> </tr> <tr> <td>INITIAL DIAG</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>TRANSMIT DIAG</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>TCM</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>VDC/TCS/ABS</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>METER/M&A</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>ICC</td> <td style="text-align: center;">UNKWN</td> </tr> <tr> <td>BCM/SEC</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>IPDM E/R</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>AWD/4WD/e4WD</td> <td style="text-align: center;">UNKWN</td> </tr> <tr> <td>PRINT</td> <td style="text-align: center;">Scroll Down</td> </tr> <tr> <td>MODE BACK LIGHT COPY</td> <td> </td> </tr> </table>	PRSRNT		INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT	Scroll Down	MODE BACK LIGHT COPY	
PRSRNT																										
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TRANSMIT DIAG	OK																									
TCM	OK																									
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MODE BACK LIGHT COPY																										

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-118, "CHECK SHEET"](#) .

- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-118, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-120, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 4)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 4)

[CAN]

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Attach copy of
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SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

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IPDM E/R
SELF-DIAG RESULTS

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ABS
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MNTR

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IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA9135E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

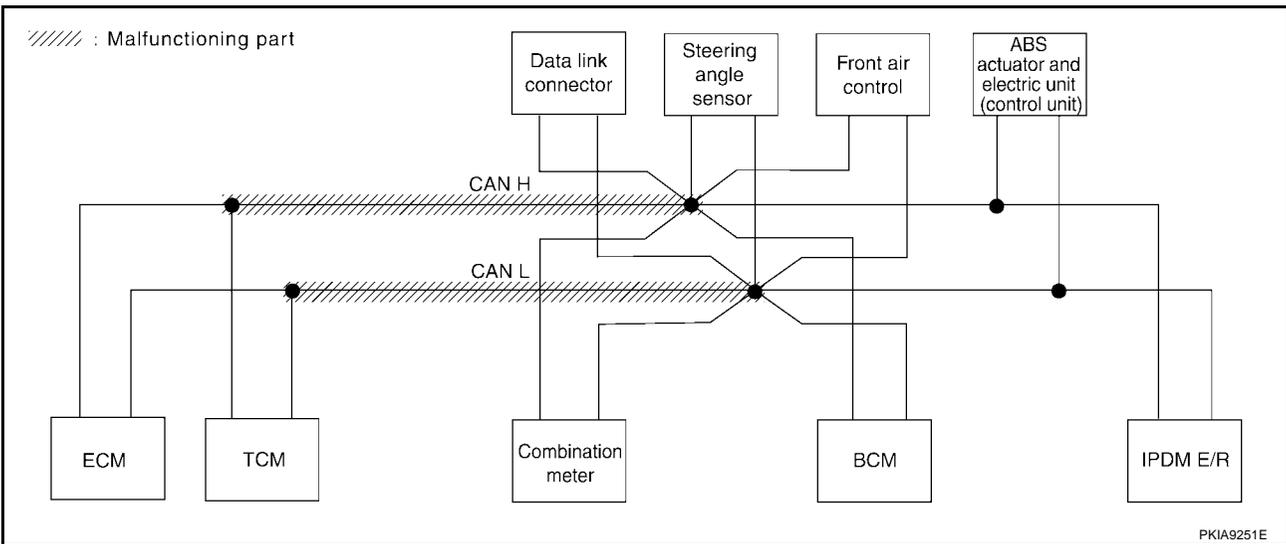
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to [LAN-131, "Circuit Check Between TCM 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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	✓	✓	—	✓	✓
A/T	—	NG	UNKWN	UNKWN	—	✓	—	—	✓	—
BCM	No indication	NG	UNKWN	✓	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	✓	✓	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	✓	—	—	UNKWN	—	—	—

PKIA9146E



PKIA9251E

CAN SYSTEM (TYPE 4)

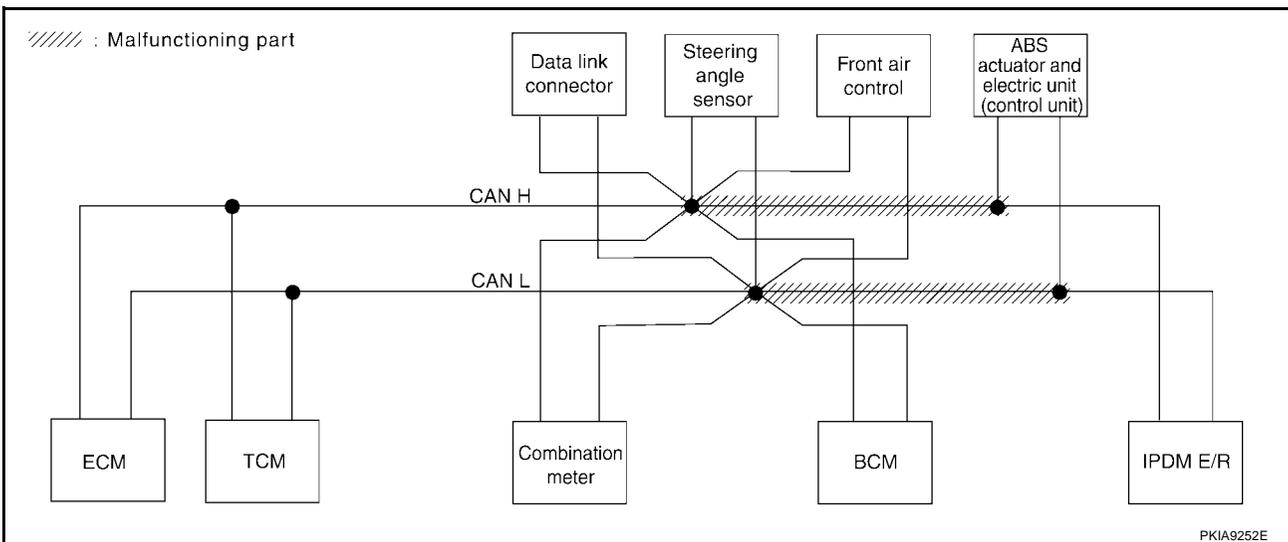
[CAN]

Case 2

Check harness between data link connector and IPDM E/R. Refer to [LAN-132, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW	—	UNKW	UNKW	UNKW	—	UNKW	UNKW
A/T	—	NG	UNKW	UNKW	—	UNKW	—	—	UNKW	—
BCM	No indication	NG	UNKW	UNKW	—	UNKW	—	—	—	UNKW
ABS	—	NG	UNKW	UNKW	UNKW	—	—	UNKW	—	—
IPDM E/R	No indication ✓	—	UNKW	UNKW	—	—	UNKW	—	—	—

PKIA9147E



PKIA9252E

CAN SYSTEM (TYPE 4)

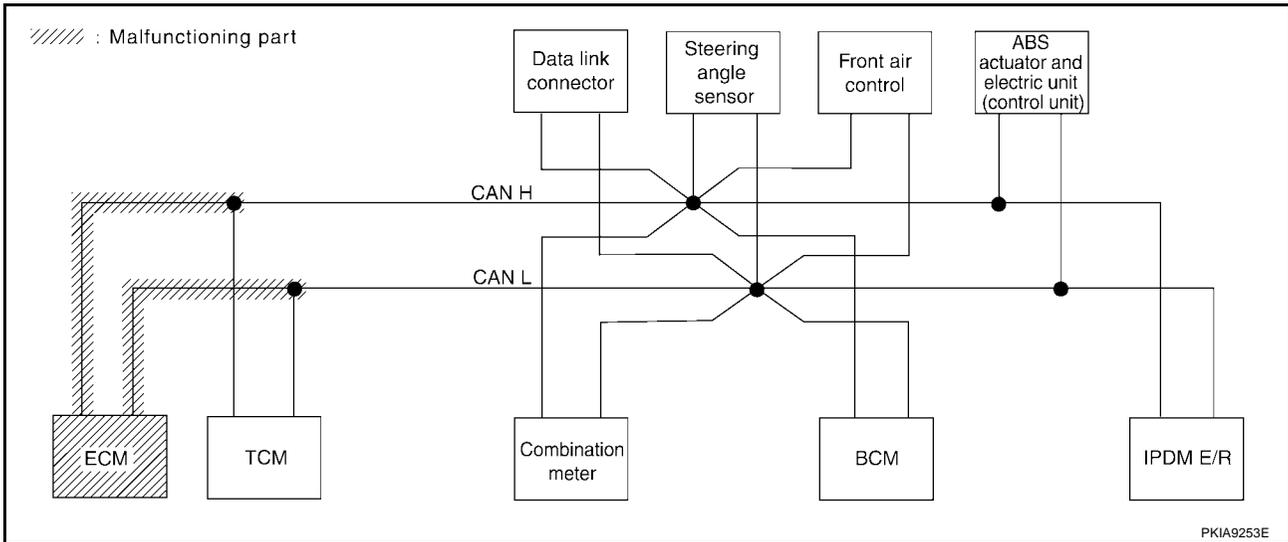
[CAN]

Case 3

Check ECM circuit. Refer to [LAN-133, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—

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PKIA9253E

CAN SYSTEM (TYPE 4)

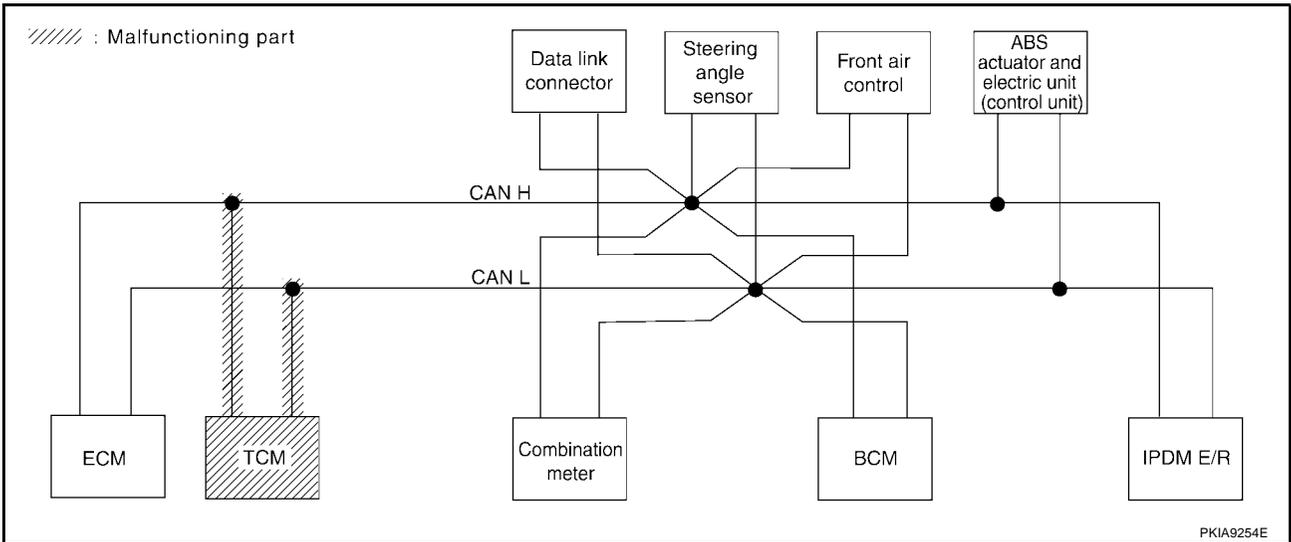
[CAN]

Case 4

Check TCM circuit. Refer to [LAN-134, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN ✓	UNKWN	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN ✓	—	—	UNKWN ✓	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN ✓	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9149E



PKIA9254E

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CAN SYSTEM (TYPE 4)

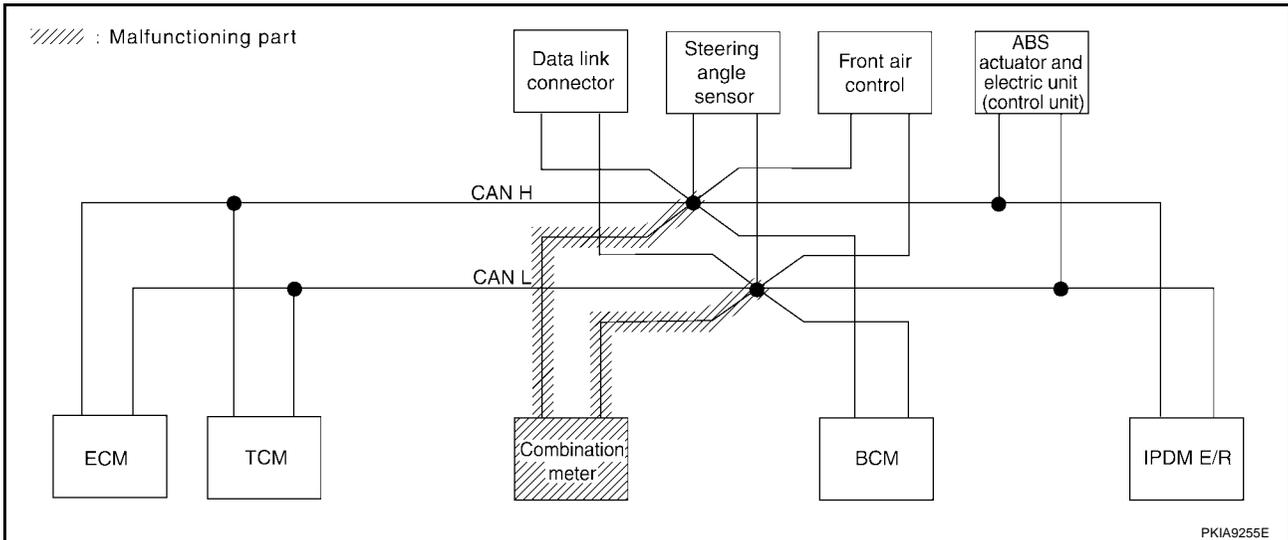
[CAN]

Case 5

Check combination meter circuit. Refer to [LAN-134, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9150E



PKIA9255E

CAN SYSTEM (TYPE 4)

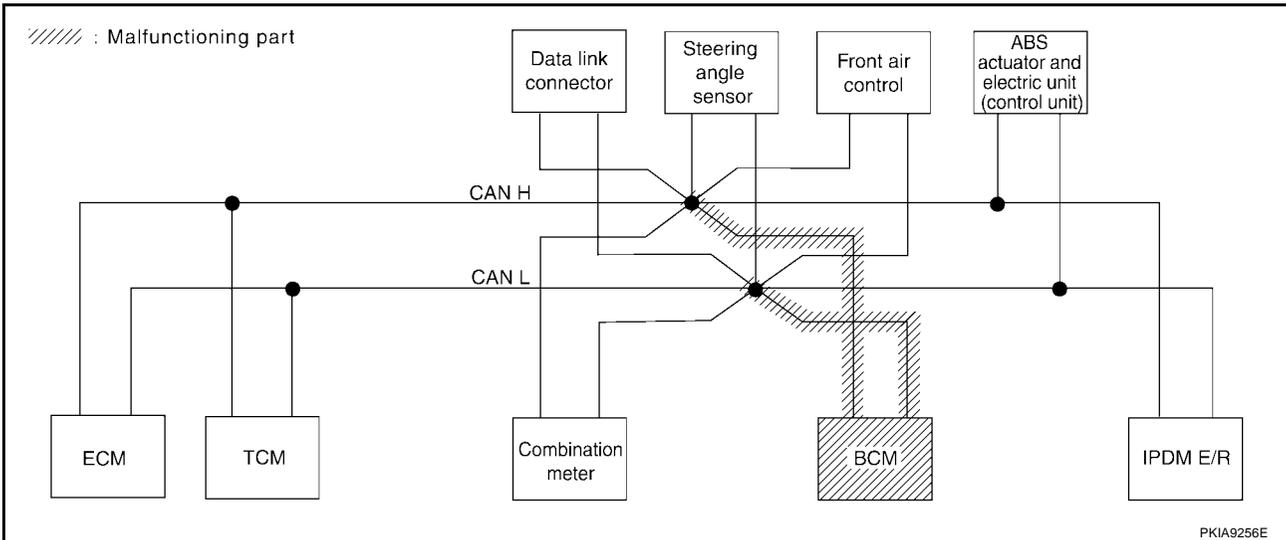
[CAN]

Case 6

Check BCM circuit. Refer to [LAN-135, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						IPDM E/R
				ECM	TCM	METER /M&A	BCM/SEC	STRG	VDC/TCS /ABS	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—

PKIA9151E



PKIA9256E

CAN SYSTEM (TYPE 4)

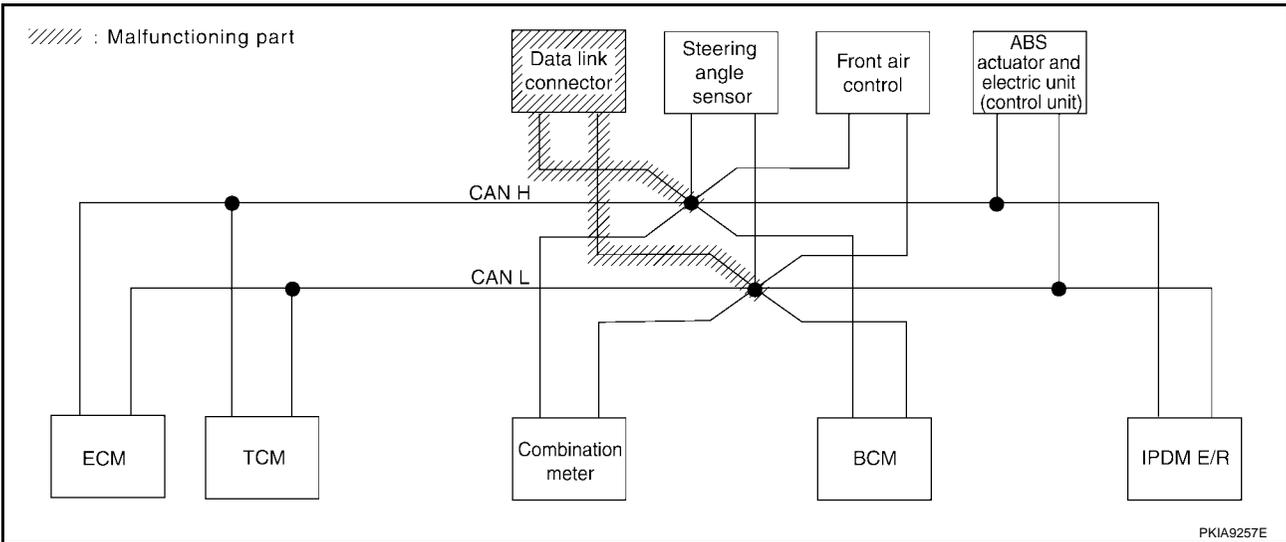
[CAN]

Case 7

Check data link connector circuit. Refer to [LAN-135, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9152E



PKIA9257E

CAN SYSTEM (TYPE 4)

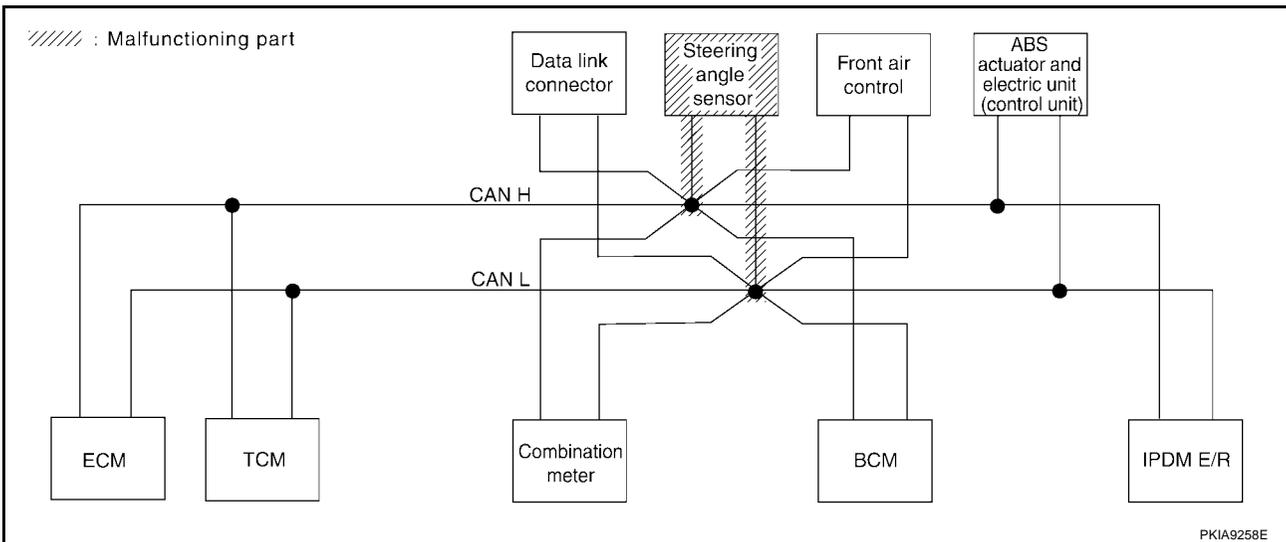
[CAN]

Case 8

Check steering angle sensor circuit. Refer to [LAN-136. "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9153E



PKIA9258E

CAN SYSTEM (TYPE 4)

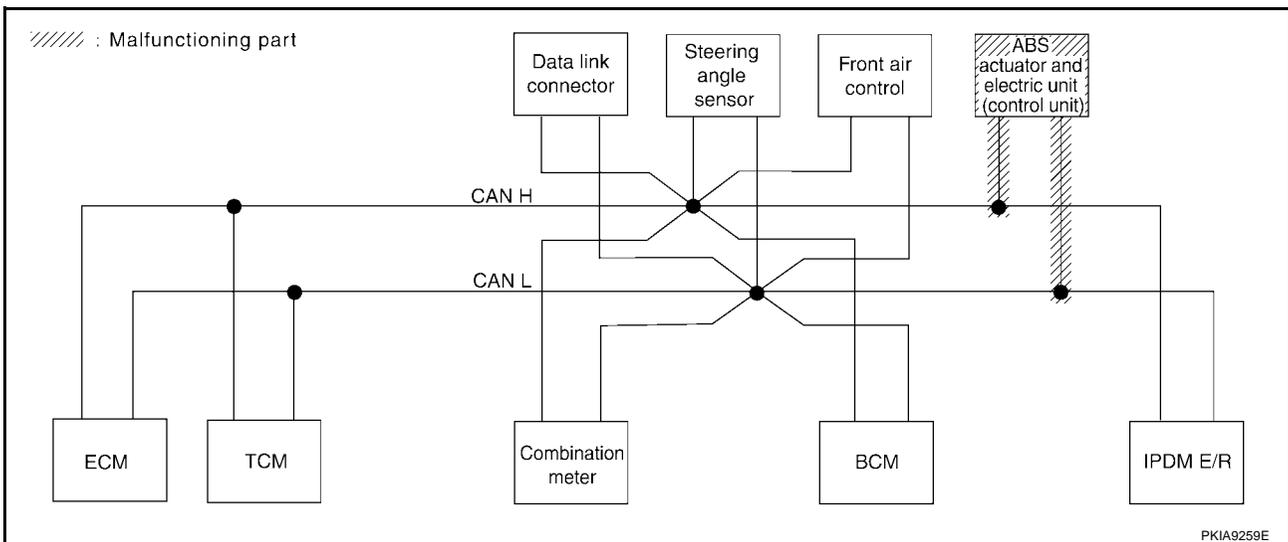
[CAN]

Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-136, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9154E



PKIA9259E

CAN SYSTEM (TYPE 4)

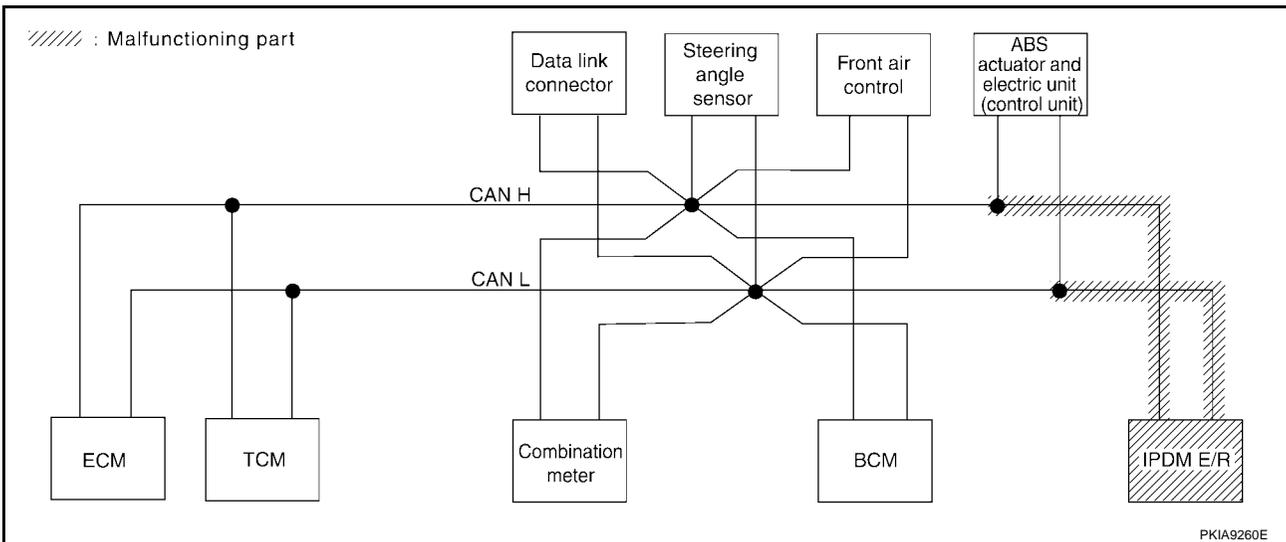
[CAN]

Case 10

Check IPDM E/R circuit. Refer to [LAN-137, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9155E



PKIA9260E

CAN SYSTEM (TYPE 4)

[CAN]

Case 11

Check CAN communication circuit. Refer to [LAN-138, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9156E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-138, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9157E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-138, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN ✓	—	—	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9158E

Circuit Check Between TCM and Data Link Connector

UKS00211

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector F33
 - Harness connector E19
 - Harness connector E50
 - Harness connector B75
 - Harness connector B69
 - Harness connector M40

OK or NG

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

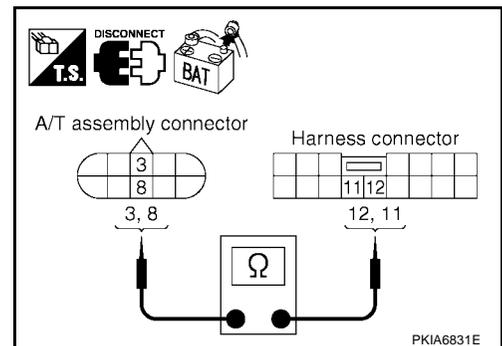
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



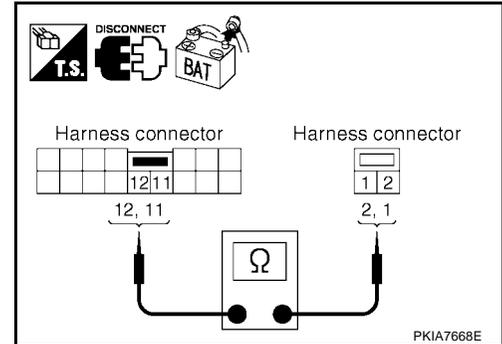
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



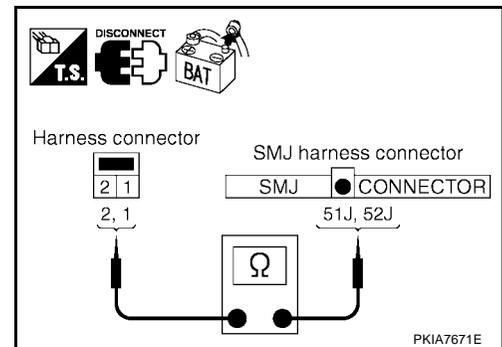
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B69.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B69 terminals 51J (W), 52J (R).

2 (W) - 51J (W) : Continuity should exist.
1 (R) - 52J (R) : Continuity should exist.

OK or NG

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



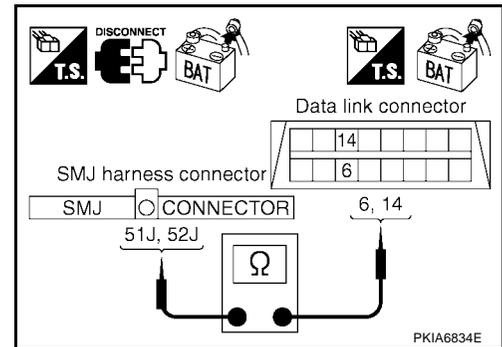
5. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-117, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS00212

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).

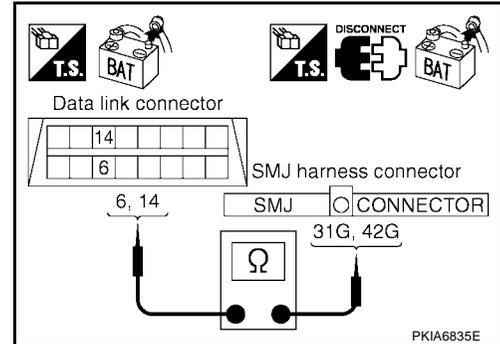
6 (W) - 31G (W) : Continuity should exist.

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).

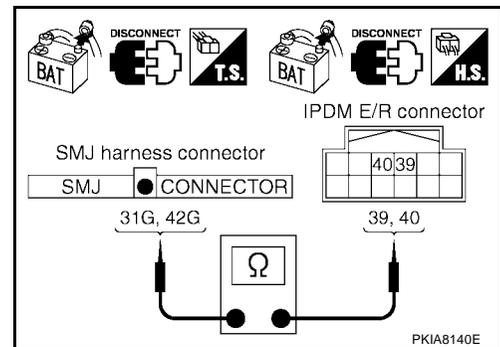
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-117, "Work Flow"](#).

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

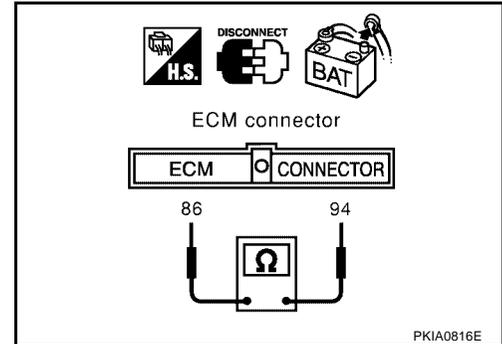
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS00214

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

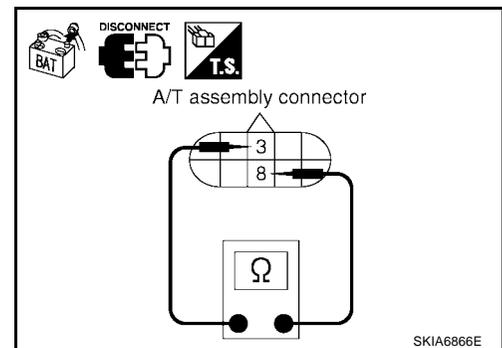
2. CHECK HARNESS FOR OPEN CIRCUIT

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



UKS00215

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

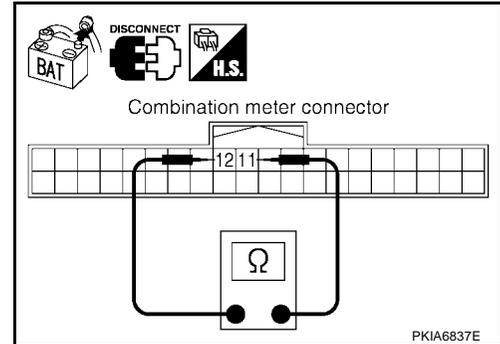
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



UKS00216

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

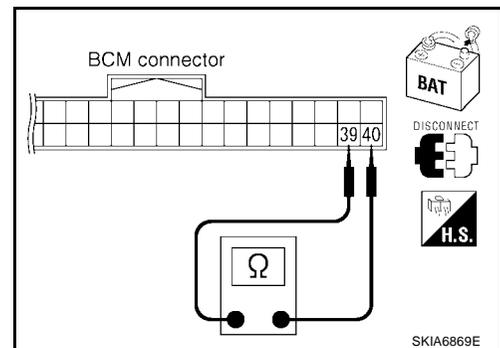
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



UKS00217

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

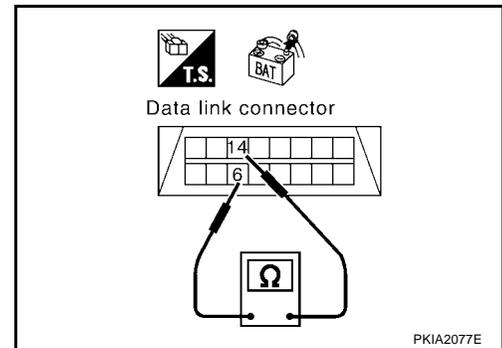
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-117, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



UKS00218

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

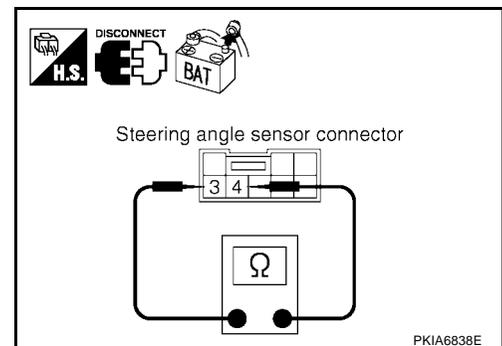
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
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.



UKS00219

ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

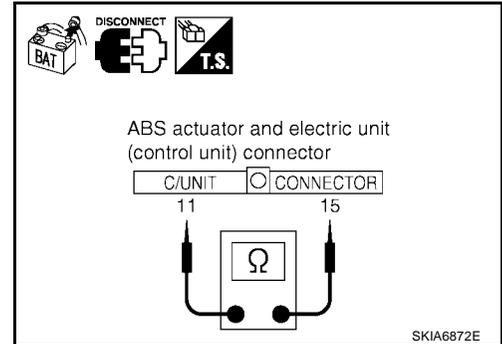
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

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.



UKS0021A

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

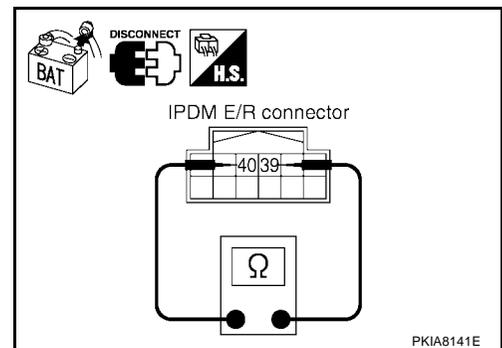
1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

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.



PKIA8141E

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Combination meter
 - BCM
 - Steering angle sensor
 - Front air control
 - 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

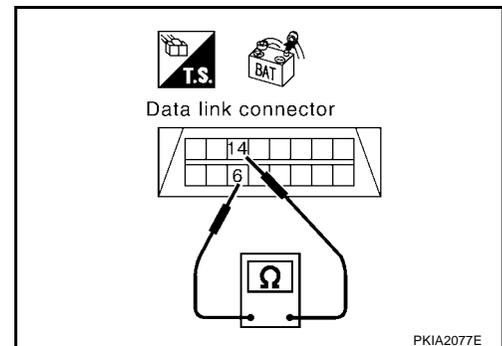
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

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.

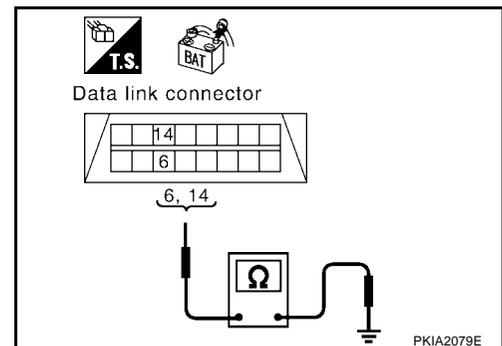
6 (W) - Ground : Continuity should not exist.

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

OK or NG

OK >> Check ECM and IPDM E/R. Refer to [LAN-139, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

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

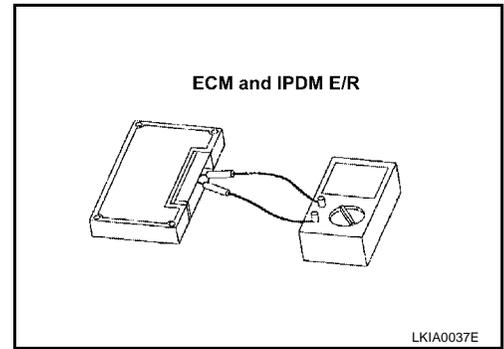
- IPDM E/R power supply circuit. Refer to [PG-26, "IPDM E/R Power/Ground Circuit Inspection"](#).
- Ignition power supply circuit. Refer to [PG-13, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START"](#).

Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 5)

PF2:23710

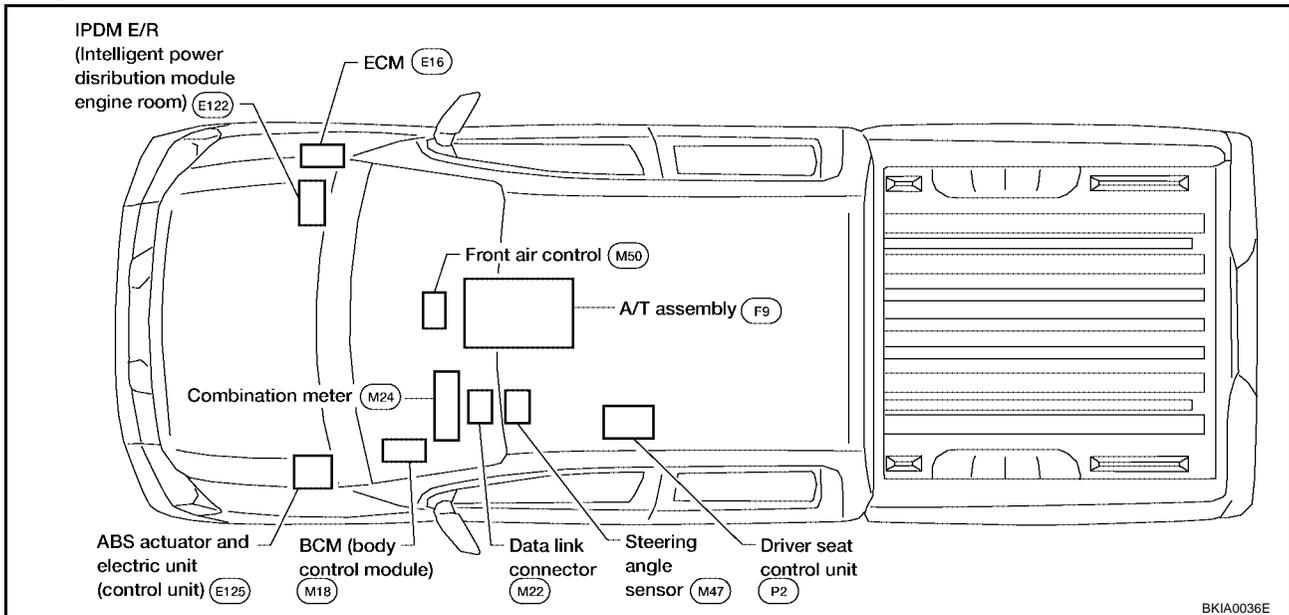
System Description

UKS001EH

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

UKS001EI

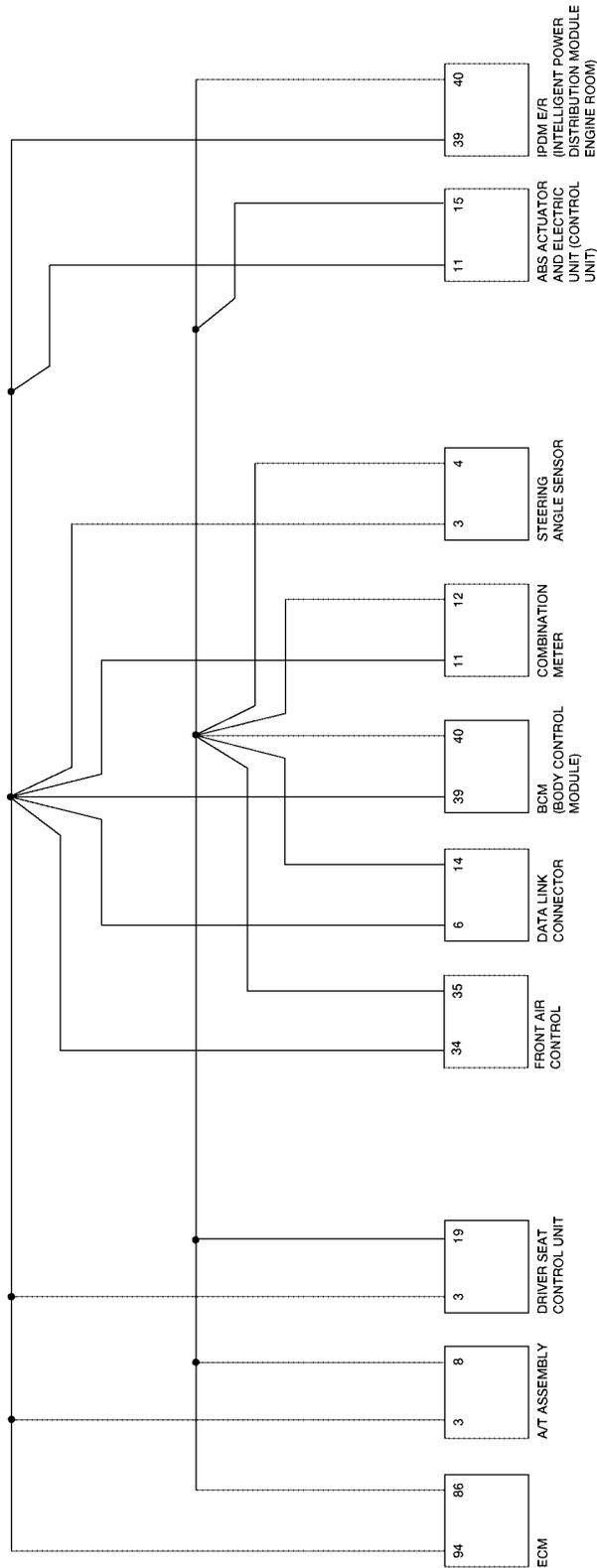


CAN SYSTEM (TYPE 5)

[CAN]

Schematic

UKS001EJ



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BKWA0138E

CAN SYSTEM (TYPE 5)

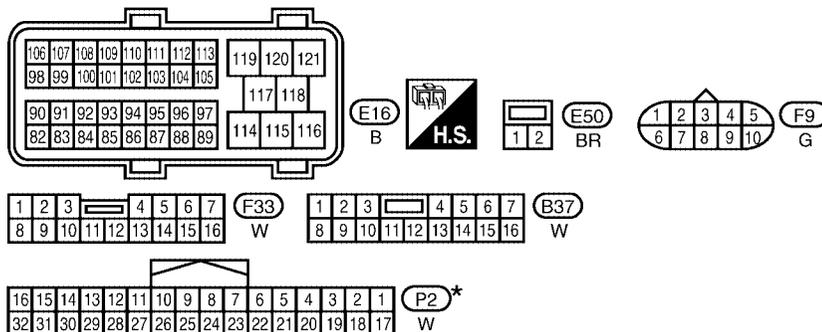
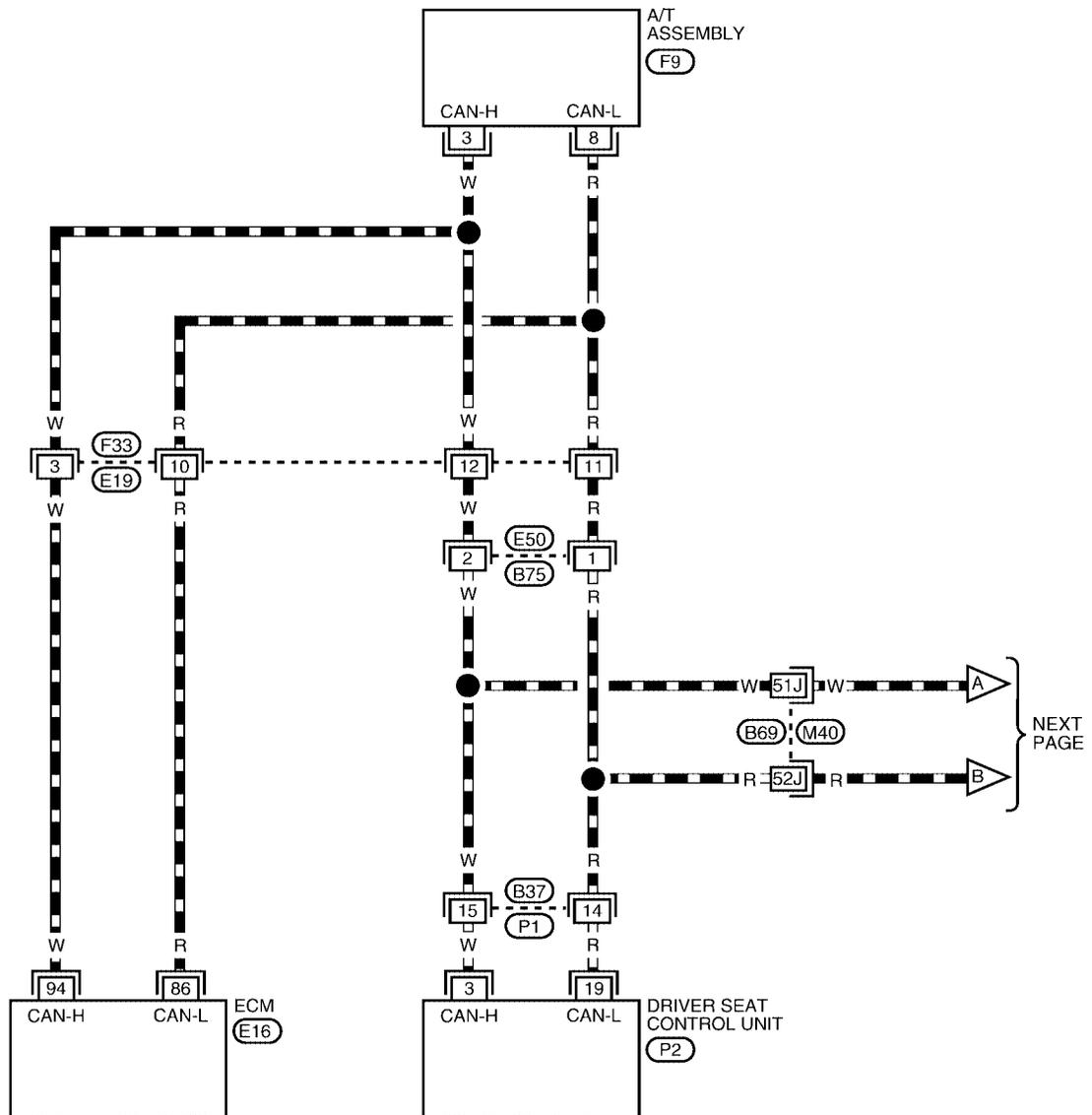
[CAN]

UKS001EK

Wiring Diagram - CAN -

LAN-CAN-13

▬ : DATA LINE



REFER TO THE FOLLOWING.

(M40) - SUPER MULTIPLE JUNCTION (SMJ)

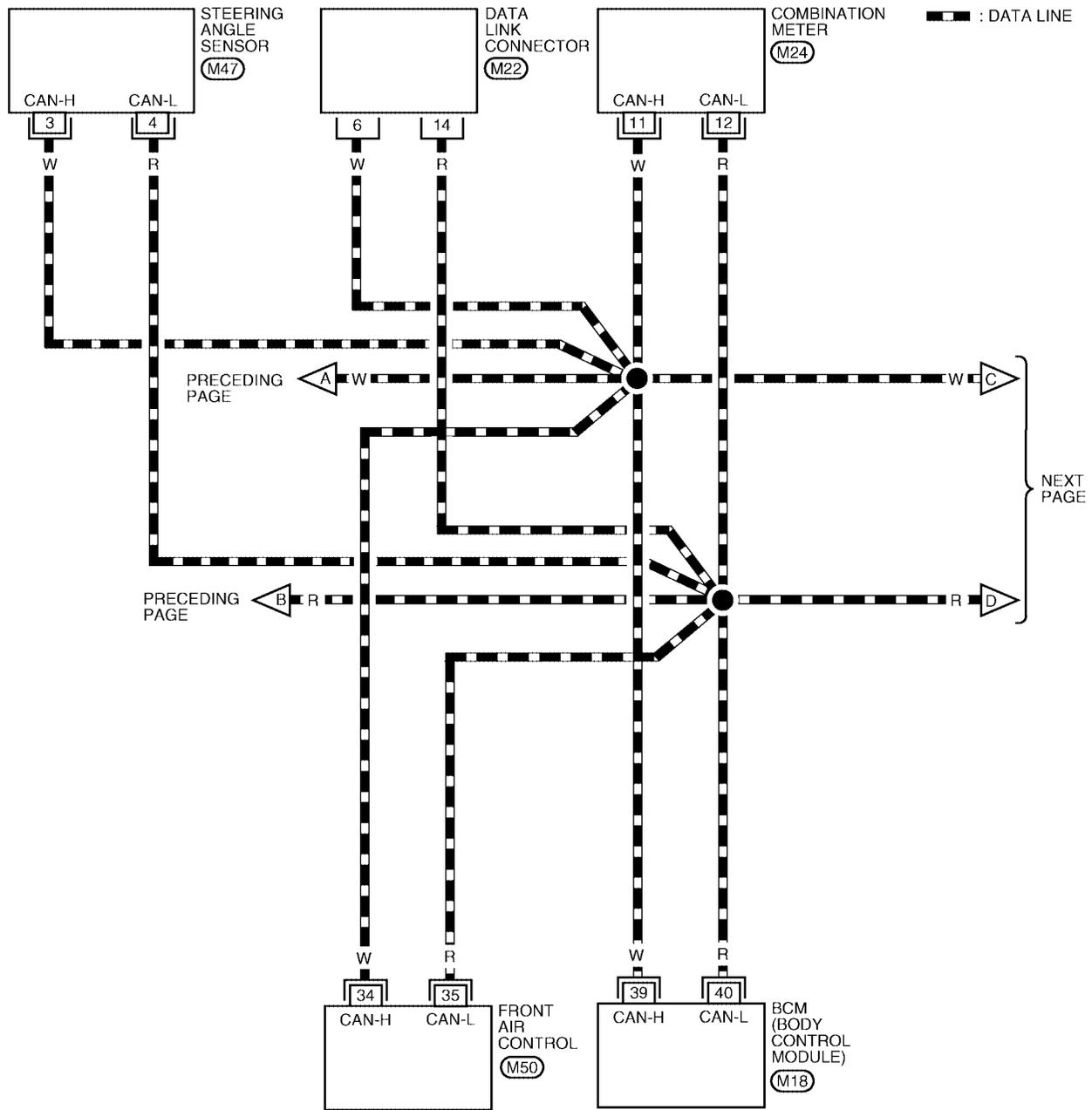
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

BKWA0034E

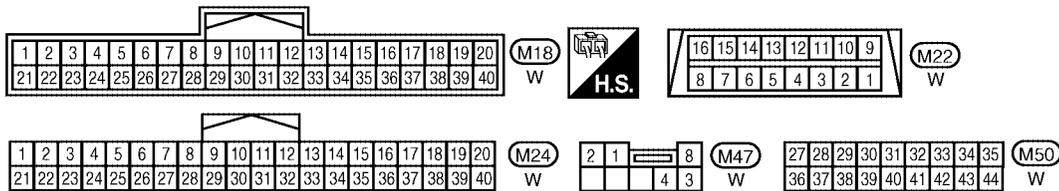
CAN SYSTEM (TYPE 5)

[CAN]

LAN-CAN-14



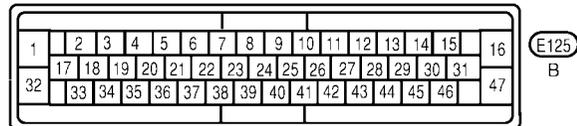
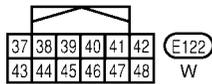
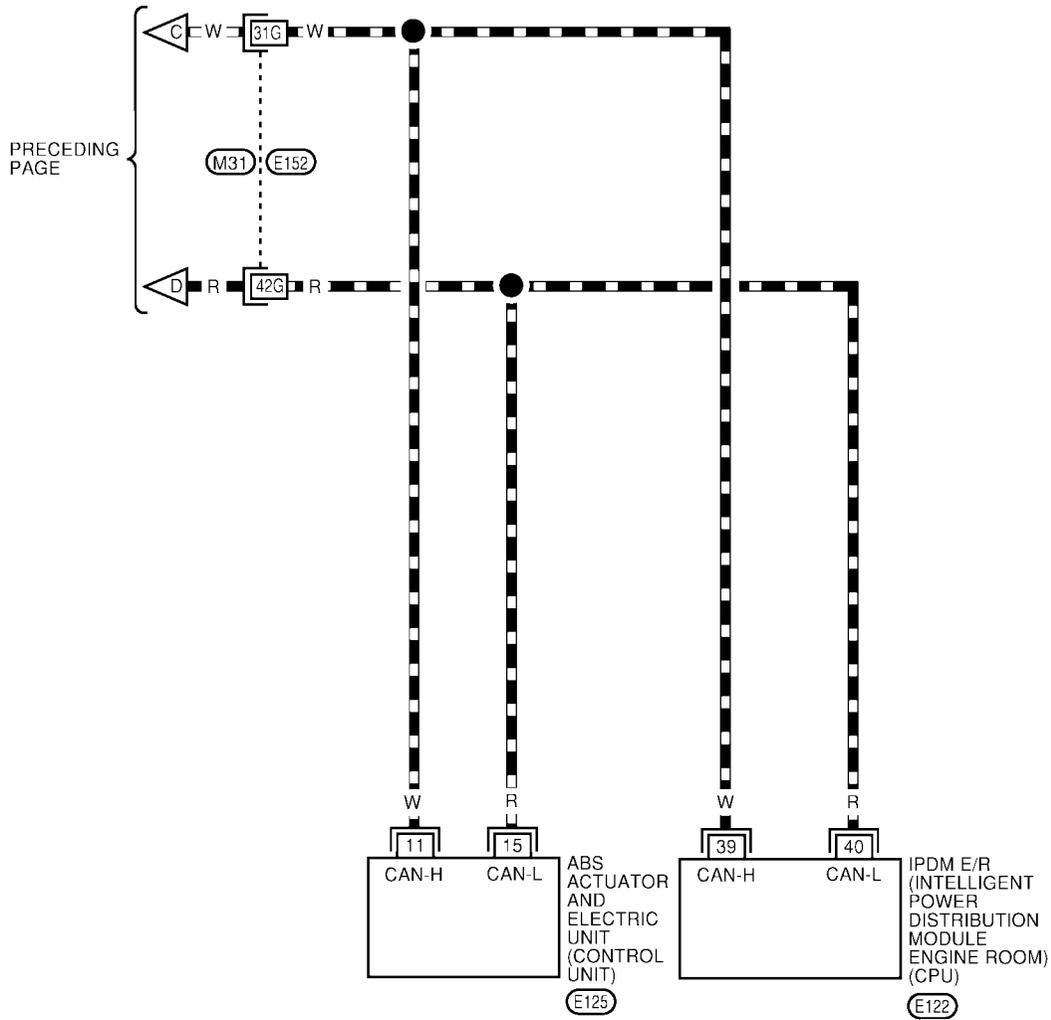
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BKWA0139E

LAN-CAN-15

▬ : DATA LINE



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

BKWA0036E

Work Flow

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

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">NISSAN</td></tr> <tr><td colspan="2" style="text-align: center;">CONSULT-II</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">START (NISSAN BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">START (RENAULT BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">SUB MODE</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">LIGHT COPY</td></tr> </table>	NISSAN		CONSULT-II		ENGINE		START (NISSAN BASED VHCL)		START (RENAULT BASED VHCL)		SUB MODE			LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT SYSTEM</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">A/T</td></tr> <tr><td colspan="2" style="text-align: center;">ABS</td></tr> <tr><td colspan="2" style="text-align: center;">AIR BAG</td></tr> <tr><td colspan="2" style="text-align: center;">BCM</td></tr> <tr><td colspan="2" style="text-align: center;">METER A/C AMP</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT SYSTEM		ENGINE		A/T		ABS		AIR BAG		BCM		METER A/C AMP							BACK LIGHT COPY	PKIA2093E
NISSAN																																						
CONSULT-II																																						
ENGINE																																						
START (NISSAN BASED VHCL)																																						
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ABS																																						
AIR BAG																																						
BCM																																						
METER A/C AMP																																						
	BACK LIGHT COPY																																					

- 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.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DTC RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">TIME</td></tr> <tr><td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td><td style="width: 20%; text-align: center;">0</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">F.F.DATA</td></tr> <tr><td colspan="2" style="text-align: center;">ERASE PRINT</td></tr> <tr><td style="width: 50%;">MODE BACK</td><td style="width: 50%; text-align: center;">LIGHT COPY</td></tr> </table>	SELF-DIAG RESULTS		DTC RESULTS		TIME		CAN COMM CIRCUIT (U1000)	0					F.F.DATA		ERASE PRINT		MODE BACK	LIGHT COPY	PKIA8260E
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WORK SUPPORT																																										
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CAN COMM CIRCUIT (U1000)	0																																									
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ERASE PRINT																																										
MODE BACK	LIGHT COPY																																									

- 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.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">PRSNR</td></tr> <tr><td>INITIAL DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TRANSMIT DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TCM</td><td style="text-align: center;">OK</td></tr> <tr><td>VDC/TCS/ABS</td><td style="text-align: center;">OK</td></tr> <tr><td>METER/M&A</td><td style="text-align: center;">OK</td></tr> <tr><td>ICC</td><td style="text-align: center;">UNKWN</td></tr> <tr><td>BCM/SEC</td><td style="text-align: center;">OK</td></tr> <tr><td>IPDM E/R</td><td style="text-align: center;">OK</td></tr> <tr><td>AWD/4WD/e4WD</td><td style="text-align: center;">UNKWN</td></tr> <tr><td colspan="2" style="text-align: center;">PRINT</td></tr> <tr><td style="width: 50%;">MODE BACK</td><td style="width: 50%; text-align: center;">Scroll Down LIGHT COPY</td></tr> </table>	CAN DIAG SUPPORT MNTR		ENGINE		PRSNR		INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT		MODE BACK	Scroll Down LIGHT COPY	PKIA8343E
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AWD/4WD/e4WD	UNKWN																																																			
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MODE BACK	Scroll Down LIGHT COPY																																																			

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-146, "CHECK SHEET"](#) .
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-146, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-148, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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CAN SYSTEM (TYPE 5)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	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	—	—	—
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

CAN SYSTEM (TYPE 5)

[CAN]

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Attach copy of
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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

PKIA9137E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

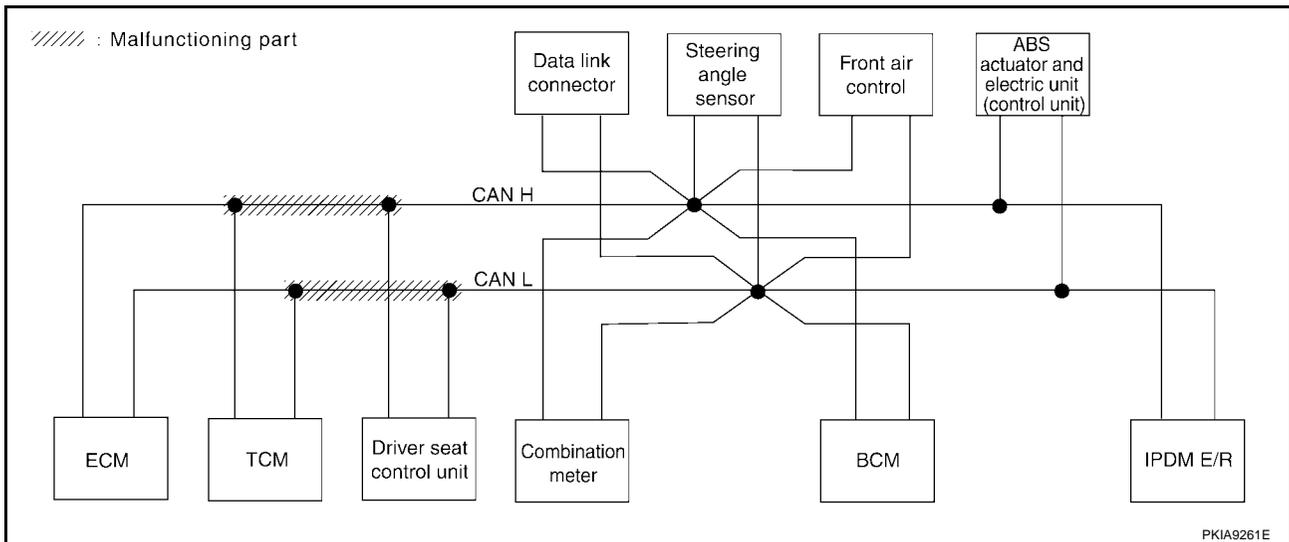
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-161, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UN KN W N ✓	UN KN W N ✓	—	UN KN W N ✓	UN KN W N ✓
A/T	—	NG	UNKWN	UNKWN	—	UN KN W N ✓	—	—	UN KN W N ✓	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UN KN W N ✓	UNKWN	UNKWN	—	—	—
BCM	No indication	NG	UNKWN	UN KN W N ✓	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UN KN W N ✓	UN KN W N ✓	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UN KN W N ✓	—	—	UNKWN	—	—	—

PKIA9159E



PKIA9261E

CAN SYSTEM (TYPE 5)

[CAN]

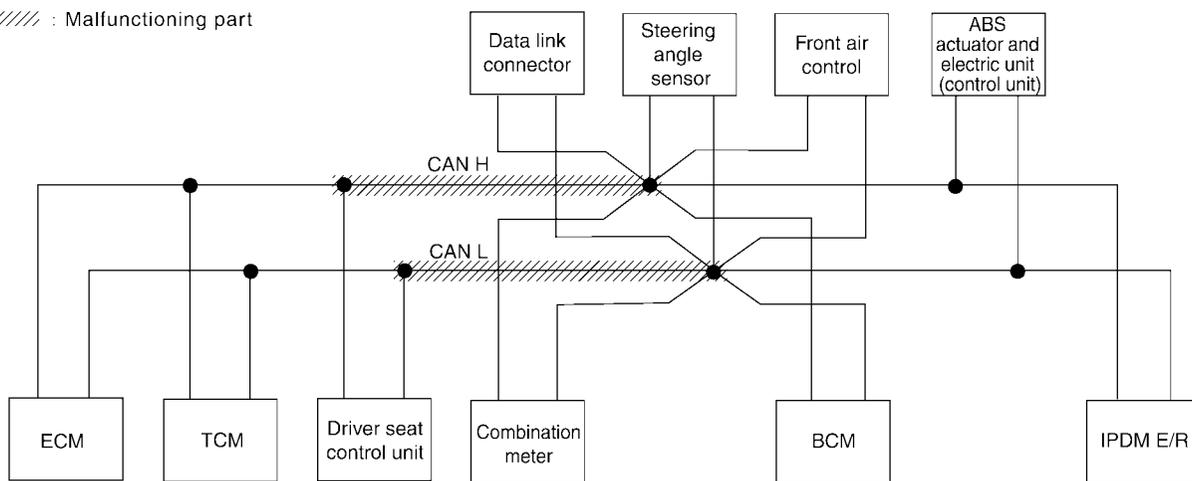
Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-162, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9160E

//// : Malfunctioning part



PKIA9262E

CAN SYSTEM (TYPE 5)

[CAN]

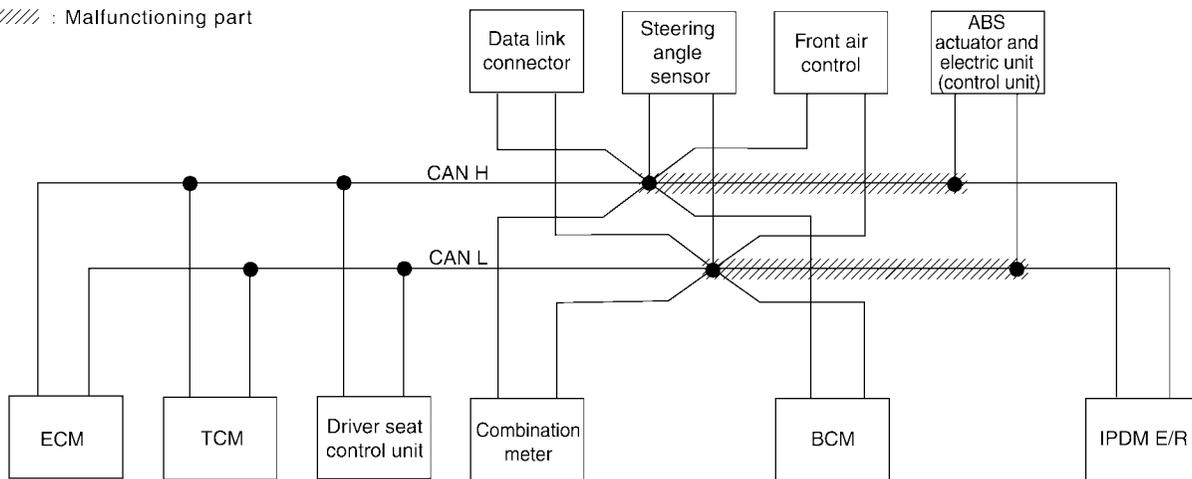
Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-163, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9161E

//// : Malfunctioning part



PKIA9263E

CAN SYSTEM (TYPE 5)

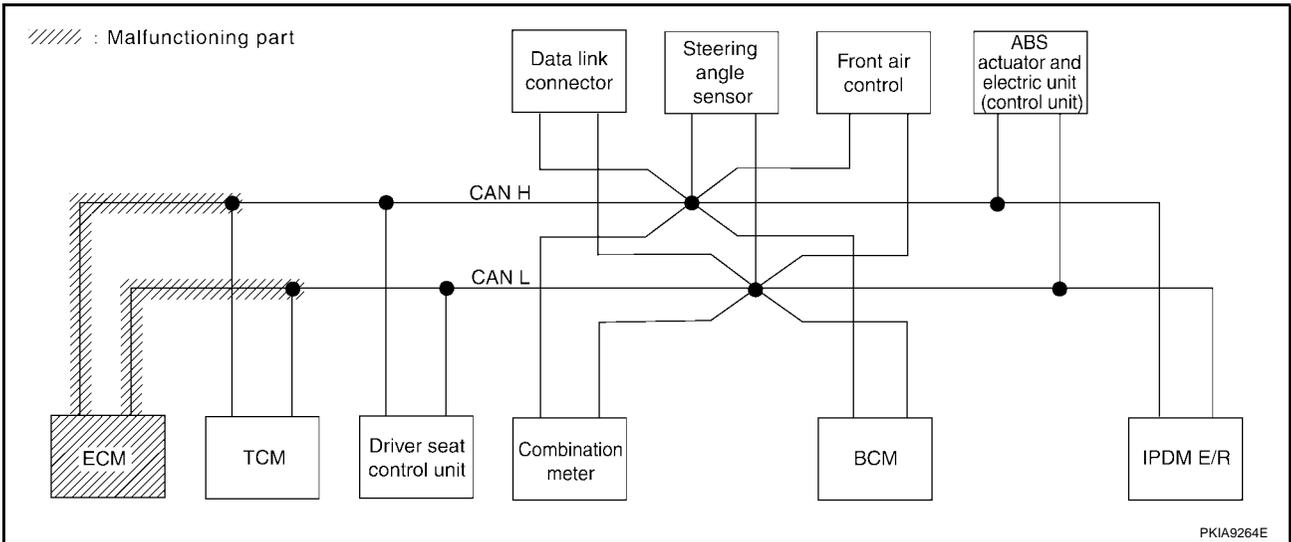
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-164, "ECM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER /M&A	BCM/SEC	STRG	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—

PKIA9162E



CAN SYSTEM (TYPE 5)

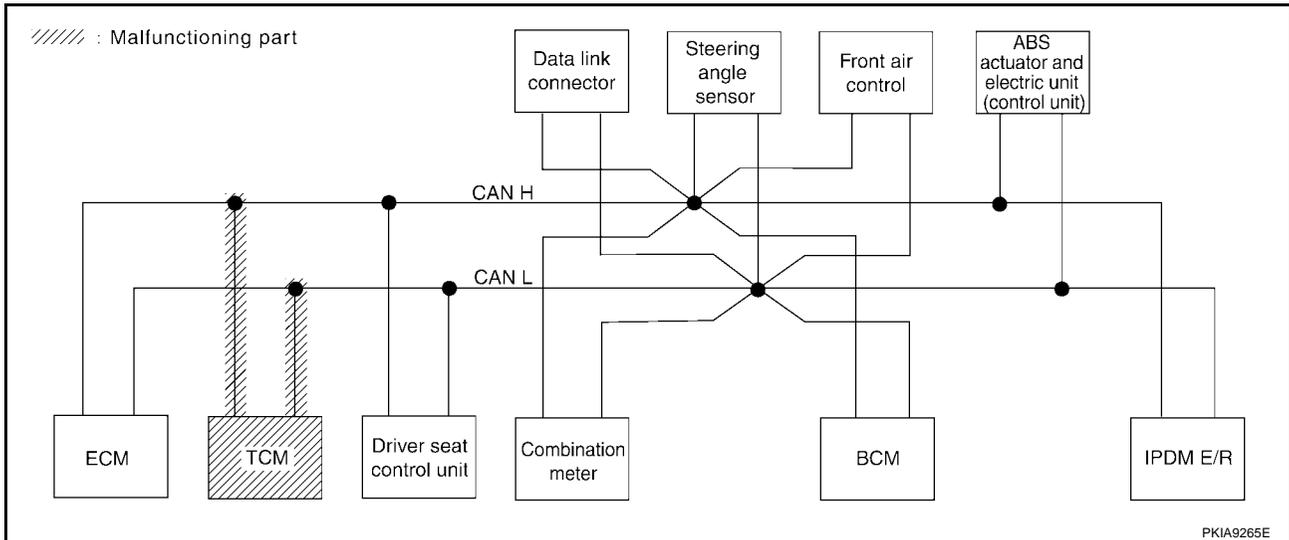
[CAN]

Case 5

Check TCM circuit. Refer to [LAN-164, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER /M&A	BCM/SEC	STRG	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9163E



PKIA9265E

CAN SYSTEM (TYPE 5)

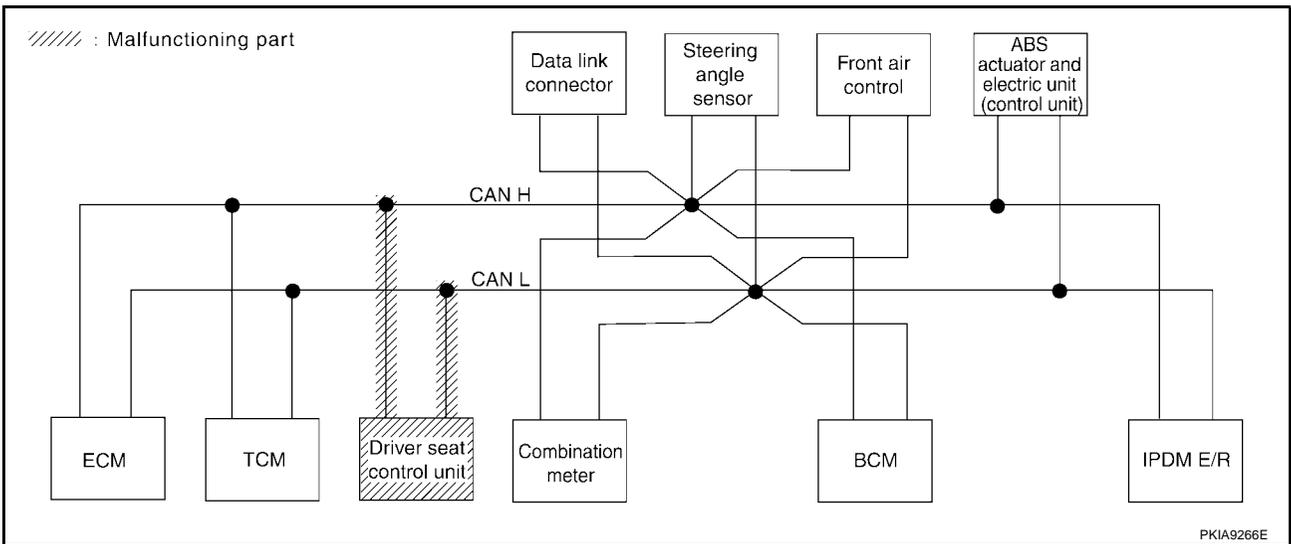
[CAN]

Case 6

Check driver seat control unit circuit. Refer to [LAN-165, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9164E



CAN SYSTEM (TYPE 5)

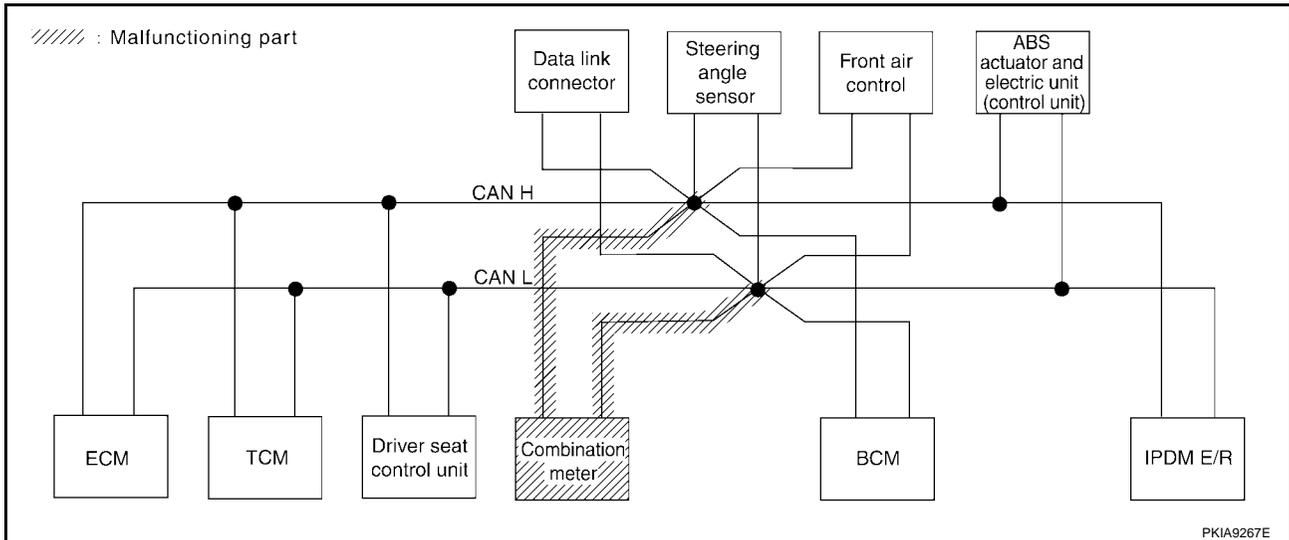
[CAN]

Case 7

Check combination meter circuit. Refer to [LAN-165, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9165E



PKIA9267E

CAN SYSTEM (TYPE 5)

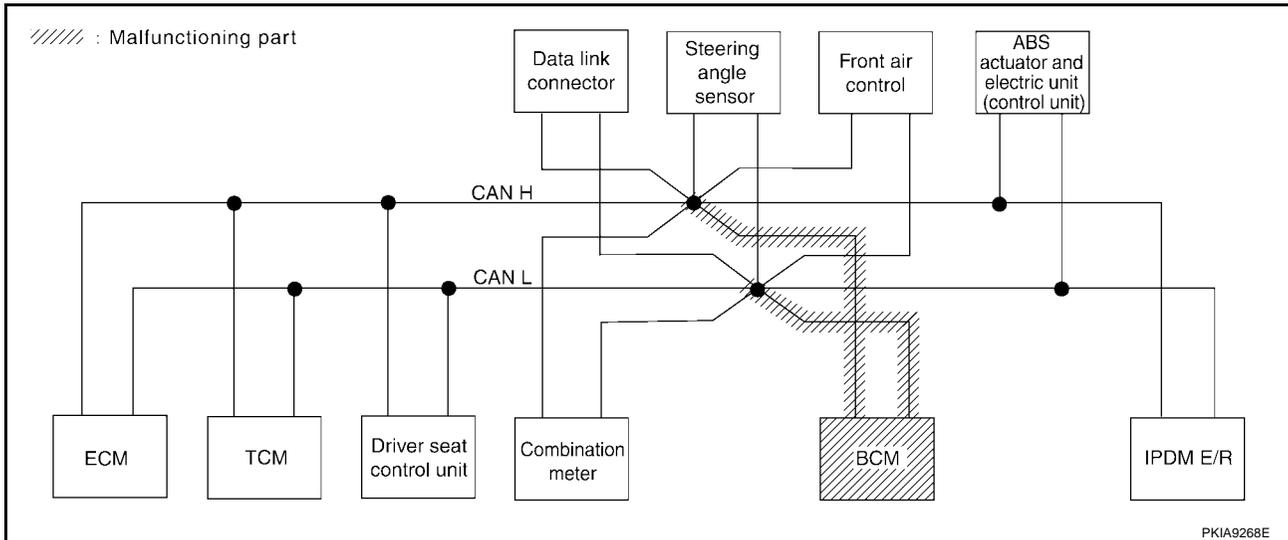
[CAN]

Case 8

Check BCM circuit. Refer to [LAN-166, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER /M&A	BCM/SEC	STRG	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 ✓	—	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—

PKIA9166E



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CAN SYSTEM (TYPE 5)

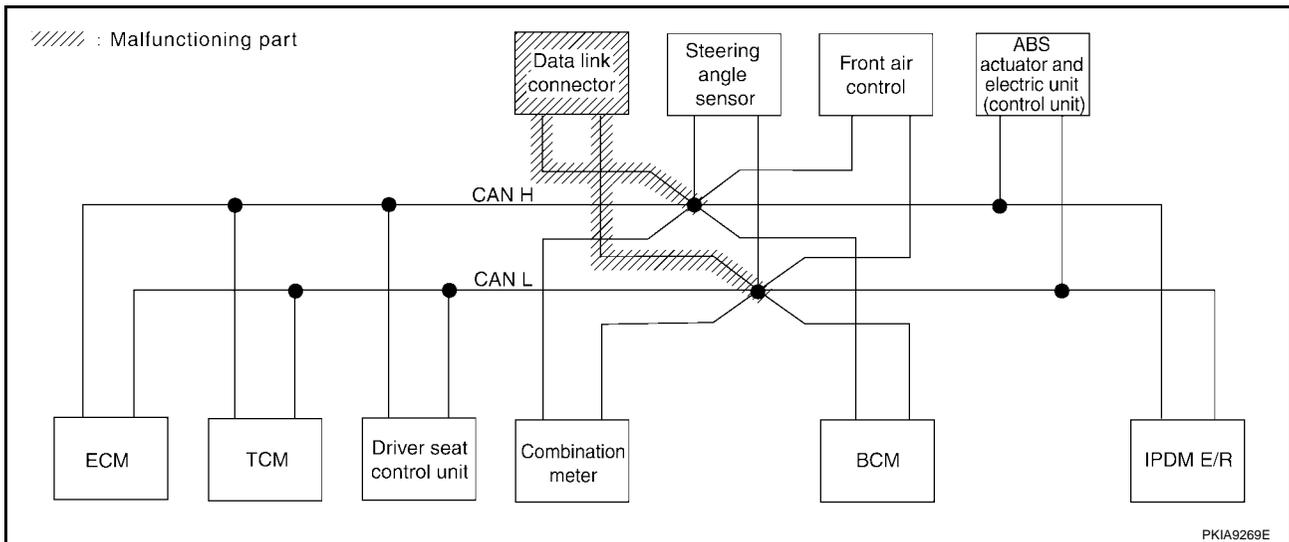
[CAN]

Case 9

Check data link connector circuit. Refer to [LAN-166, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW	—	UNKW	UNKW	UNKW	—	UNKW	UNKW
A/T	—	NG	UNKW	UNKW	—	UNKW	—	—	UNKW	—
AUTO DRIVE POS.	No indication ✓	NG	UNKW	—	UNKW	UNKW	UNKW	—	—	—
BCM	No indication ✓	NG	UNKW	UNKW	—	UNKW	—	—	—	UNKW
ABS	—	NG	UNKW	UNKW	UNKW	—	—	UNKW	—	—
IPDM E/R	No indication ✓	—	UNKW	UNKW	—	—	UNKW	—	—	—

PKIA9167E



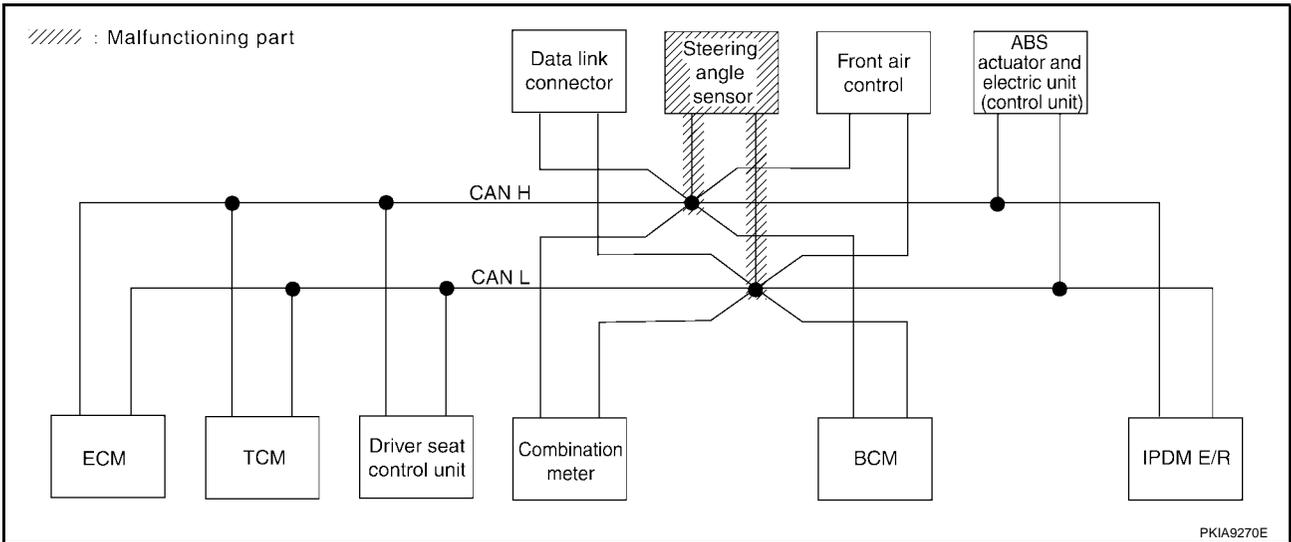
PKIA9269E

Case 10

Check steering angle sensor circuit. Refer to [LAN-167, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9168E



CAN SYSTEM (TYPE 5)

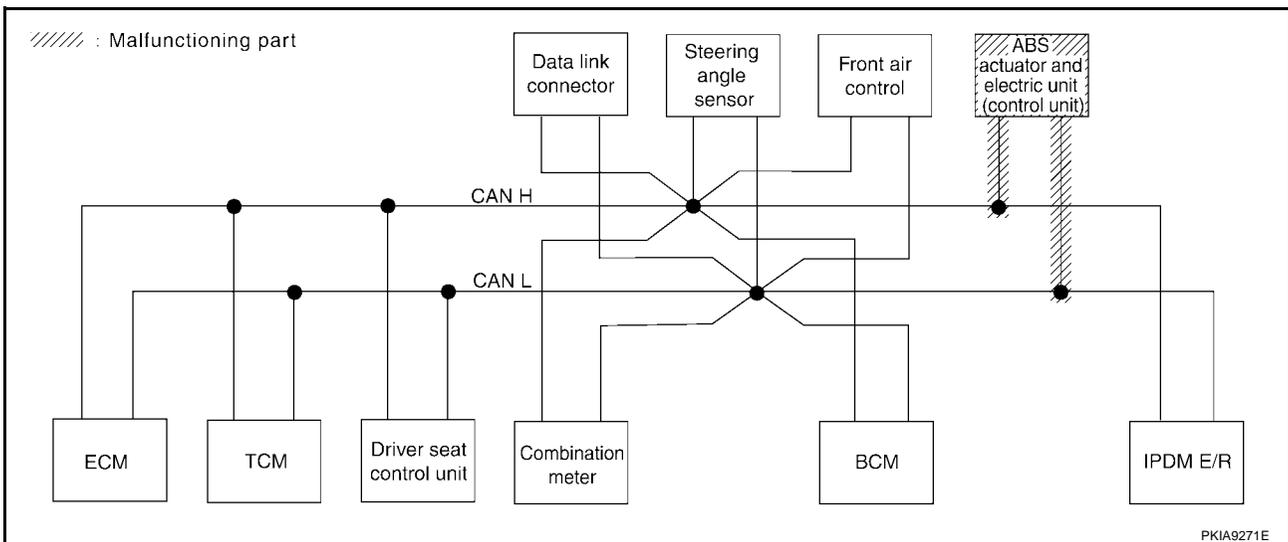
[CAN]

Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-167, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 5)

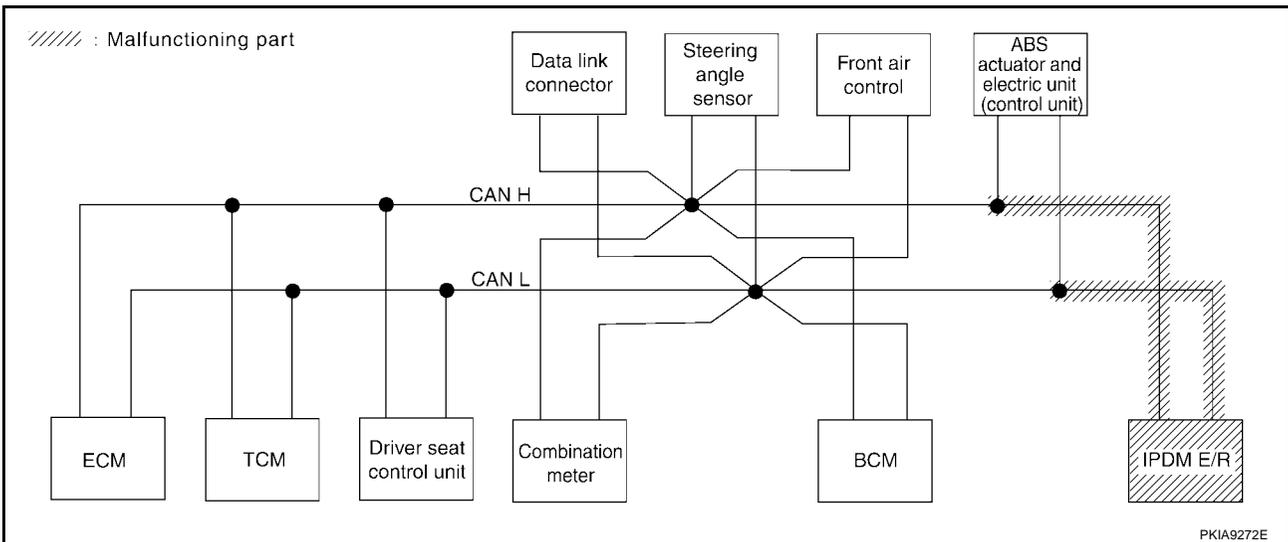
[CAN]

Case 12

Check IPDM E/R circuit. Refer to [LAN-168, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9170E



PKIA9272E

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CAN SYSTEM (TYPE 5)

[CAN]

Case 13

Check CAN communication circuit. Refer to [LAN-168, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	—
AUTO DRIVE POS.	No indication ✓	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—
BCM	No indication ✓	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ABS	—	NG ✓	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	—
IPDM E/R	No indication ✓	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9171E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-169, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9172E

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-169, "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	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9173E

Circuit Check Between TCM and Driver Seat Control Unit

UKS0021F

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
 - Harness connector F33
 - Harness connector E19
 - Harness connector E50
 - Harness connector B75

OK or NG

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

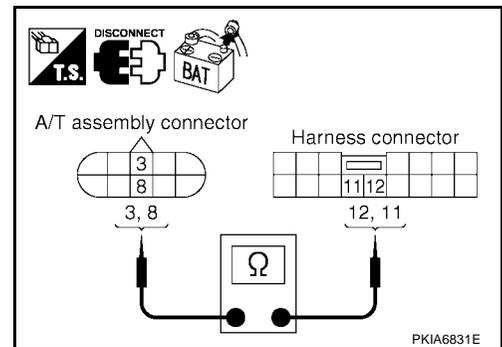
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



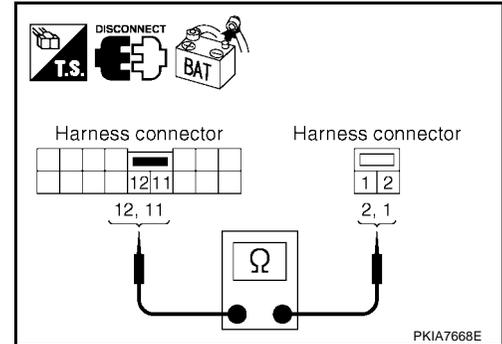
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



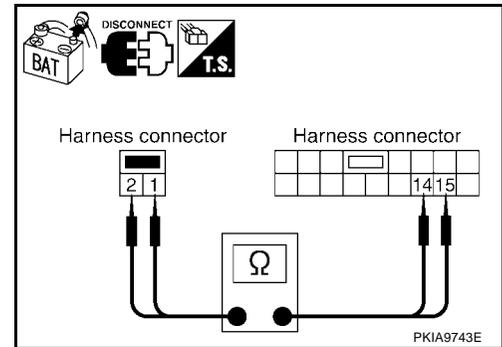
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-145, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0021G

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.

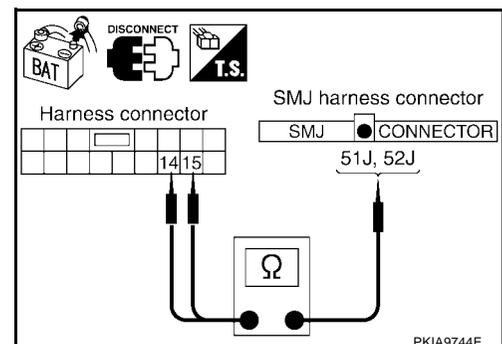
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

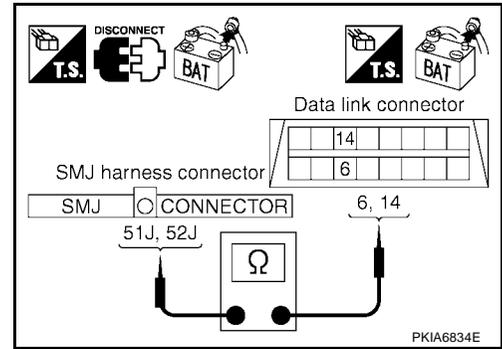
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-145, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0021H

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

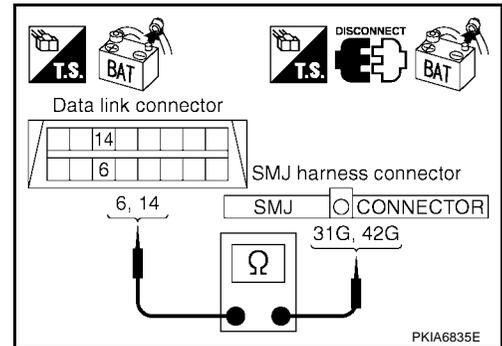
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

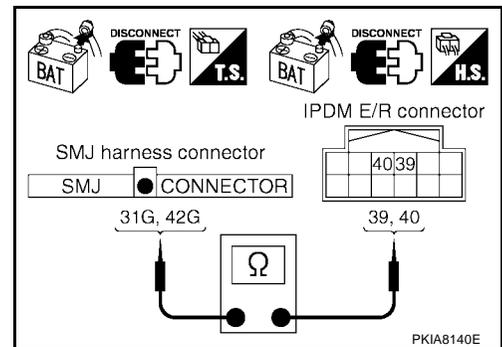
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-145, "Work Flow"](#).
- NG >> Repair harness.



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ECM Circuit Check**1. CHECK CONNECTOR**

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

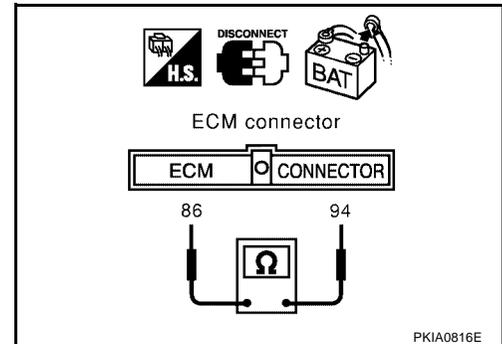
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

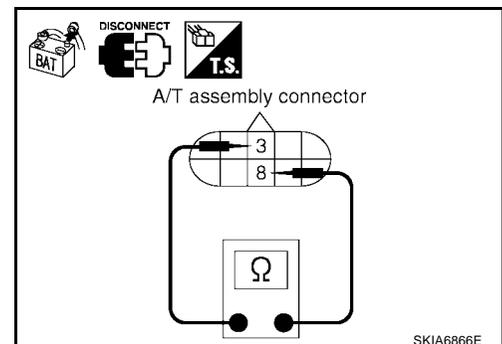
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

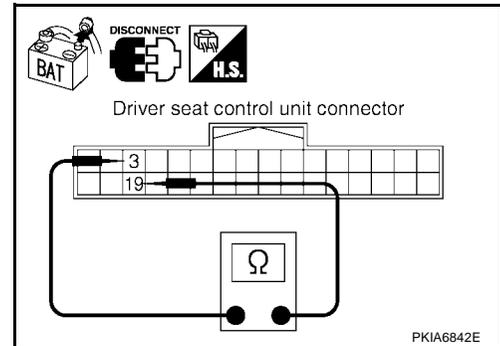
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

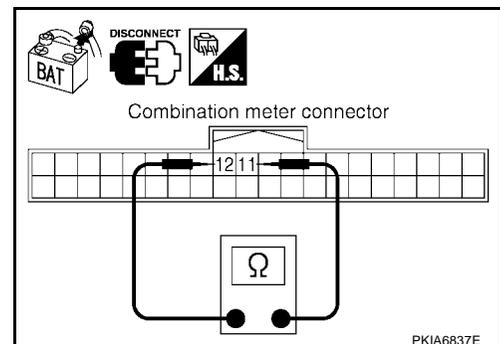
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



BCM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

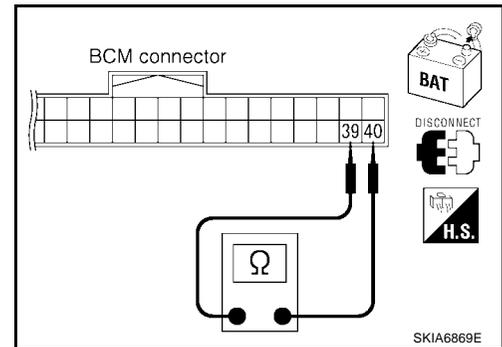
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.

**Data Link Connector Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

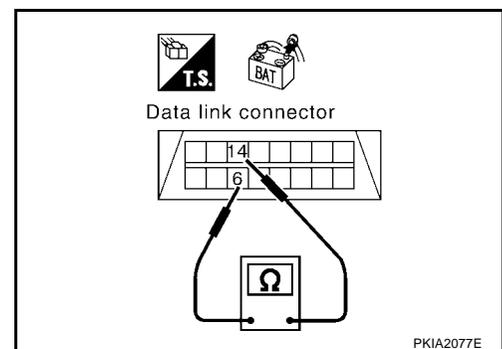
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-145, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check**1. CHECK CONNECTOR**

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

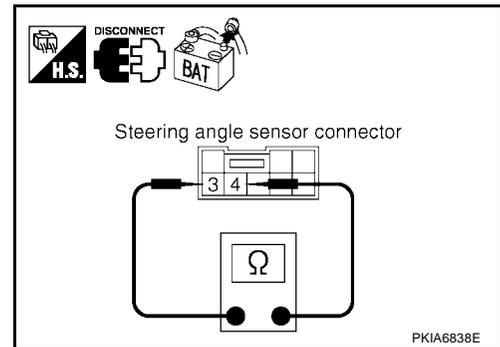
2. CHECK HARNESS FOR OPEN CIRCUIT

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.

**ABS Actuator and Electric Unit (Control Unit) Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

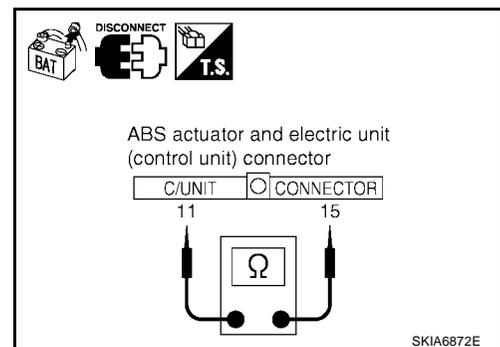
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector 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**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.

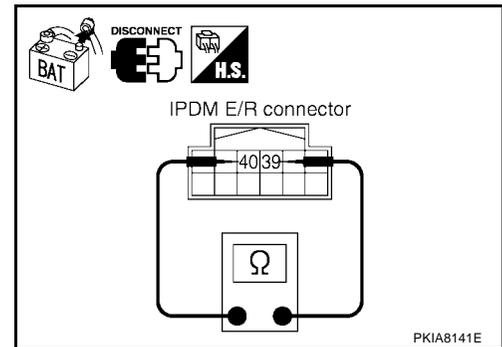
2. CHECK HARNESS FOR OPEN CIRCUIT

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****1. CHECK CONNECTOR**

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

OK or NG

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

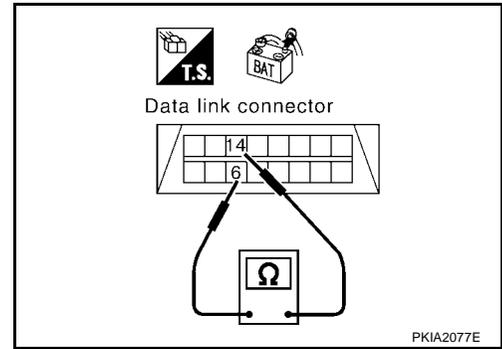
2. CHECK HARNESS FOR SHORT CIRCUIT

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

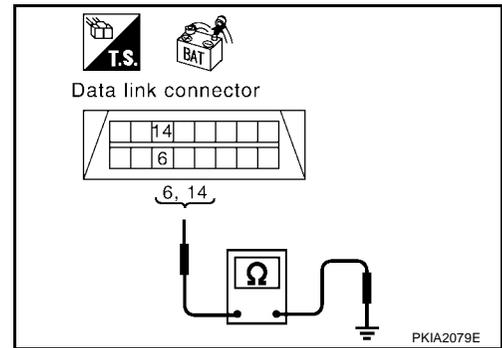
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-169, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
- NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

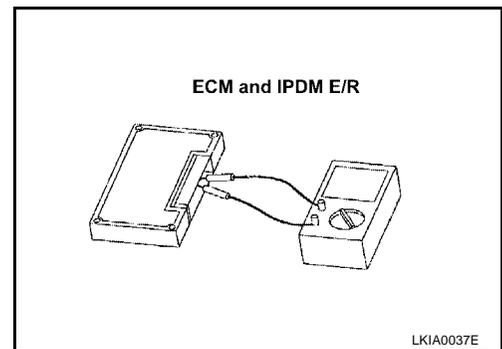
Check the following. If no malfunction is found, replace the IPDM E/R.

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

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 6)

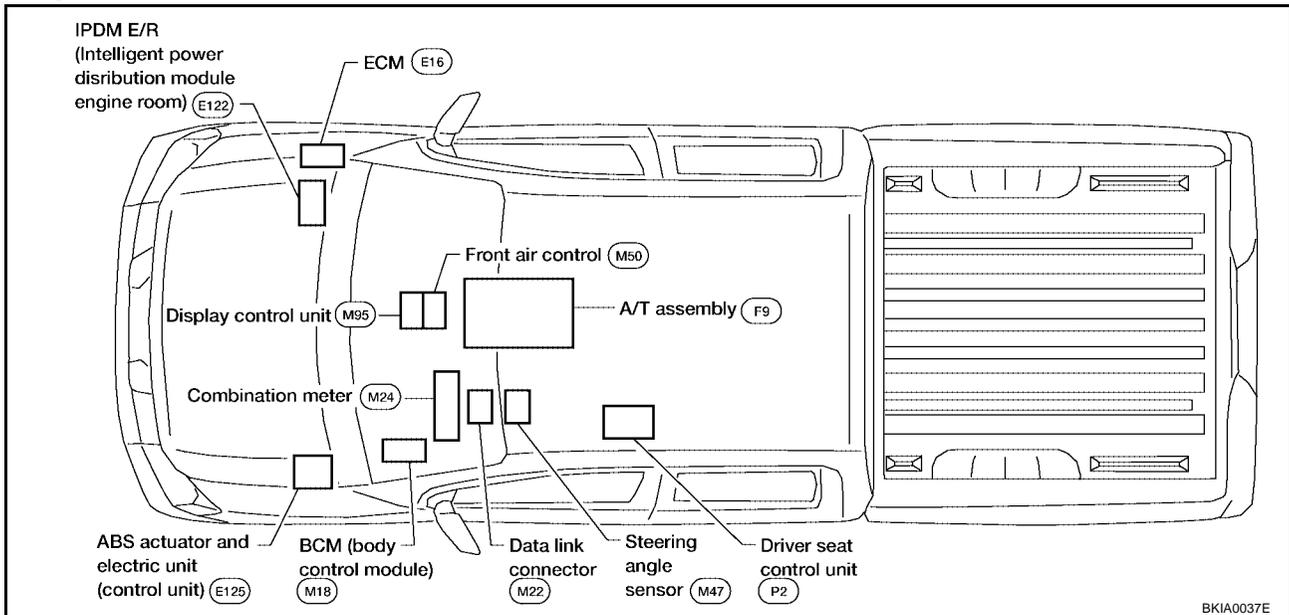
System Description

UKS001F1

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

UKS001F2

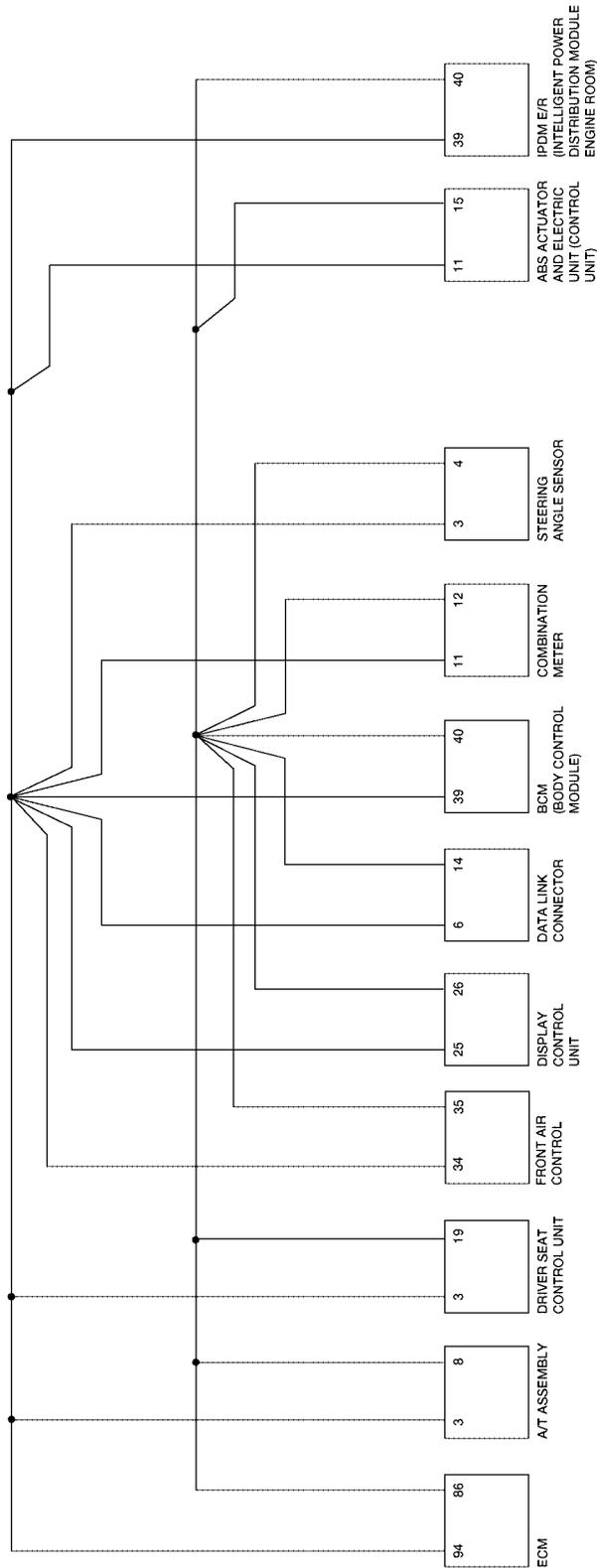


CAN SYSTEM (TYPE 6)

[CAN]

Schematic

UKS001F3



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CAN SYSTEM (TYPE 6)

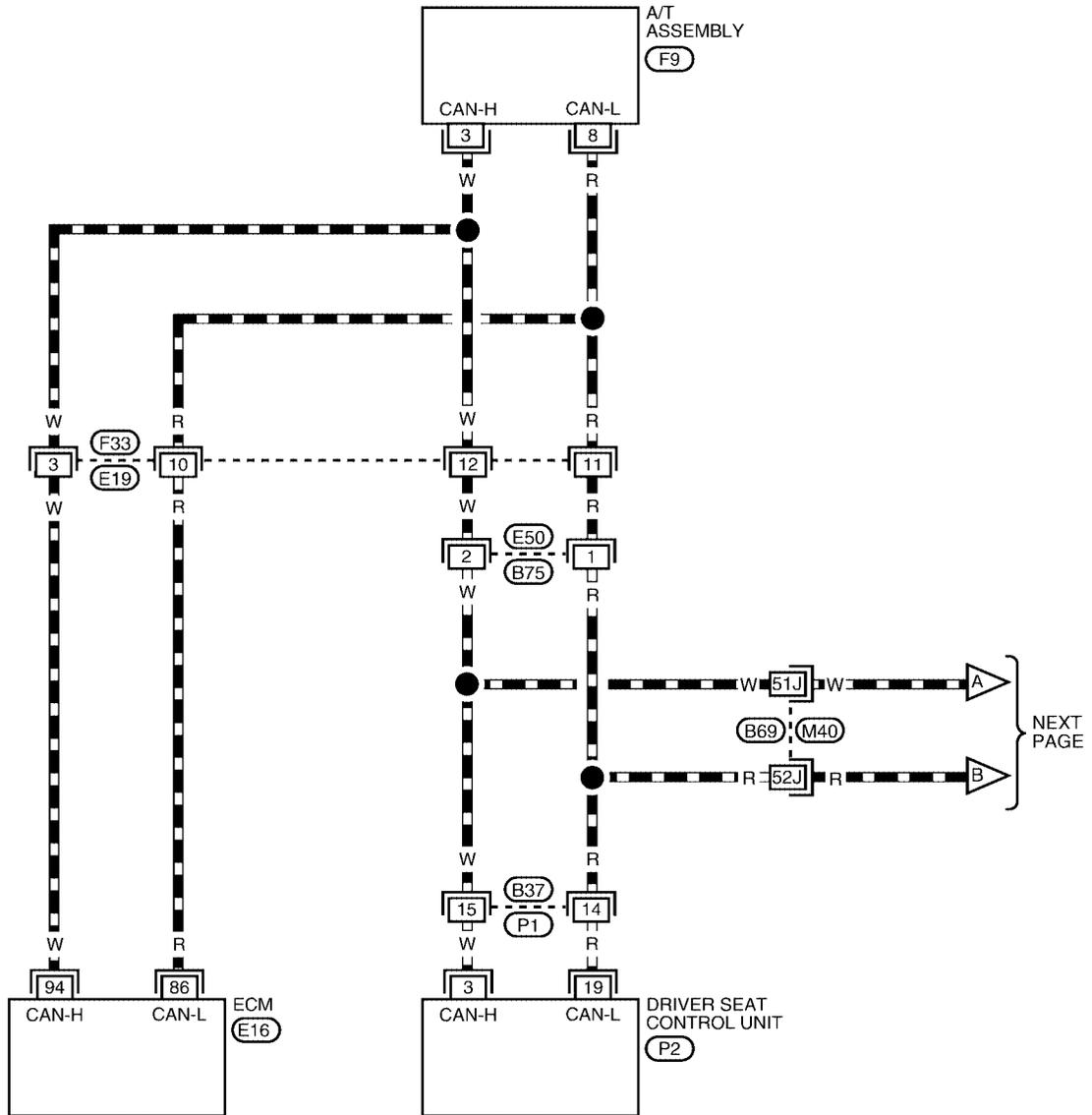
[CAN]

UKS001F4

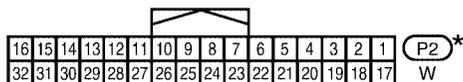
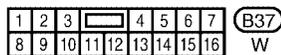
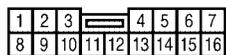
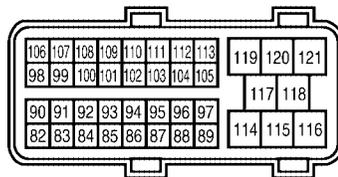
Wiring Diagram - CAN -

LAN-CAN-16

▬ : DATA LINE



NEXT PAGE



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

REFER TO THE FOLLOWING.

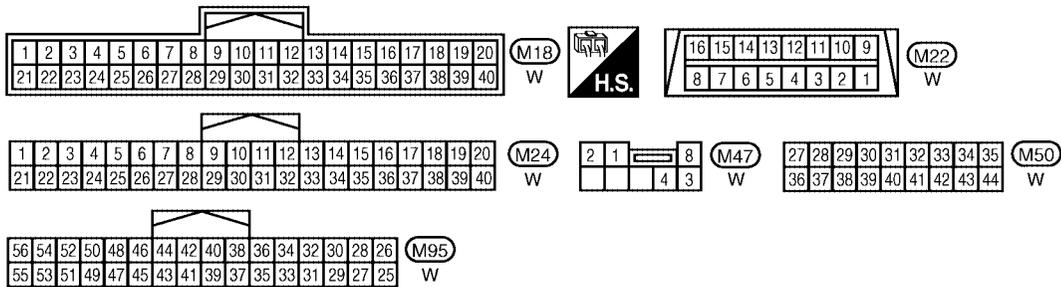
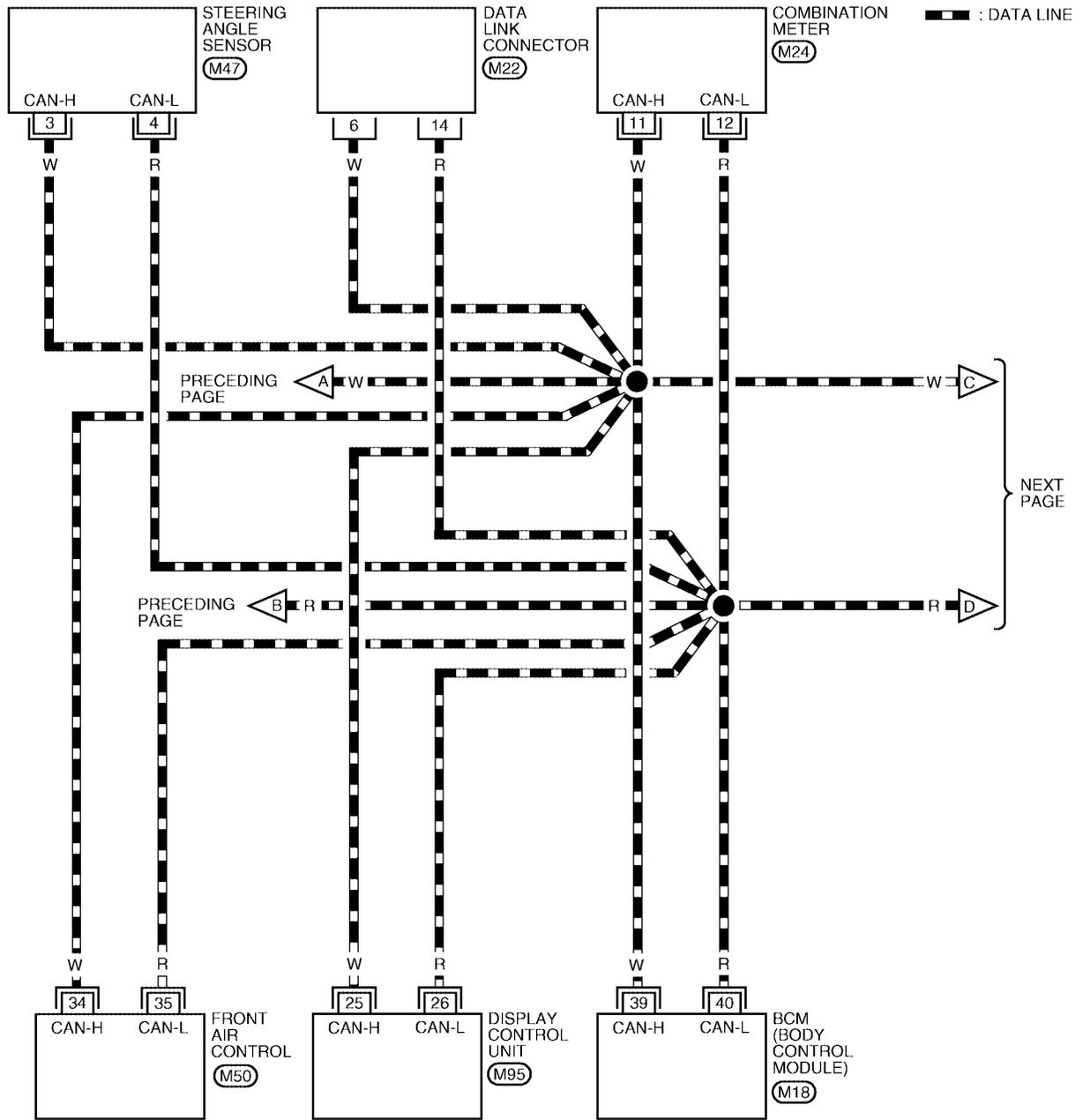
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0042E

CAN SYSTEM (TYPE 6)

[CAN]

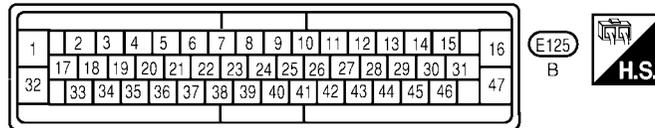
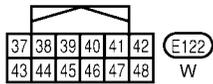
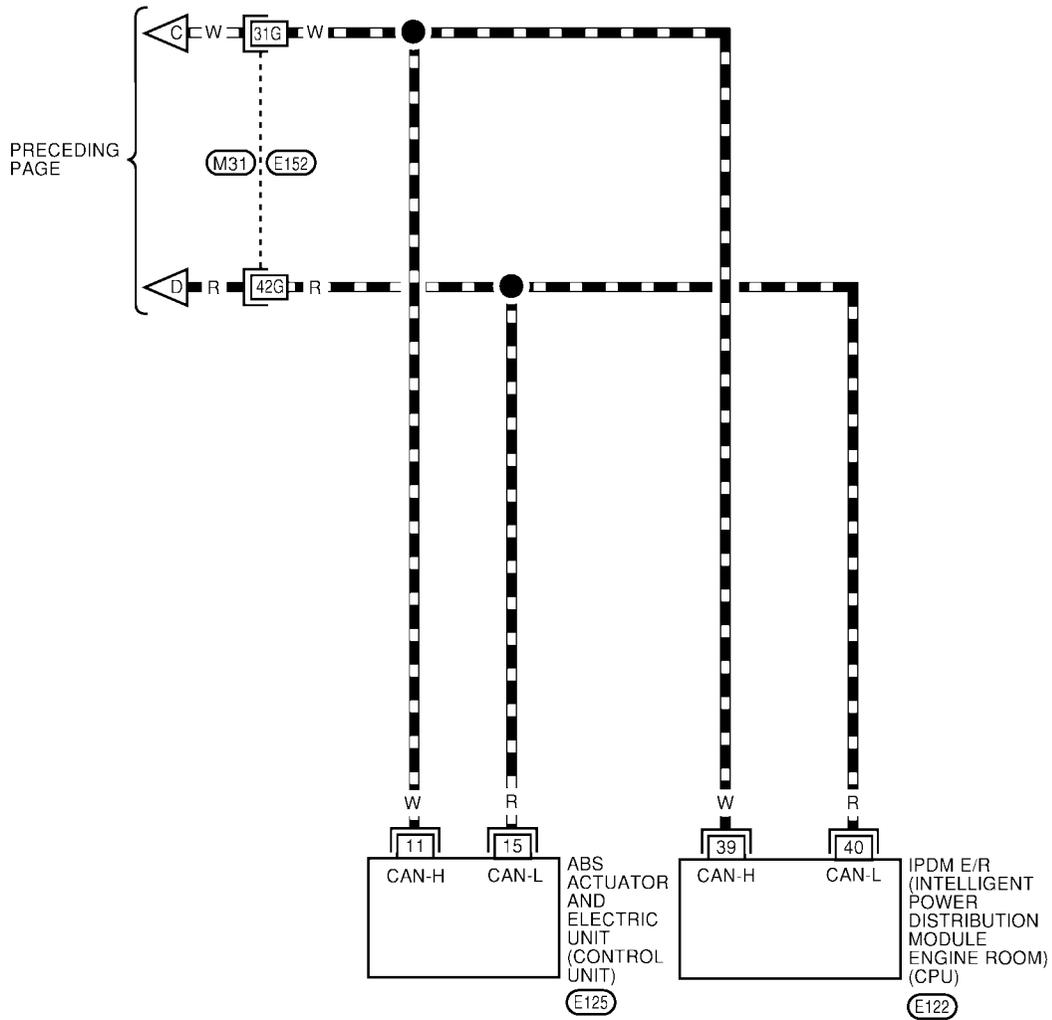
LAN-CAN-17



BKWA0141E

LAN-CAN-18

▬ : DATA LINE

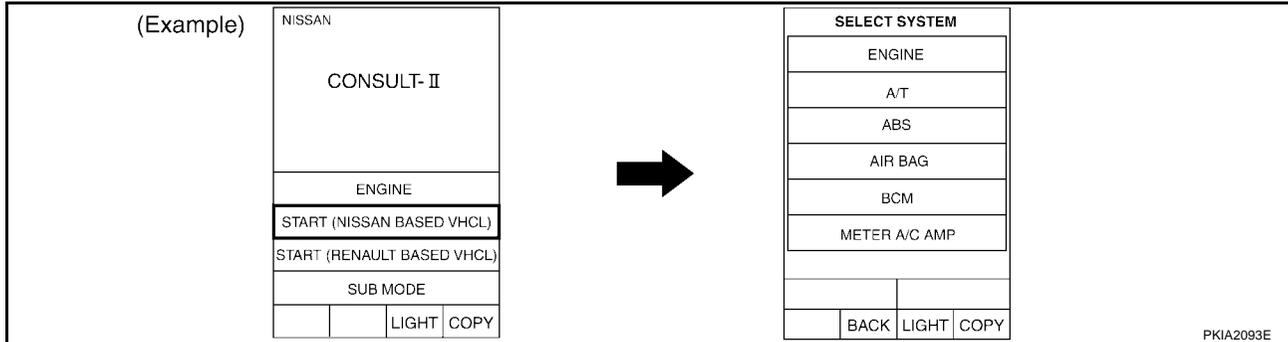


REFER TO THE FOLLOWING.
 (M31) - SUPER MULTIPLE JUNCTION (SMJ)

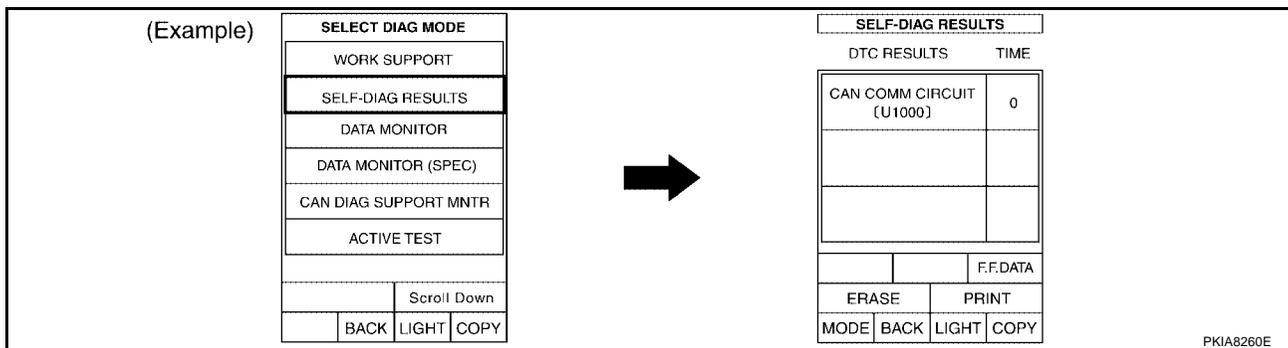
BKWA0044E

Work Flow

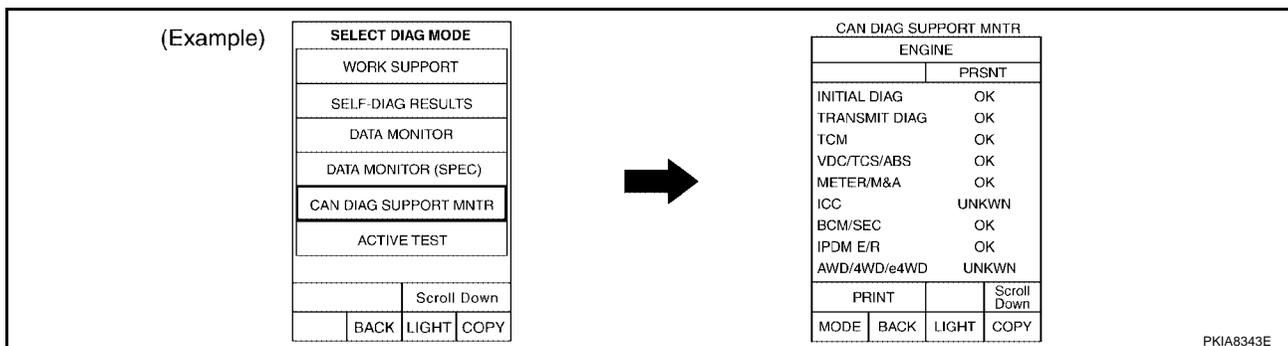
- When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-177, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-177, "CHECK SHEET"](#).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual. So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.

- Check CAN communication line of the navigation system. Refer to [AV-149, "CAN Communication Line Check"](#).
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to [LAN-177, "CHECK SHEET"](#).

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CAN SYSTEM (TYPE 6)

[CAN]

-
8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to [LAN-177, "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-149, "CAN Communication Line Check"](#) .

9. According to the check sheet results (example), start inspection. Refer to [LAN-179, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 6)

[CAN]

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

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LAN

CAN SYSTEM (TYPE 6)

[CAN]

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

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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
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MNTR

Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
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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

PKIA9139E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

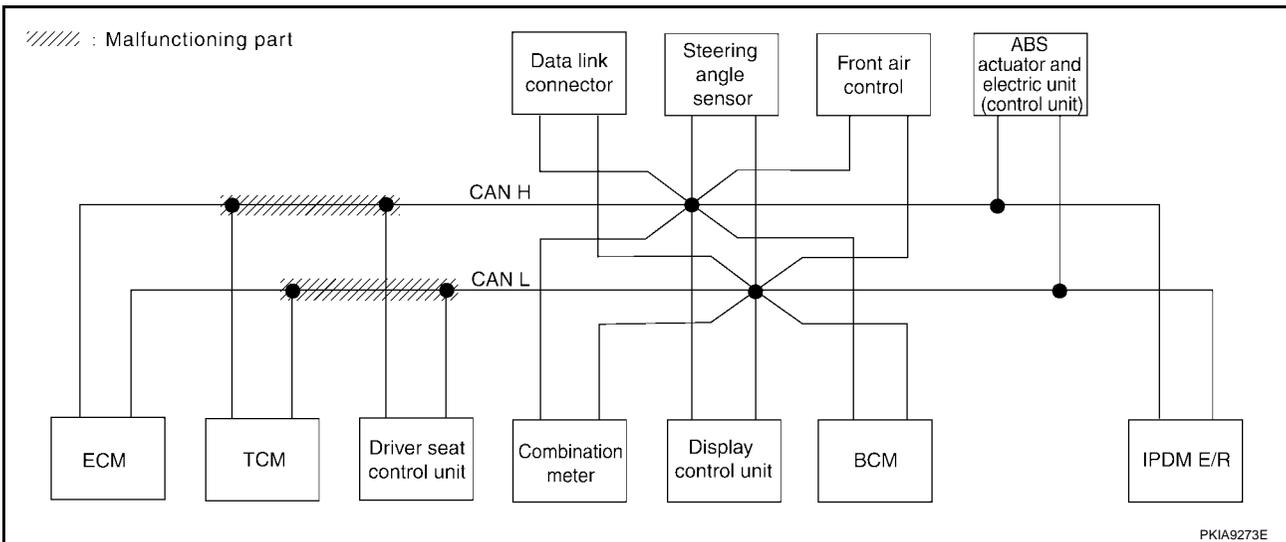
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-194, "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	—	—	—	—

PKIA9174E

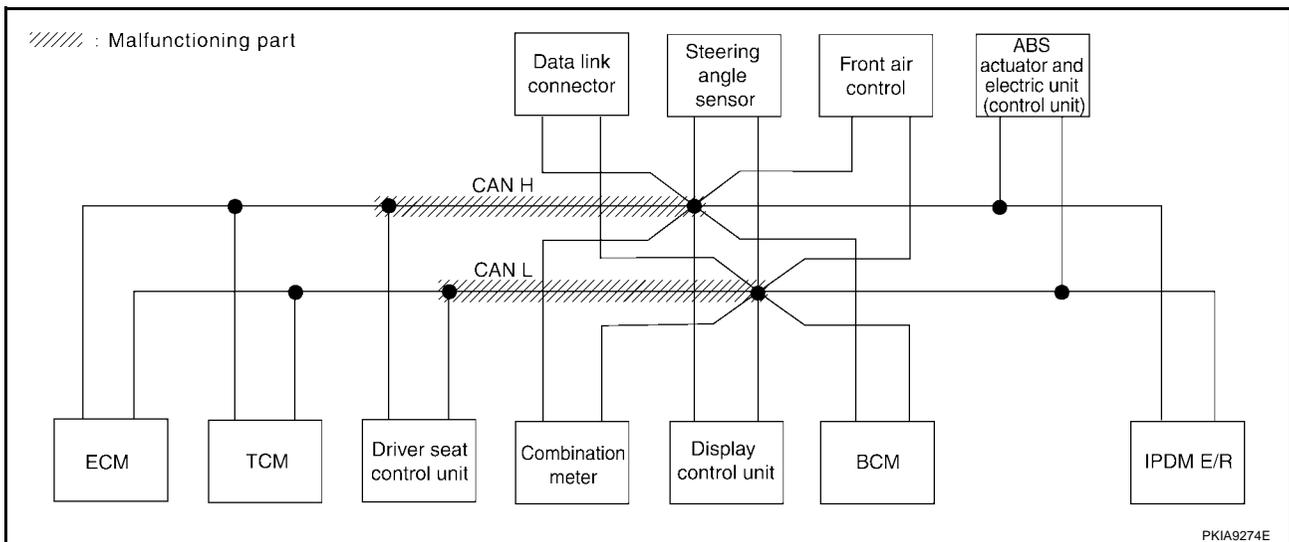


Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-195, "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	UN KN WN	UN KN WN	—	—	UN KN WN	UN KN WN
A/T	—	NG	UNKWN	UNKWN	—	UN KN WN	—	—	—	UN KN WN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UN KN WN	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UN KN WN	UN KN WN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UN KN WN	—	—	UNKWN	—	—	—	—

PKIA9175E

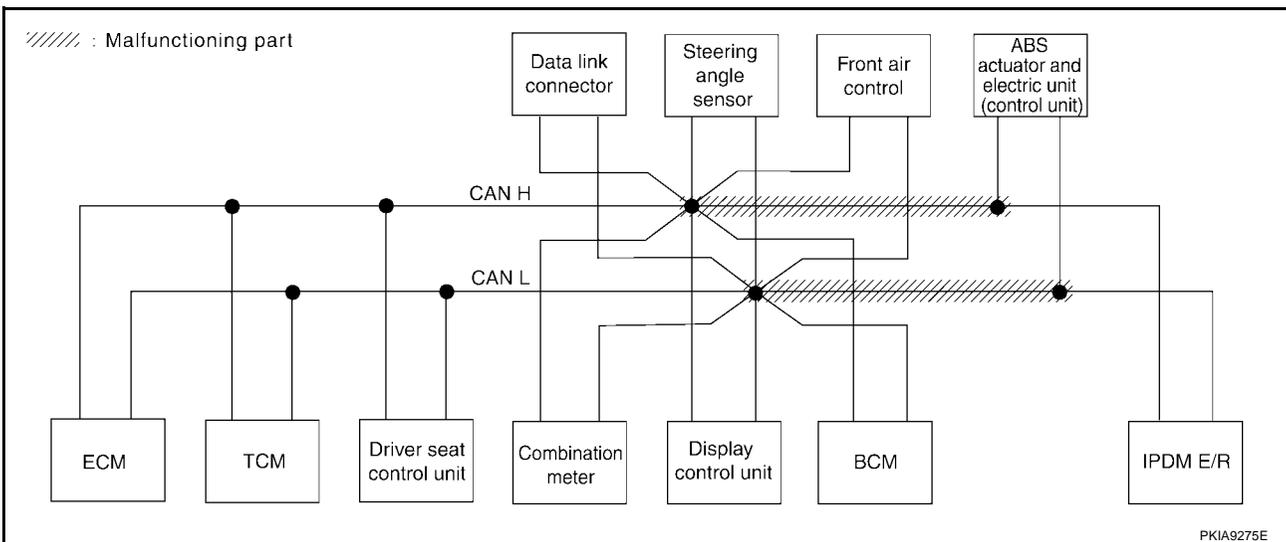


Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-196, "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	—	—	—	—

PKIA9176E



CAN SYSTEM (TYPE 6)

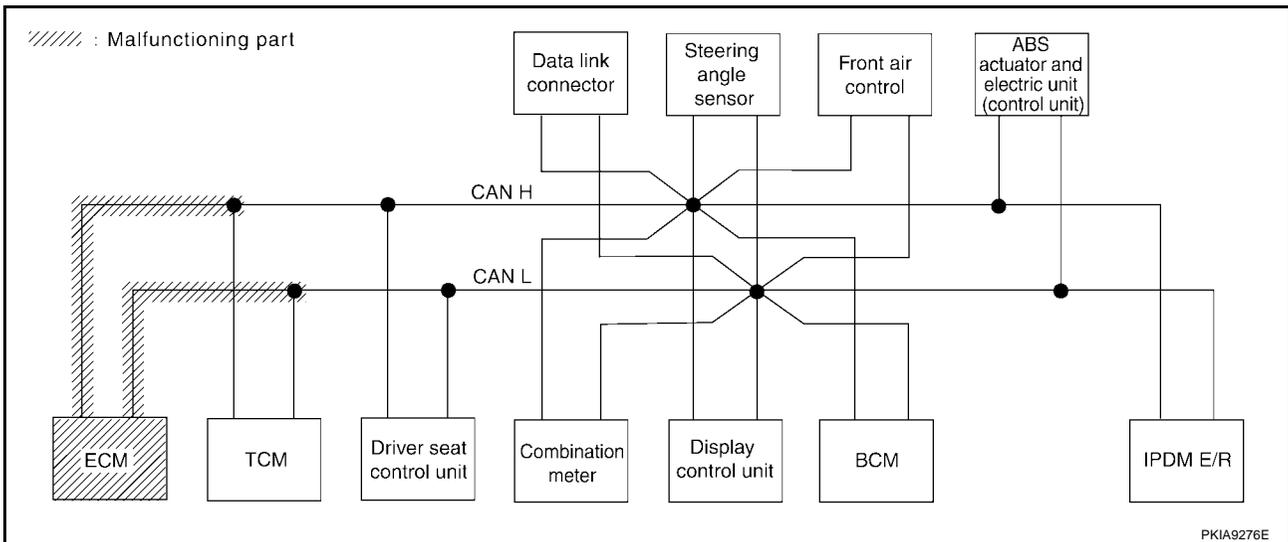
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-197, "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	—	—	—	—

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PKIA9276E

CAN SYSTEM (TYPE 6)

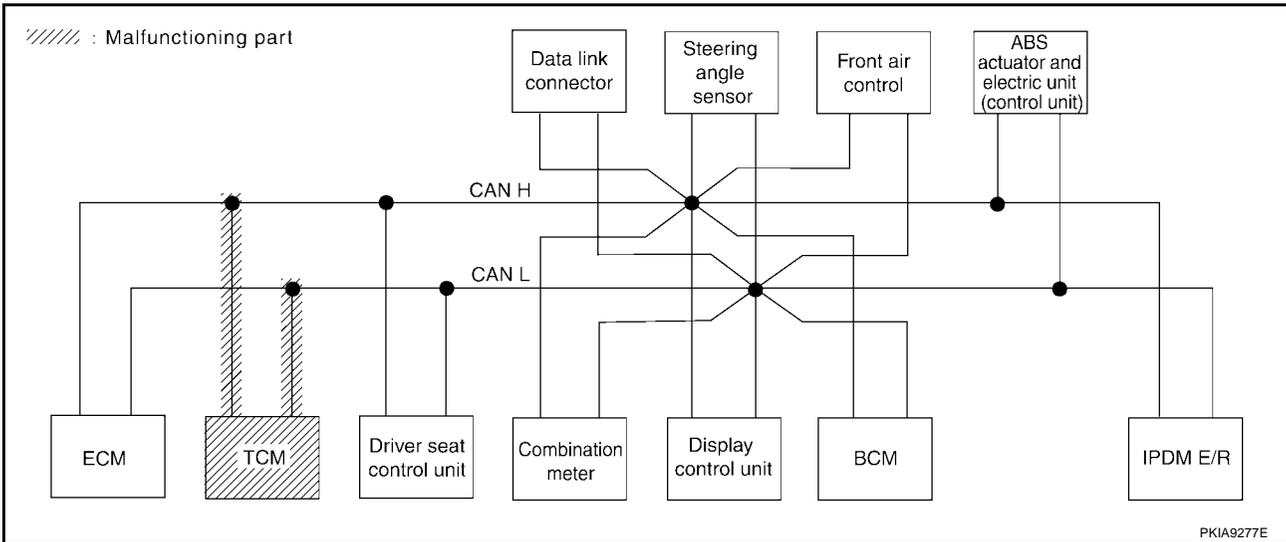
[CAN]

Case 5

Check TCM circuit. Refer to [LAN-197, "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	—	—	—	—

PKIA9178E



CAN SYSTEM (TYPE 6)

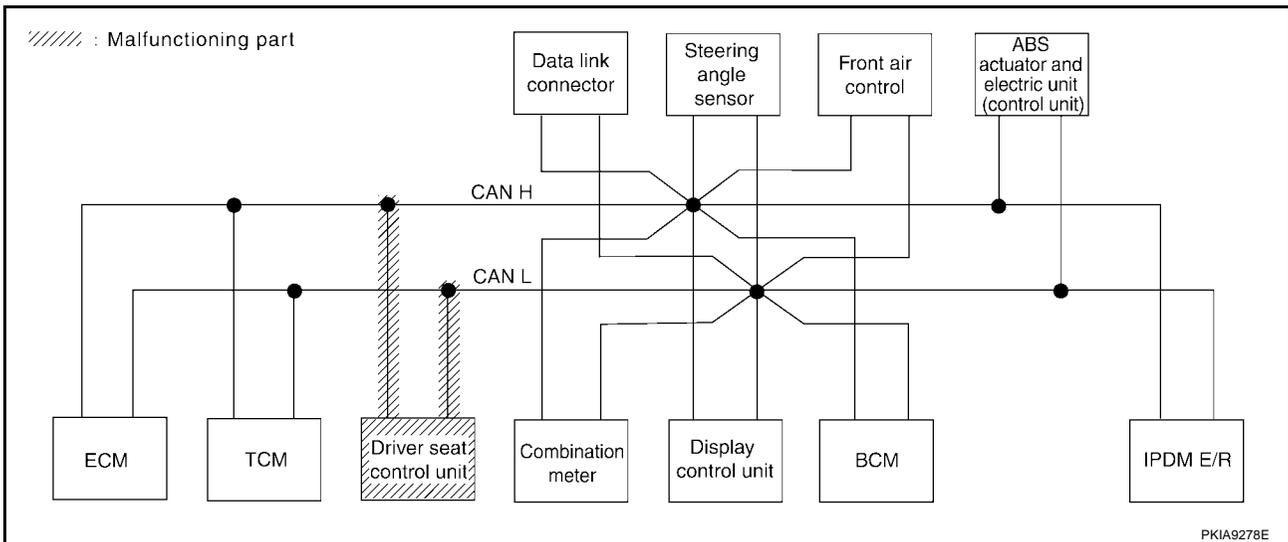
[CAN]

Case 6

Check driver seat control unit circuit. Refer to [LAN-198, "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	—	—	—	—

PKIA9179E



CAN SYSTEM (TYPE 6)

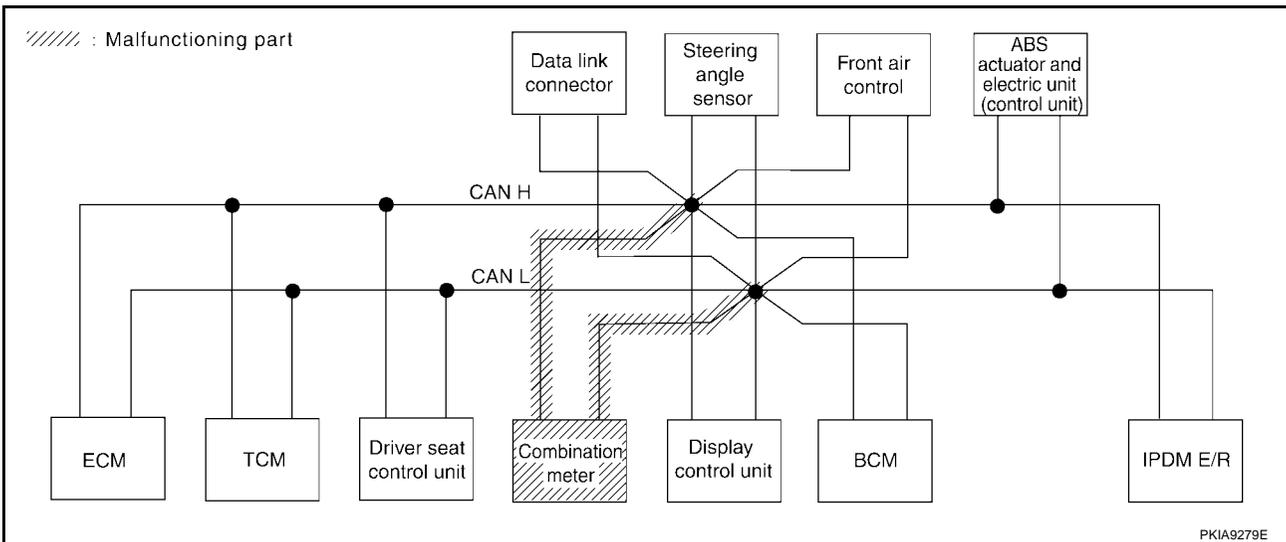
[CAN]

Case 7

Check combination meter circuit. Refer to [LAN-198, "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	—	—	—	—

PKIA9180E



CAN SYSTEM (TYPE 6)

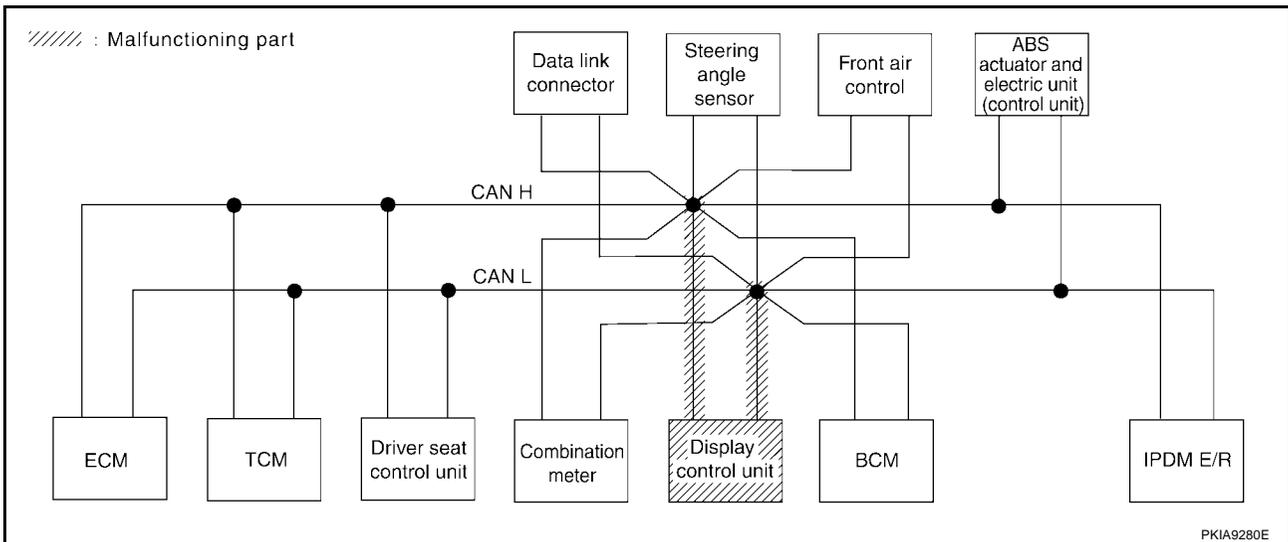
[CAN]

Case 8

Check display control unit circuit. Refer to [LAN-199, "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 CRC 1 ✓	CAN CRC 3 ✓	—	CAN CRC 5 ✓	CAN CRC 2 ✓	—	CAN CRC 4 ✓	—	CAN CRC 7 ✓
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA9181E



CAN SYSTEM (TYPE 6)

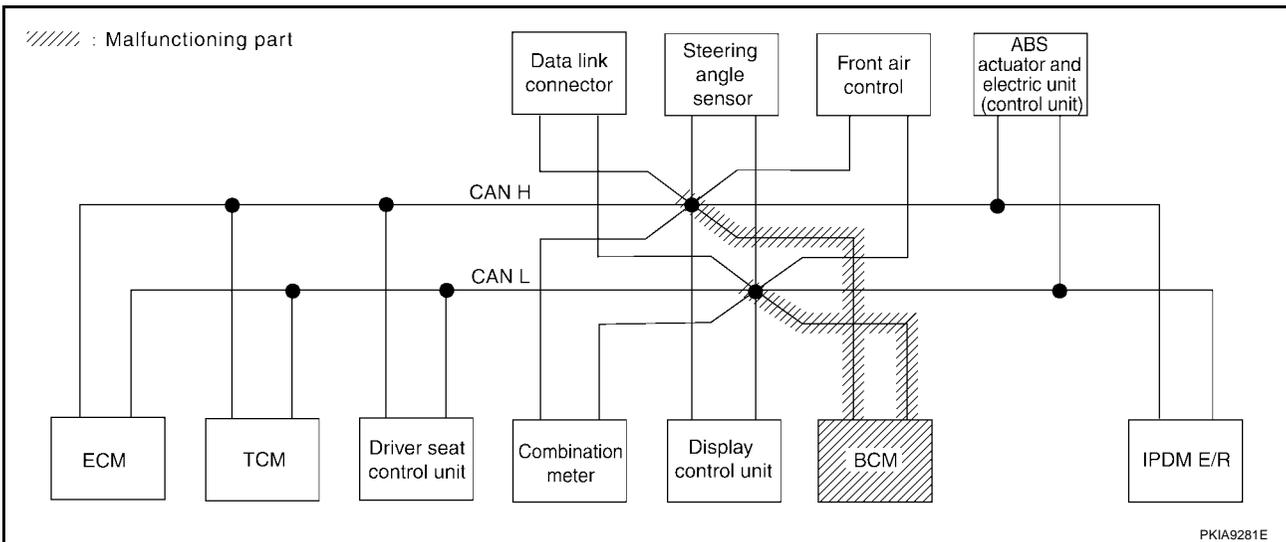
[CAN]

Case 9

Check BCM circuit. Refer to [LAN-199, "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 ✓	—	—	—	—

PKIA9182E



CAN SYSTEM (TYPE 6)

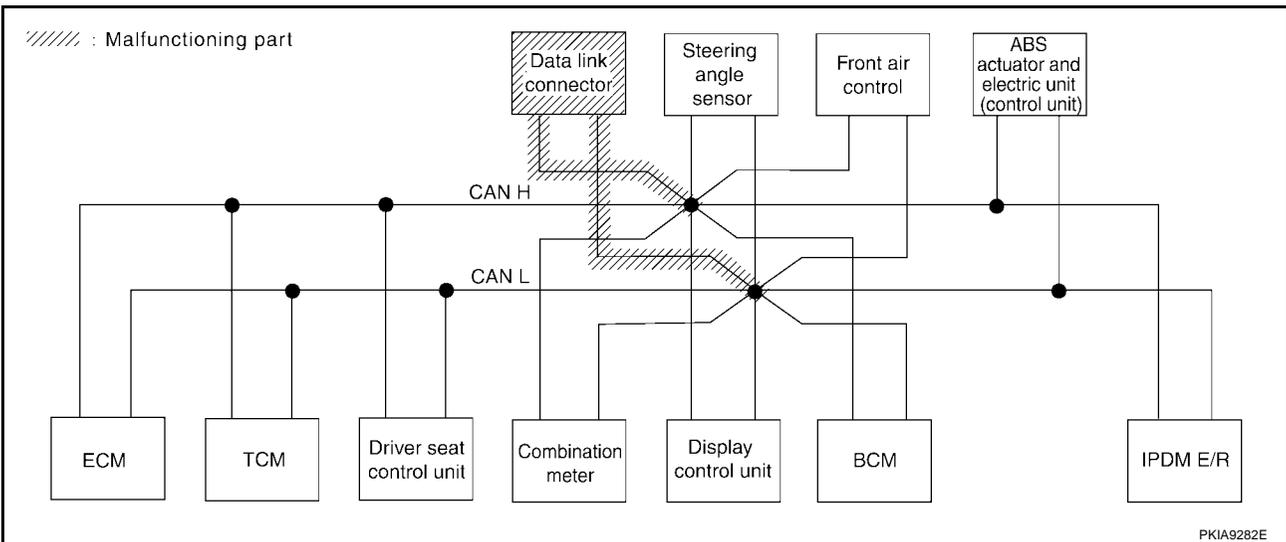
[CAN]

Case 10

Check data link connector circuit. Refer to [LAN-200, "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	—	—	—	—

PKIA9183E



PKIA9282E

CAN SYSTEM (TYPE 6)

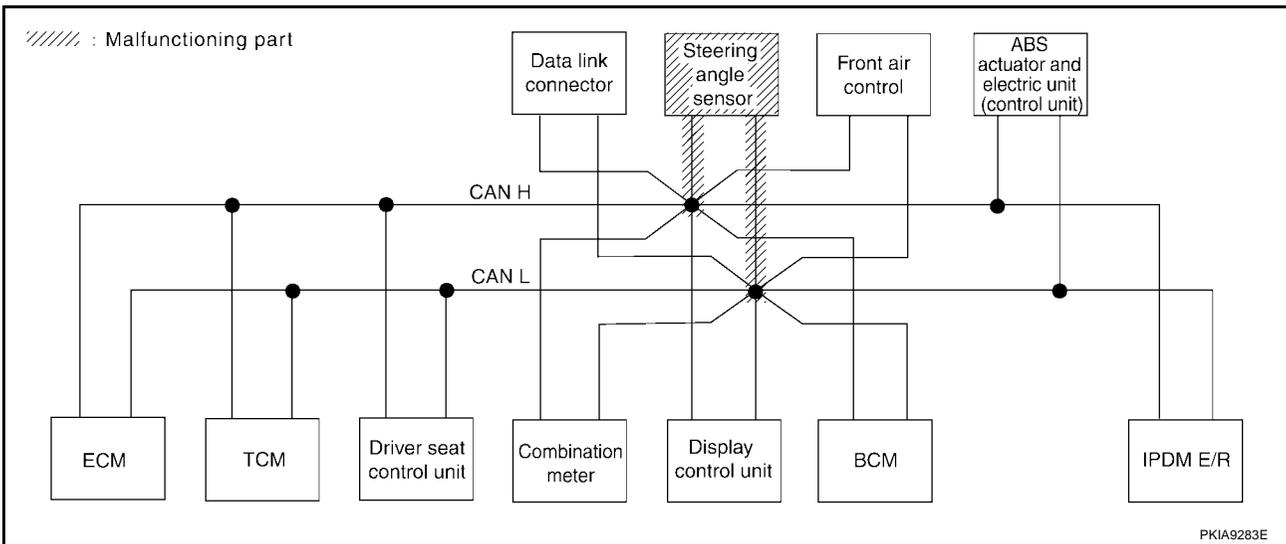
[CAN]

Case 11

Check steering angle sensor circuit. Refer to [LAN-200, "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	—	—	—	—

PKIA9184E



CAN SYSTEM (TYPE 6)

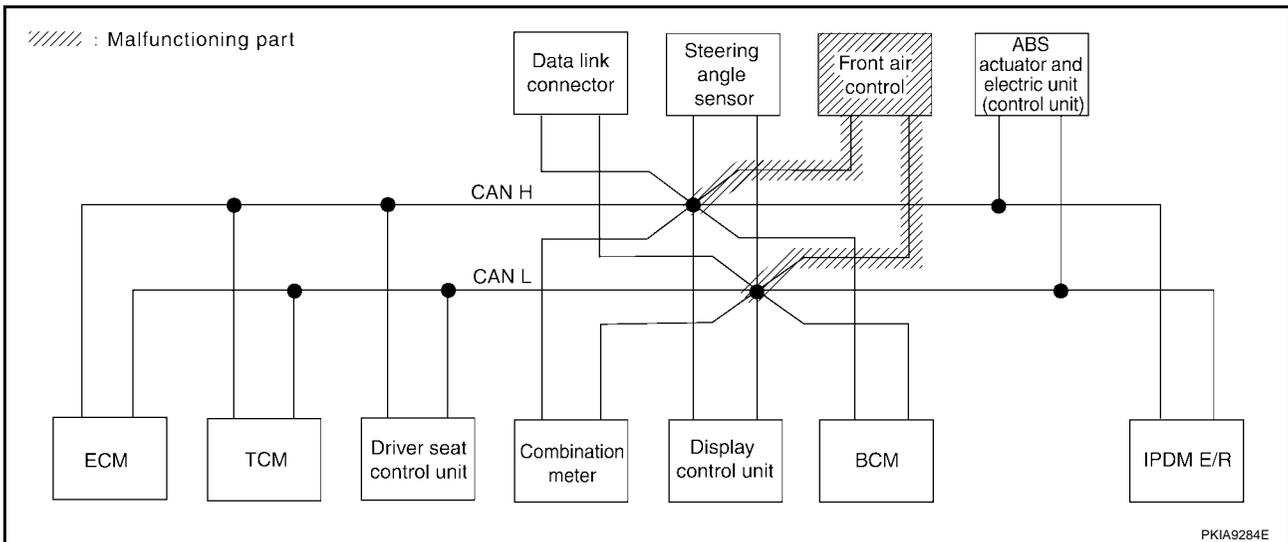
[CAN]

Case 12

Check front air control circuit. Refer to [LAN-201, "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	—	—	—	—

PKIA9185E

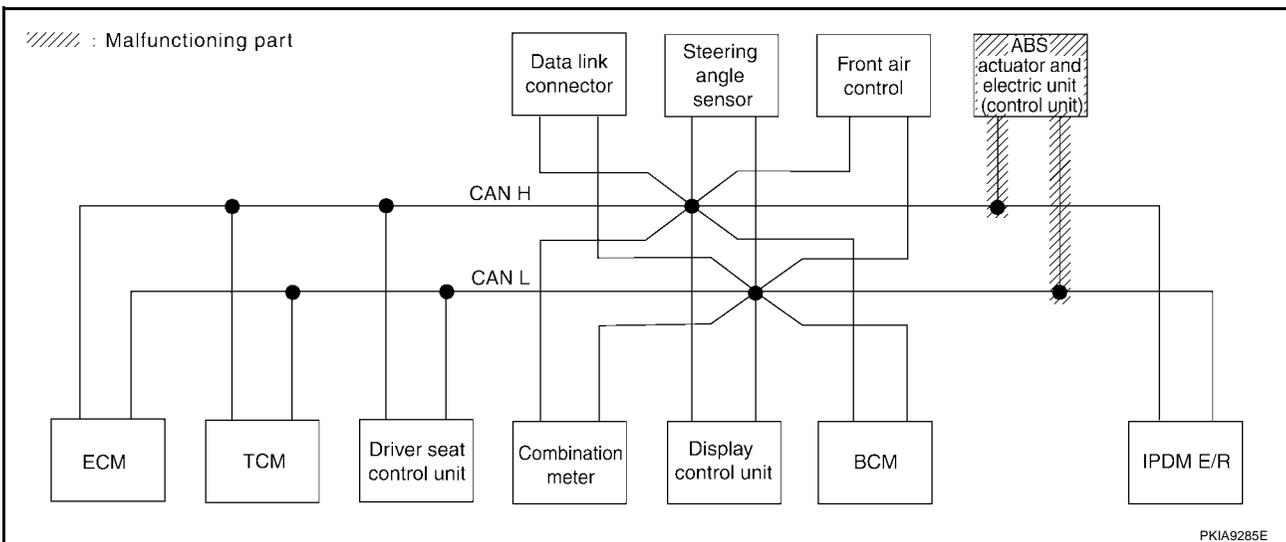


Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-201, "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	—	—	—	—

PKIA9186E



CAN SYSTEM (TYPE 6)

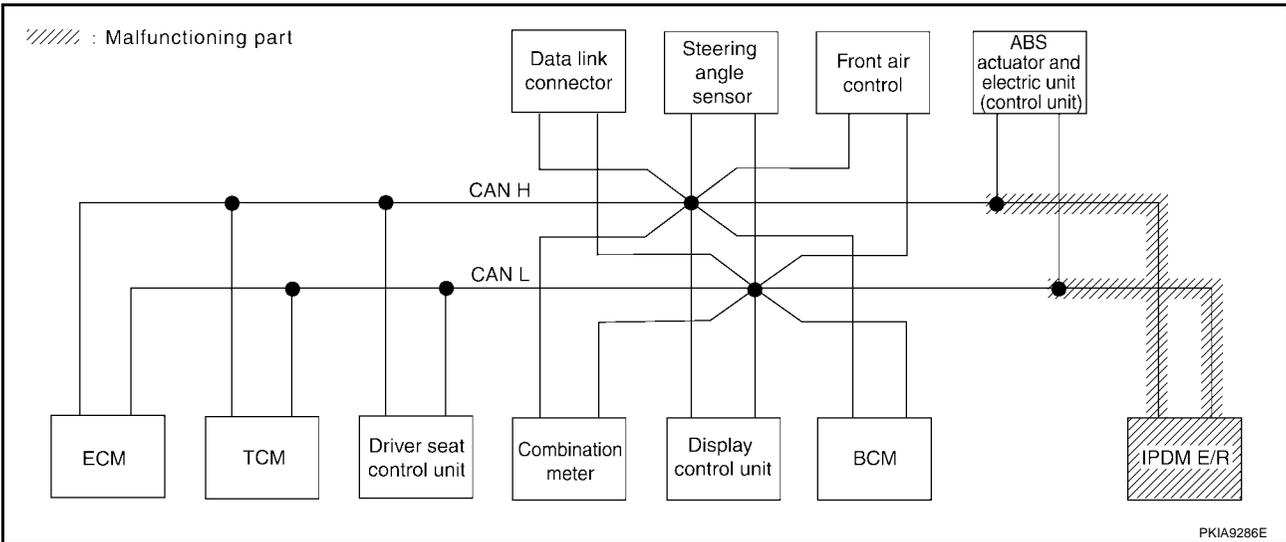
[CAN]

Case 14

Check IPDM E/R circuit. Refer to [LAN-202, "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	—	—	—	—

PKIA9187E



PKIA9286E

CAN SYSTEM (TYPE 6)

[CAN]

Case 15

Check CAN communication circuit. Refer to [LAN-202, "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	UNKW ^N	—	UNKW ^N	UNKW ^N	UNKW ^N	—	—	UNKW ^N	UNKW ^N
A/T	—	NG	UNKW ^N	UNKW ^N	—	UNKW ^N	—	—	—	UNKW ^N	—
AUTO DRIVE POS.	No indication	NG	UNKW ^N	—	UNKW ^N	UNKW ^N	UNKW ^N	—	—	—	—
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	UNKW ^N	UNKW ^N	—	UNKW ^N	—	—	—	—	UNKW ^N
ABS	—	NG	UNKW ^N	UNKW ^N	UNKW ^N	—	—	UNKW ^N	—	—	—
IPDM E/R	No indication	—	UNKW ^N	UNKW ^N	—	—	UNKW ^N	—	—	—	—

PKIA9188E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-203, "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	UNKW ^N	—	UNKW ^N	UNKW ^N	UNKW ^N	—	—	UNKW ^N	UNKW ^N
A/T	—	NG	UNKW ^N	UNKW ^N	—	UNKW ^N	—	—	—	UNKW ^N	—
AUTO DRIVE POS.	No indication	NG	UNKW ^N	—	UNKW ^N	UNKW ^N	UNKW ^N	—	—	—	—
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	UNKW ^N	UNKW ^N	—	UNKW ^N	—	—	—	—	UNKW ^N
ABS	—	NG	UNKW ^N	UNKW ^N	UNKW ^N	—	—	UNKW ^N	—	—	—
IPDM E/R	No indication	—	UNKW ^N	UNKW ^N	—	—	UNKW ^N	—	—	—	—

PKIA9189E

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-203, "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	—
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	—	—	✓	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA9190E

Circuit Check Between TCM and Driver Seat Control Unit

UKS0023H

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 E50
 - Harness connector B75

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).

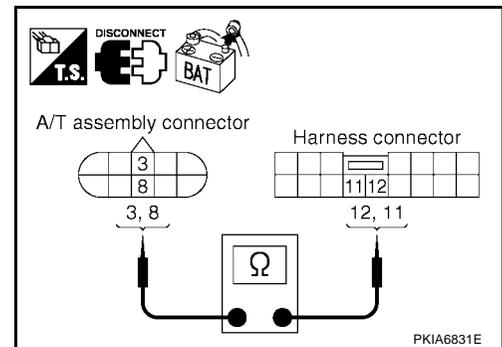
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



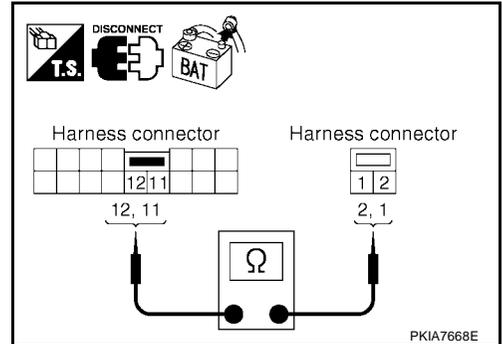
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



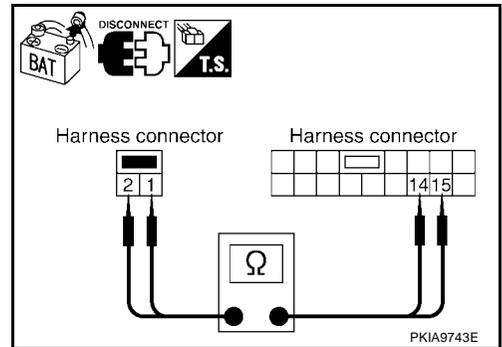
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-175, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0023I

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.

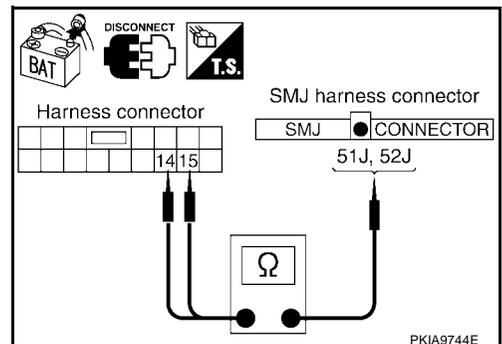
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



A
B
C
D
E
F
G
H
I
J
L
M

LAN

3. CHECK HARNESS FOR OPEN CIRCUIT

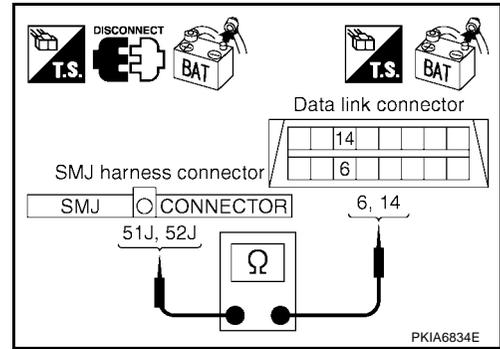
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-175, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0023J

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

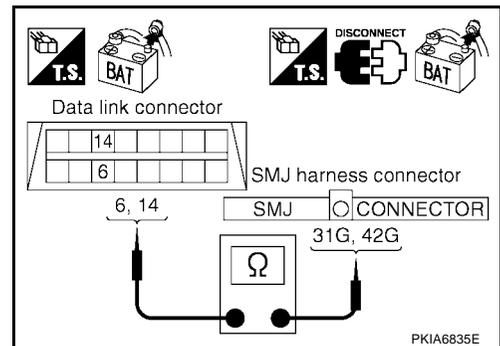
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

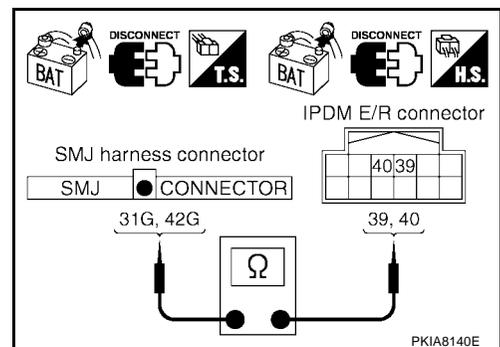
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-175, "Work Flow"](#).
- NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

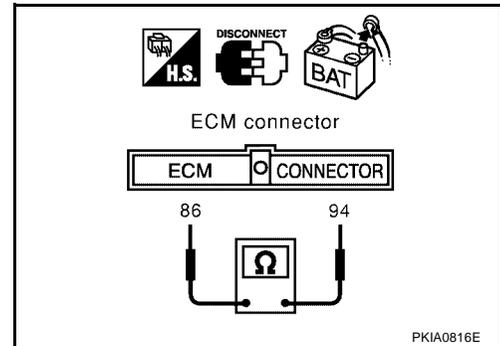
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

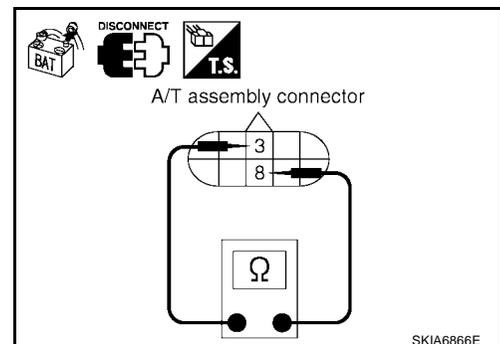
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

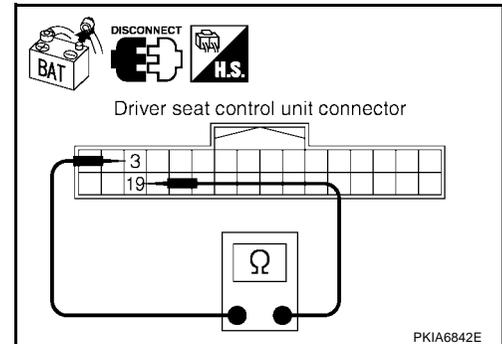
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

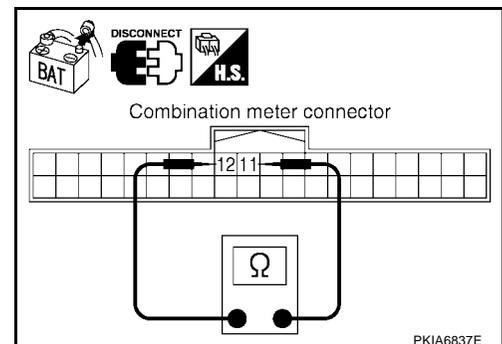
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

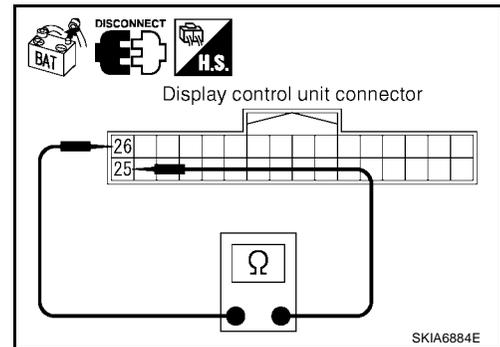
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

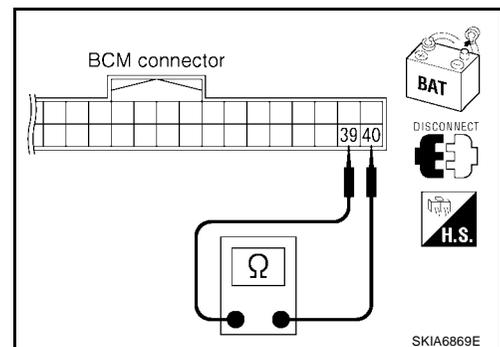
2. CHECK HARNESS FOR OPEN CIRCUIT

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-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

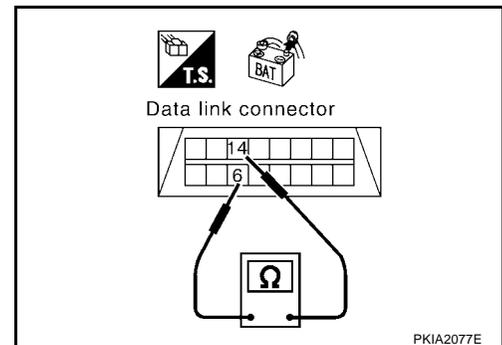
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-175, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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

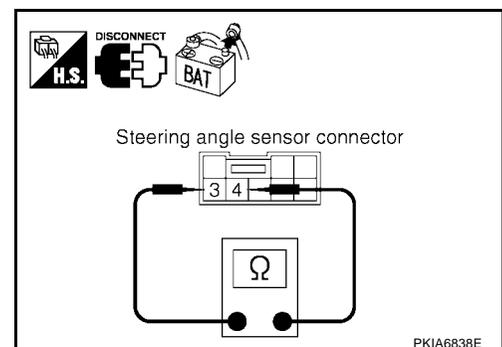
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

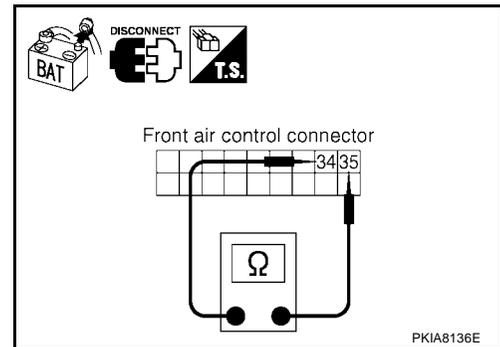
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

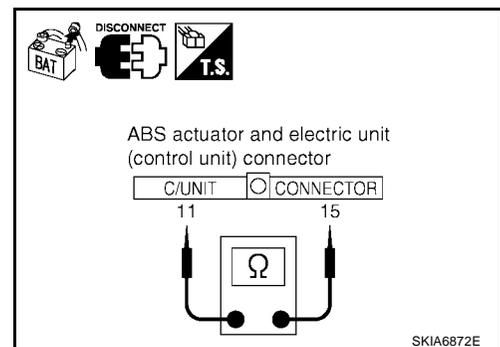
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

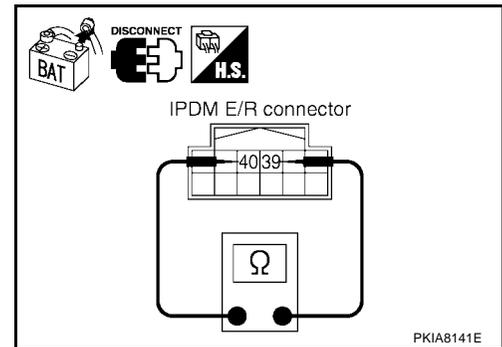
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

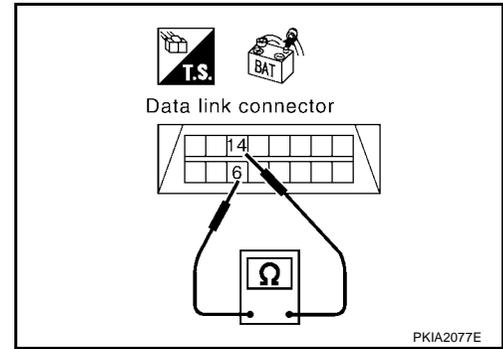
2. CHECK HARNESS FOR SHORT CIRCUIT

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

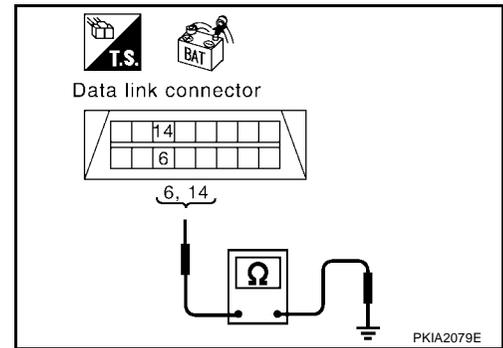
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-203, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
- NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

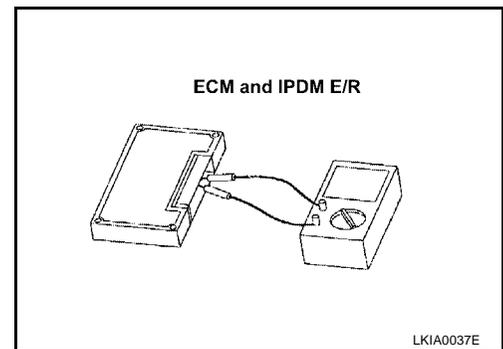
Check the following. If no malfunction is found, replace the IPDM E/R.

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

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

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

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



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CAN SYSTEM (TYPE 7)

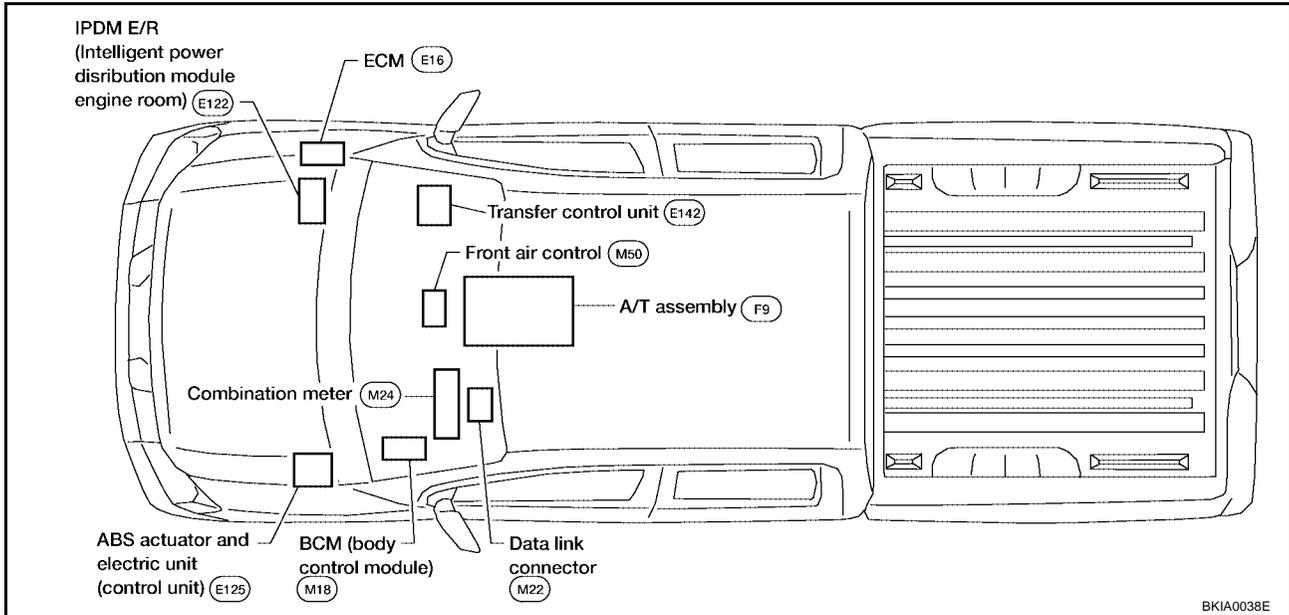
System Description

UKS001FN

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

UKS001FO

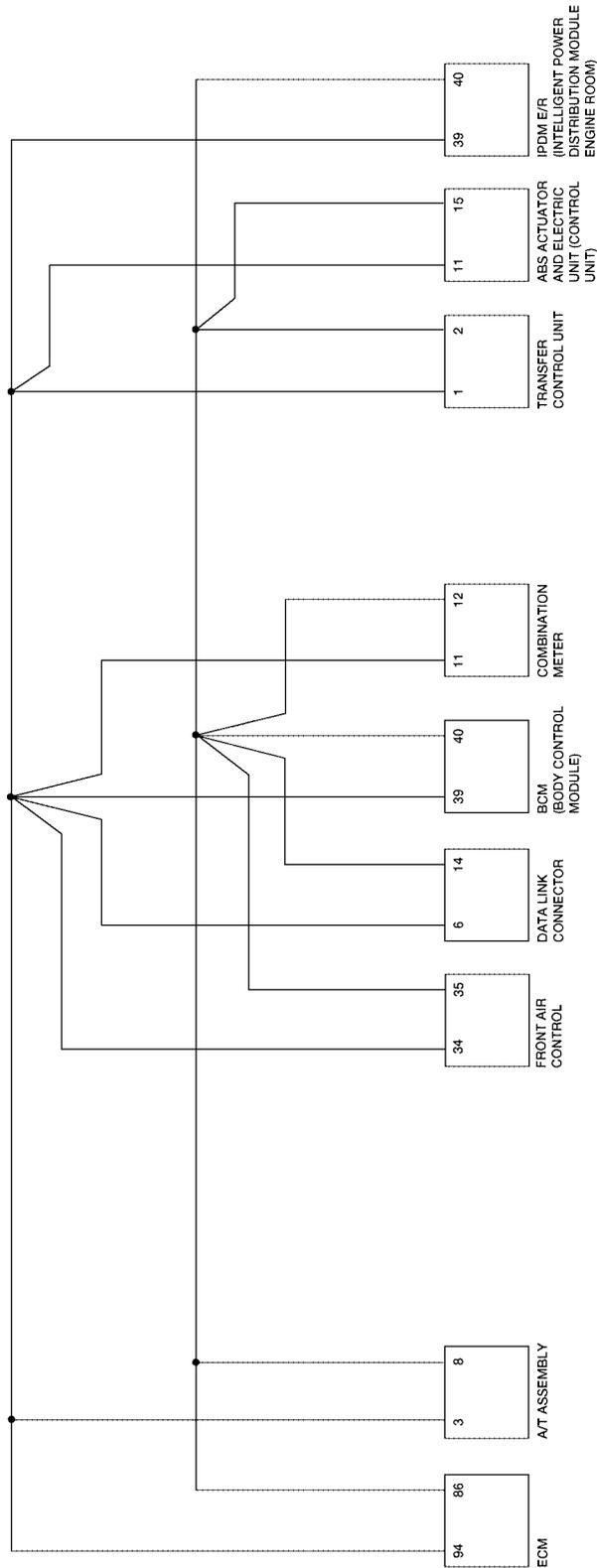


CAN SYSTEM (TYPE 7)

[CAN]

Schematic

UKS001FP



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BKWA0142E

CAN SYSTEM (TYPE 7)

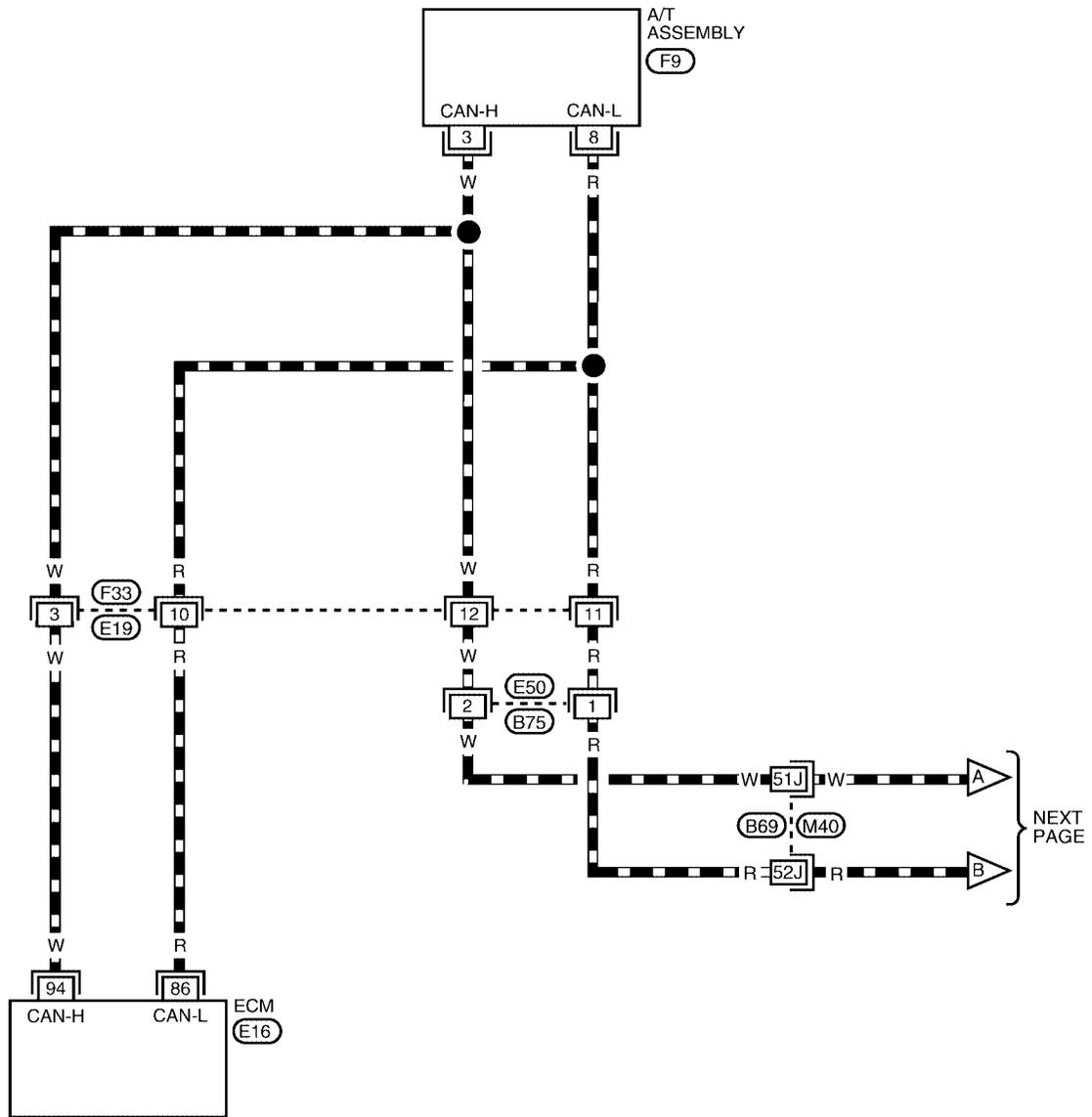
[CAN]

Wiring Diagram - CAN -

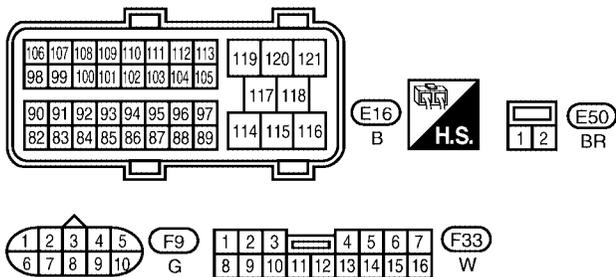
UKS001FQ

LAN-CAN-19

▬ : DATA LINE



NEXT PAGE



REFER TO THE FOLLOWING.

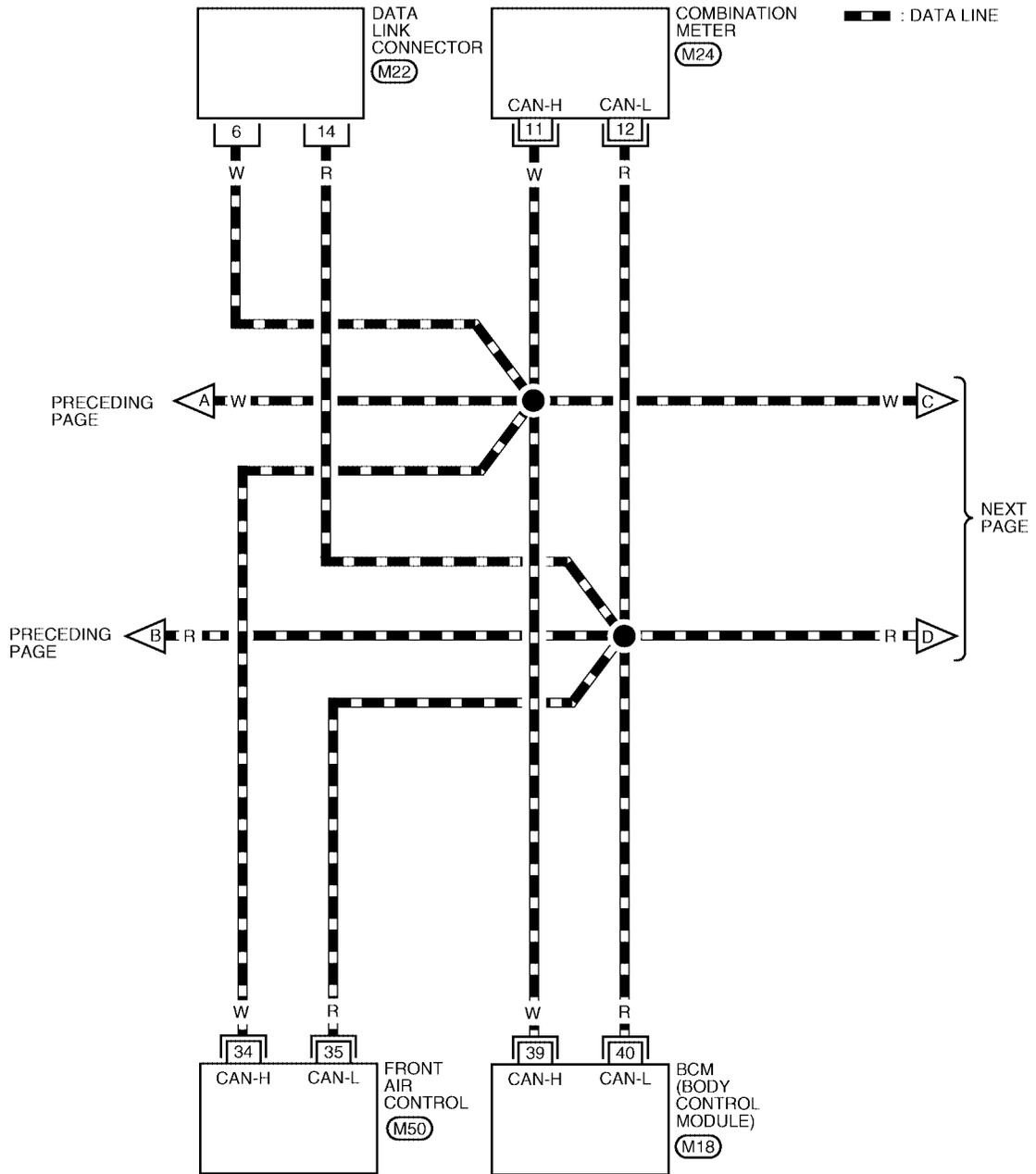
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0046E

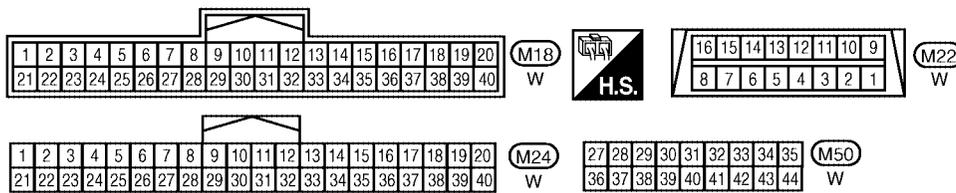
CAN SYSTEM (TYPE 7)

[CAN]

LAN-CAN-20



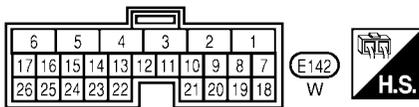
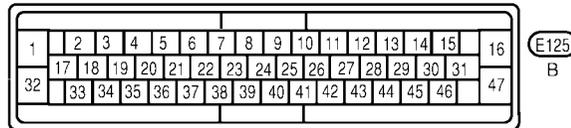
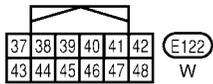
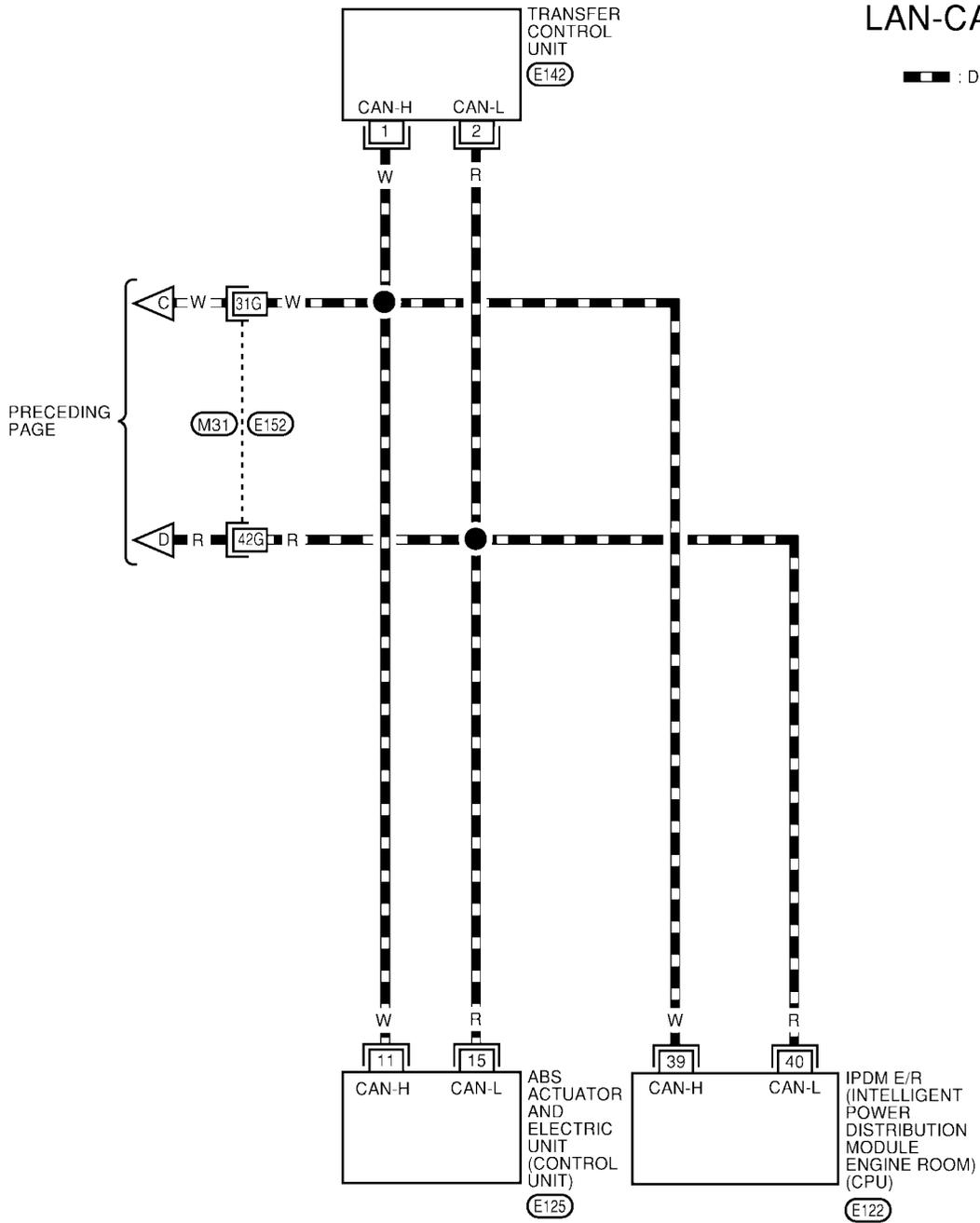
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BKWA0143E

LAN-CAN-21

— : DATA LINE



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

BKWA0048E

CAN SYSTEM (TYPE 7)

[CAN]

UKS001FR

Work Flow

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

(Example)

NISSAN	
CONSULT-II	
ENGINE	
START (NISSAN BASED VHCL)	
START (RENAULT BASED VHCL)	
SUB MODE	
LIGHT	COPY

SELECT SYSTEM		
ENGINE		
A/T		
ABS		
AIR BAG		
BCM		
METER A/C AMP		
BACK	LIGHT	COPY

PKIA2093E

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

(Example)

SELECT DIAG MODE	
WORK SUPPORT	
SELF-DIAG RESULTS	
DATA MONITOR	
DATA MONITOR (SPEC)	
CAN DIAG SUPPORT MNTR	
ACTIVE TEST	
Scroll Down	
BACK	LIGHT COPY

SELF-DIAG RESULTS	
DTC RESULTS	
TIME	
CAN COMM CIRCUIT (U1000)	0
F.F.DATA	
ERASE	PRINT
MODE	BACK LIGHT COPY

PKIA8260E

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

(Example)

SELECT DIAG MODE	
WORK SUPPORT	
SELF-DIAG RESULTS	
DATA MONITOR	
DATA MONITOR (SPEC)	
CAN DIAG SUPPORT MNTR	
ACTIVE TEST	
Scroll Down	
BACK	LIGHT COPY

CAN DIAG SUPPORT MNTR	
ENGINE	
PRSNR	
INITIAL DIAG	OK
TRANSMIT DIAG	OK
TCM	OK
VDC/TCS/ABS	OK
METER/M&A	OK
ICC	UNKWN
BCM/SEC	OK
IPDM E/R	OK
AWD/4WD/e4WD	UNKWN
PRINT	Scroll Down
MODE	BACK LIGHT COPY

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-210, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-210, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-212, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

CAN SYSTEM (TYPE 7)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 7)

[CAN]

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Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ALL MODE AWD/4WD
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
A/T
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

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

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA9141E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

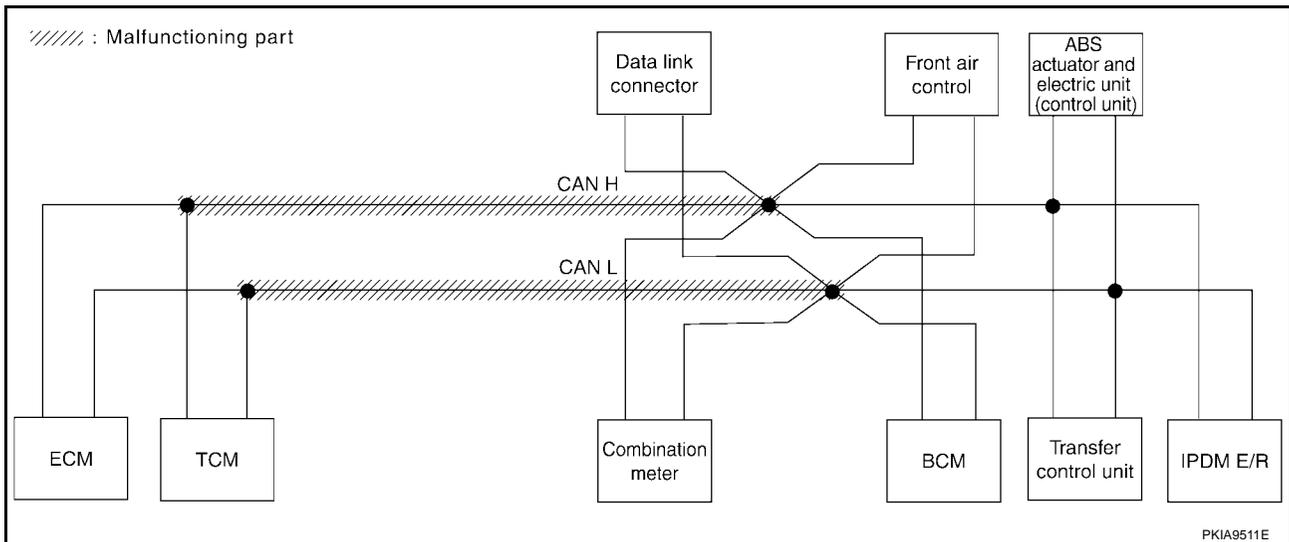
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to [LAN-223, "Circuit Check Between TCM and Data Link Connector"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	UNKWN ✓	—	—	
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	

PKIA9382E



PKIA9511E

CAN SYSTEM (TYPE 7)

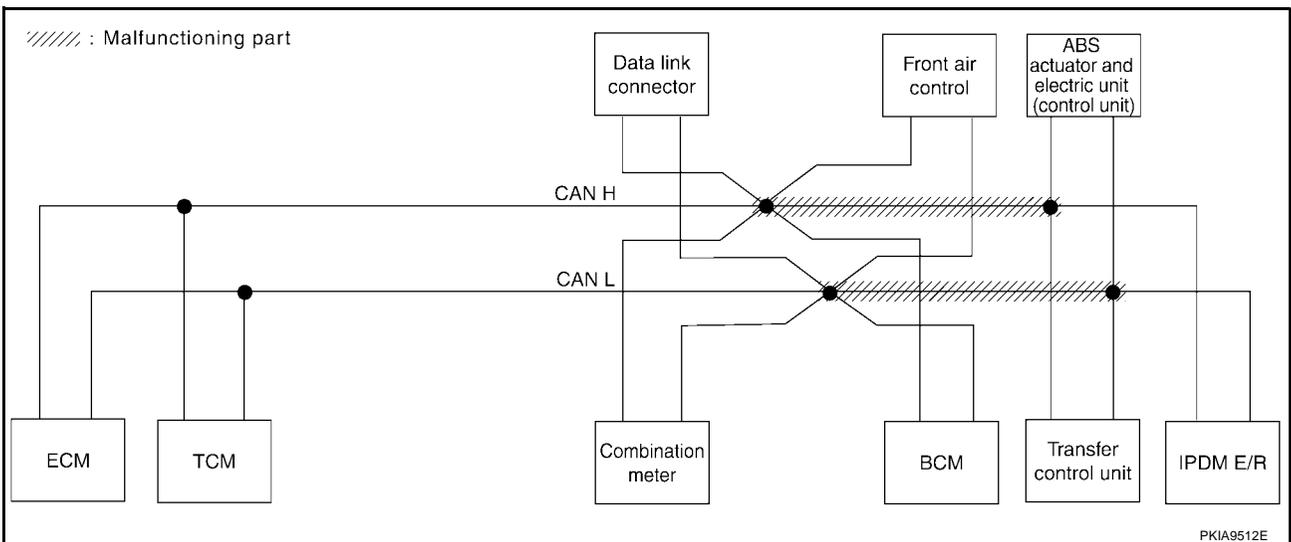
[CAN]

Case 2

Check harness between data link connector and IPDM E/R. Refer to [LAN-224, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN ✓	—	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN ✓	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9383E



PKIA9512E

CAN SYSTEM (TYPE 7)

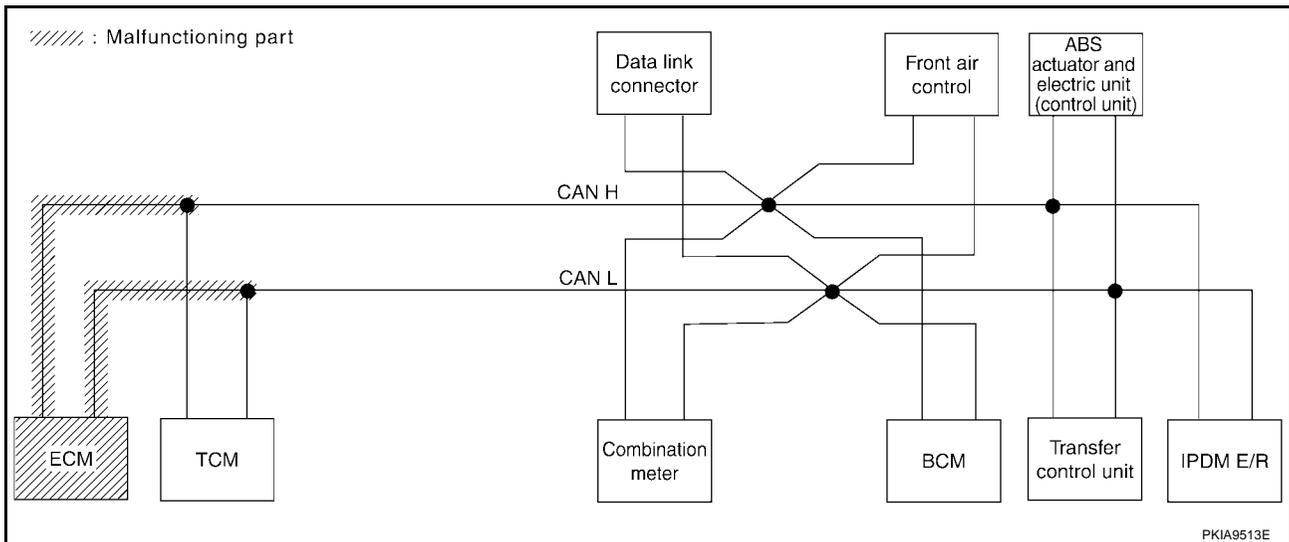
[CAN]

Case 3

Check ECM circuit. Refer to [LAN-225, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N
A/T	—	NG	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N	—	UNKW [✓] N	—	—
BCM	No indication	NG	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N	—	—	—	UNKW [✓] N
ALL MODE AWD/4WD	—	NG	UNKW [✓] N	UNKW [✓] N	—	—	—	—	UNKW [✓] N	—
ABS	—	NG	UNKW [✓] N	UNKW [✓] N	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	—	—

PKIA9384E



PKIA9513E

CAN SYSTEM (TYPE 7)

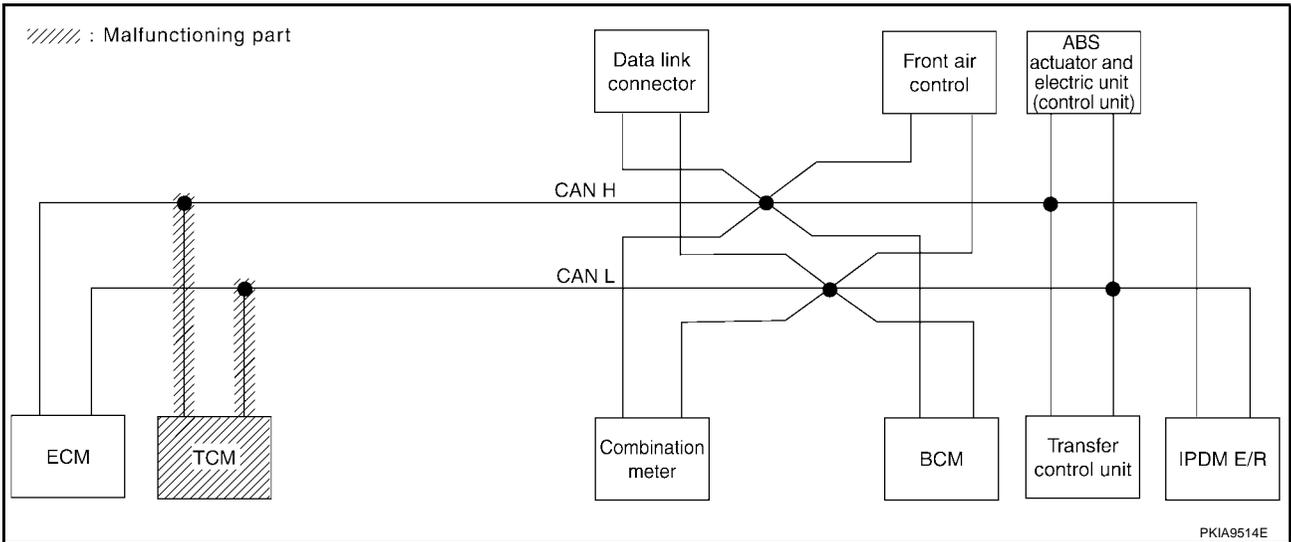
[CAN]

Case 4

Check TCM circuit. Refer to [LAN-226, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	

PKIA9385E



CAN SYSTEM (TYPE 7)

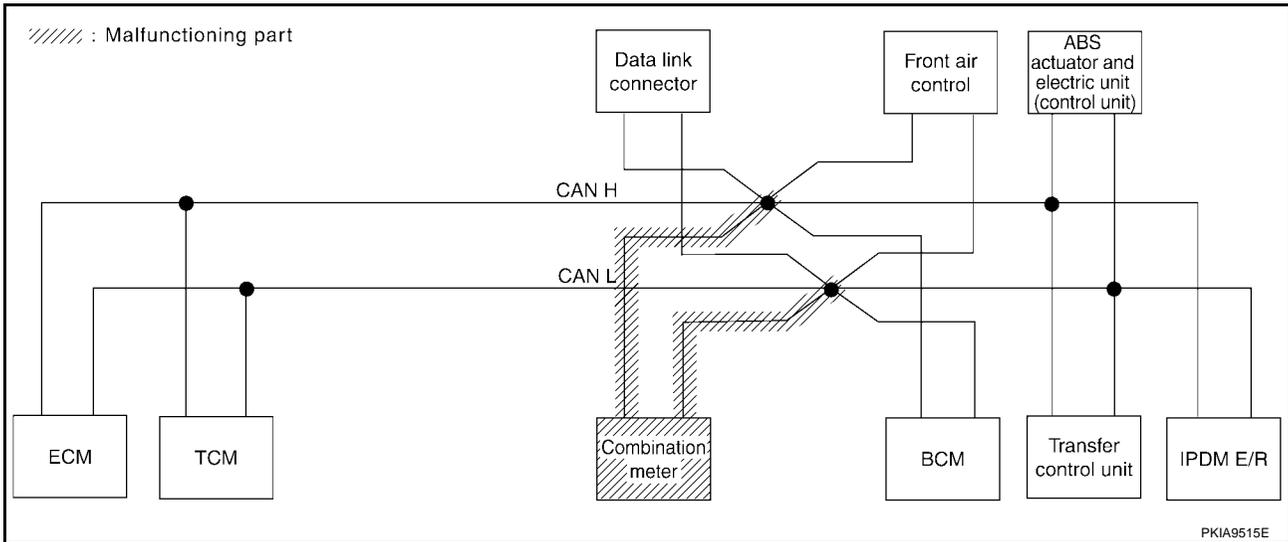
[CAN]

Case 5

Check combination meter circuit. Refer to [LAN-226, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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PKIA9515E

CAN SYSTEM (TYPE 7)

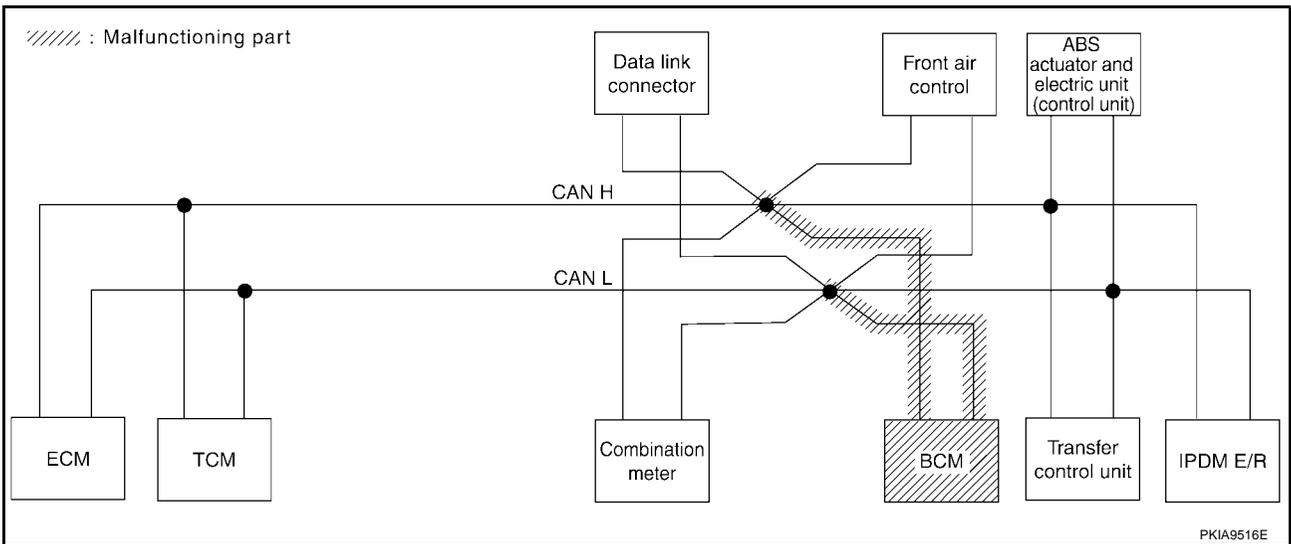
[CAN]

Case 6

Check BCM circuit. Refer to [LAN-227, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9387E



CAN SYSTEM (TYPE 7)

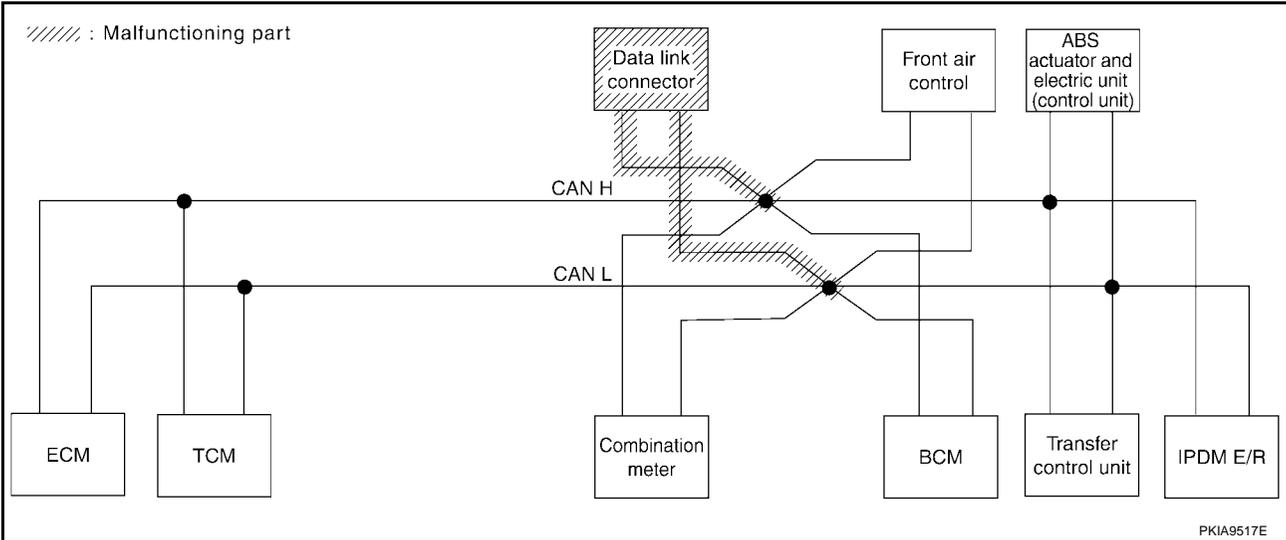
[CAN]

Case 7

Check data link connector circuit. Refer to [LAN-227, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9388E



PKIA9517E

CAN SYSTEM (TYPE 7)

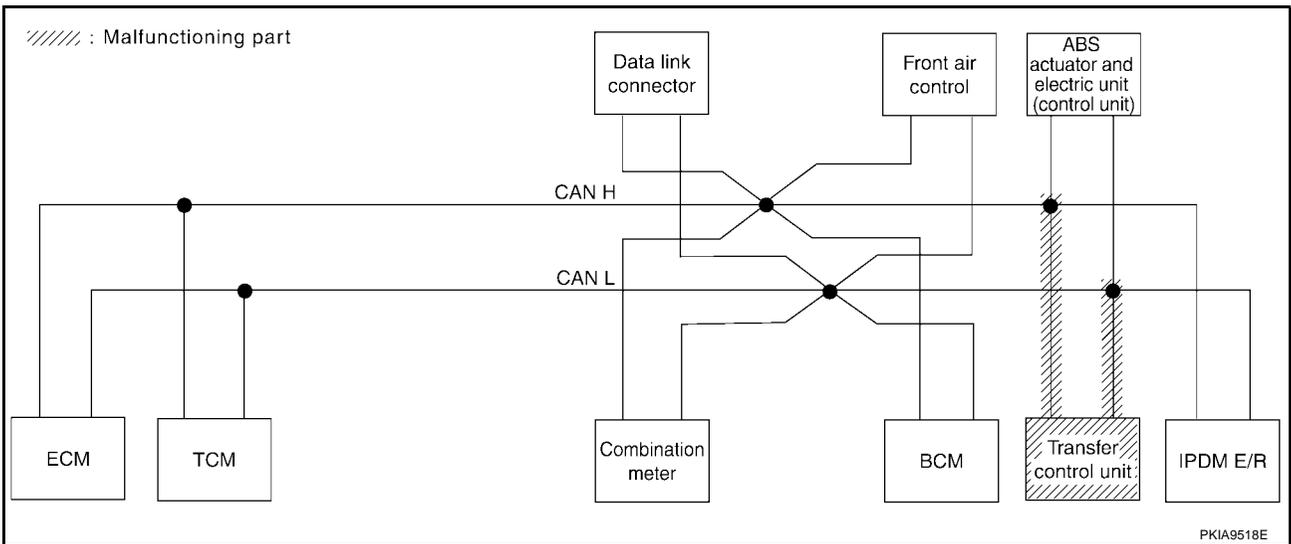
[CAN]

Case 8

Check transfer control unit circuit. Refer to [LAN-228, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 7)

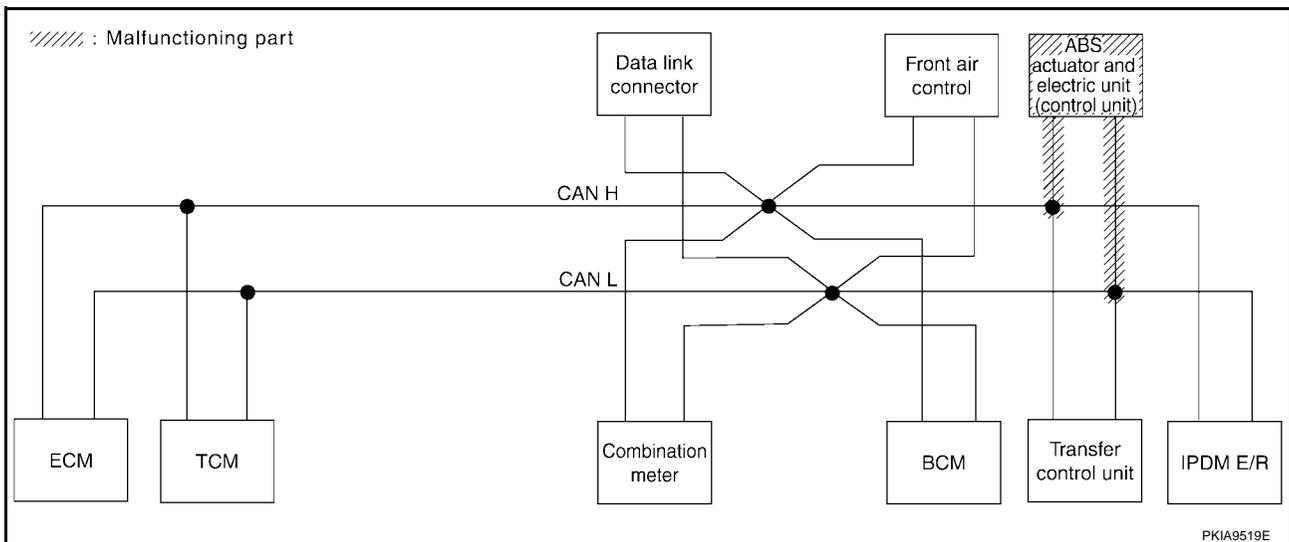
[CAN]

Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-228, "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	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9390E



PKIA9519E

CAN SYSTEM (TYPE 7)

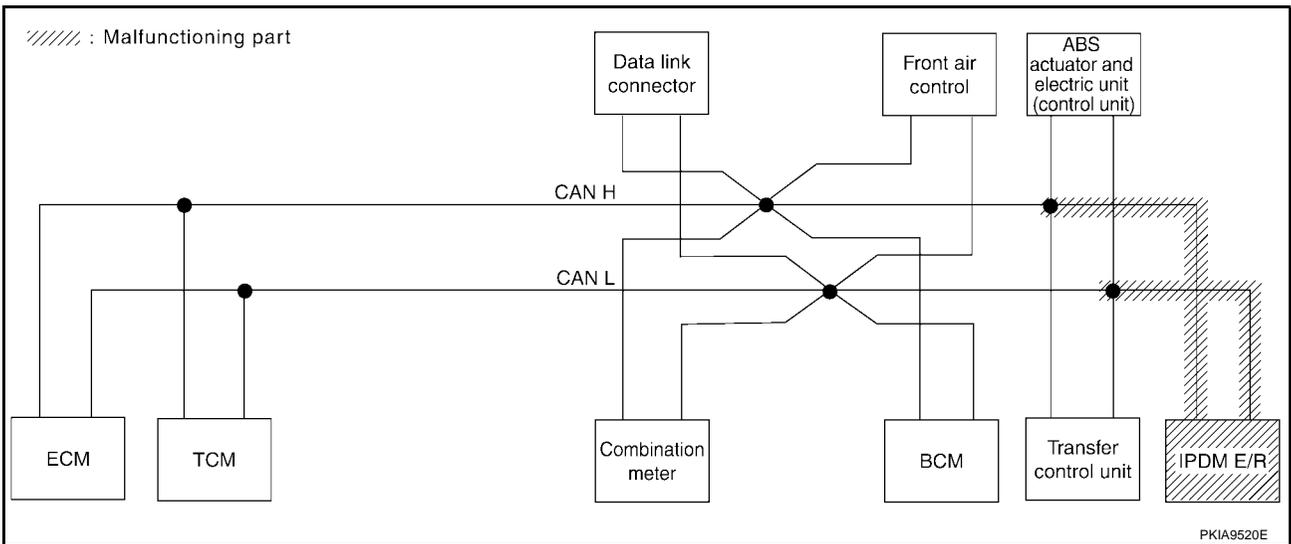
[CAN]

Case 10

Check IPDM E/R circuit. Refer to [LAN-229, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9391E



PKIA9520E

CAN SYSTEM (TYPE 7)

[CAN]

Case 11

Check CAN communication circuit. Refer to [LAN-230, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N	—	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N	—	—
BCM	No indication ✓	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	UNKW N	—
ABS	—	NG ✓	UNKW N	UNKW N	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9392E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-230, "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	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N	—	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N	—	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9393E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-230, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						IPDM E/R
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN ✓	—	UNKWN ✓	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9394E

Circuit Check Between TCM and Data Link Connector

UKS001FS

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 E50
 - Harness connector B75
 - Harness connector B69
 - Harness connector M40

OK or NG

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

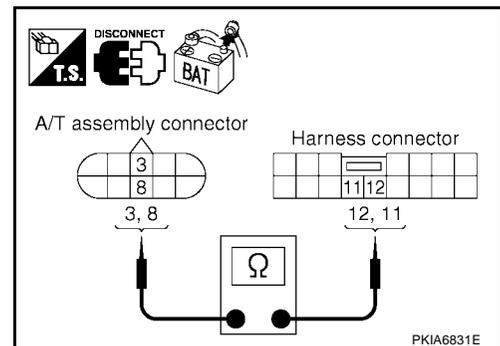
2. CHECK HARNESS FOR OPEN CIRCUIT

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



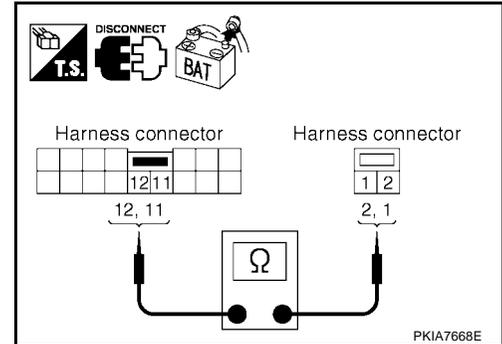
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



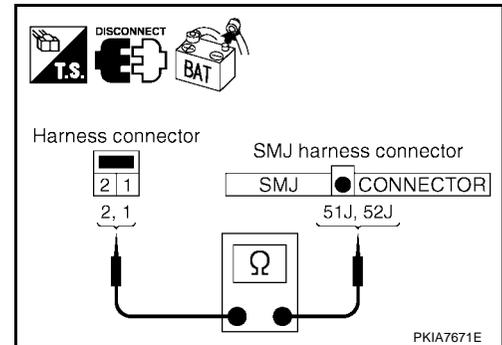
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B69.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B69 terminals 51J (W), 52J (R).

2 (W) - 51J (W) : Continuity should exist.
1 (R) - 52J (R) : Continuity should exist.

OK or NG

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



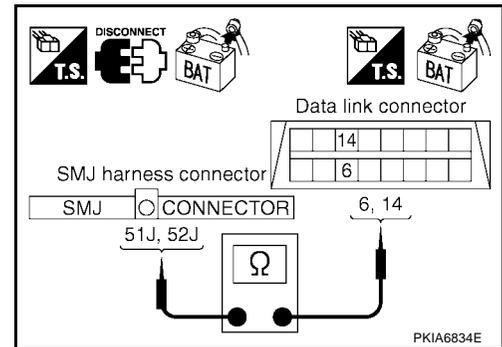
5. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-209, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001FT

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).

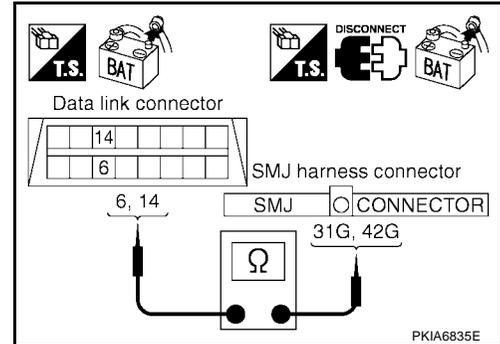
6 (W) - 31G (W) : Continuity should exist.

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).

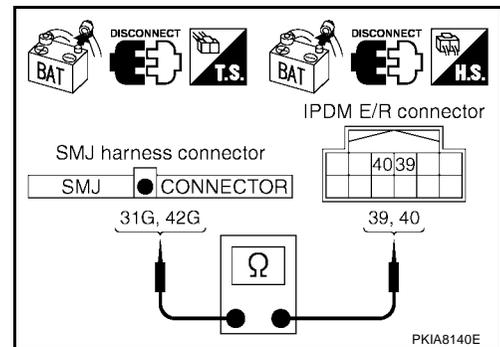
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-209, "Work Flow"](#).

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

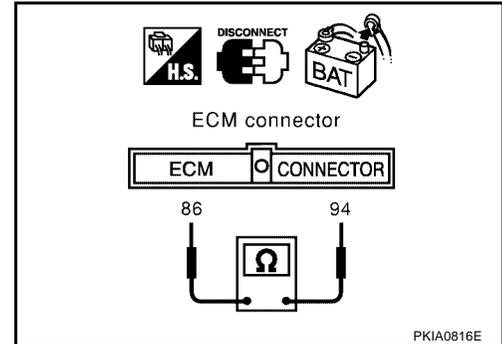
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS001FV

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

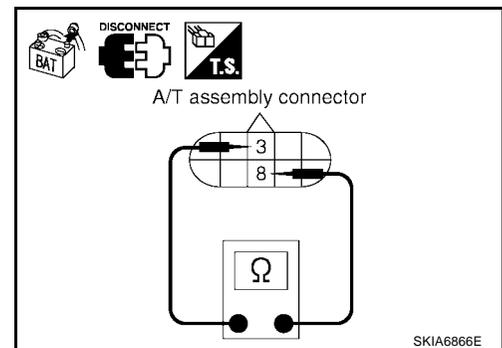
2. CHECK HARNESS FOR OPEN CIRCUIT

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



UKS001FW

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

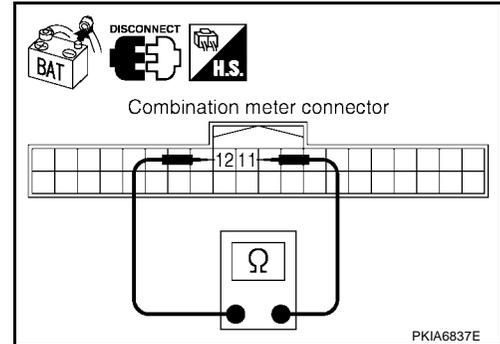
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



UKS001FX

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

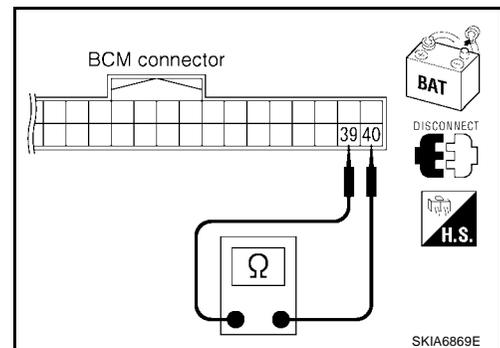
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



UKS001FY

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

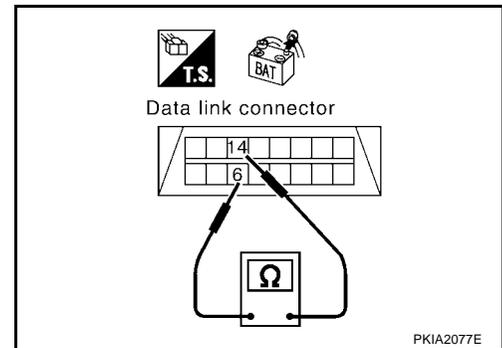
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-209, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Transfer Control Unit Circuit Check

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.

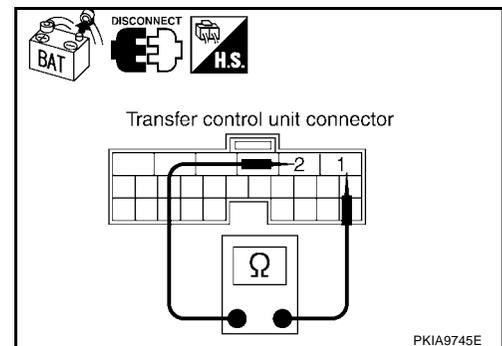
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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

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.

UKS001G1

2. CHECK HARNESS FOR OPEN CIRCUIT

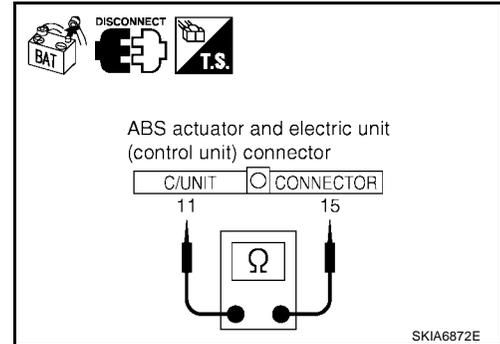
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

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.



UKS001G2

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

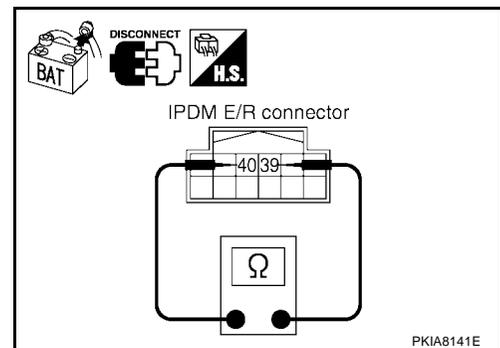
1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

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.



PKIA8141E

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Combination meter
 - BCM
 - 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

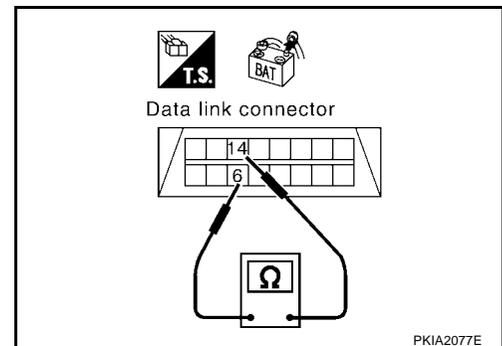
With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (W) and 14 (R).

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.

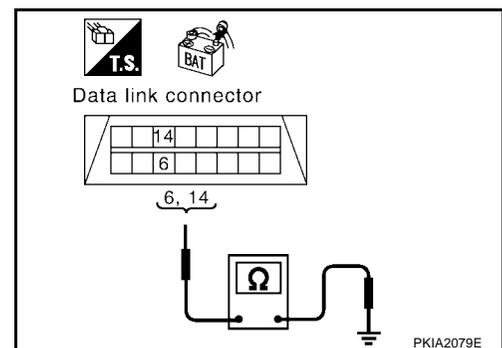
6 (W) - Ground : Continuity should not exist.

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

OK or NG

OK >> Check ECM and IPDM E/R. Refer to [LAN-231, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

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

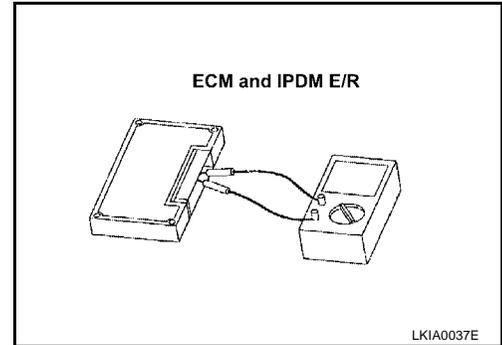
- IPDM E/R power supply circuit. Refer to [PG-26, "IPDM E/R Power/Ground Circuit Inspection"](#).
- Ignition power supply circuit. Refer to [PG-13, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START"](#).

Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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LAN

CAN SYSTEM (TYPE 8)

PF2:23710

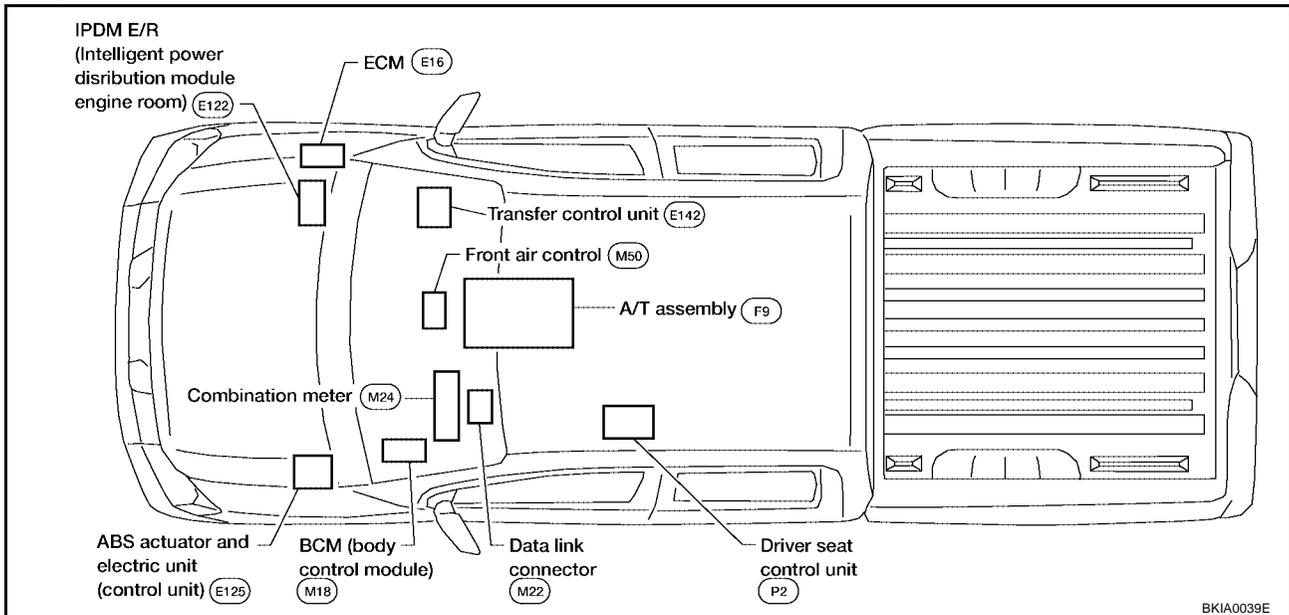
System Description

UKS001G6

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

UKS001G7

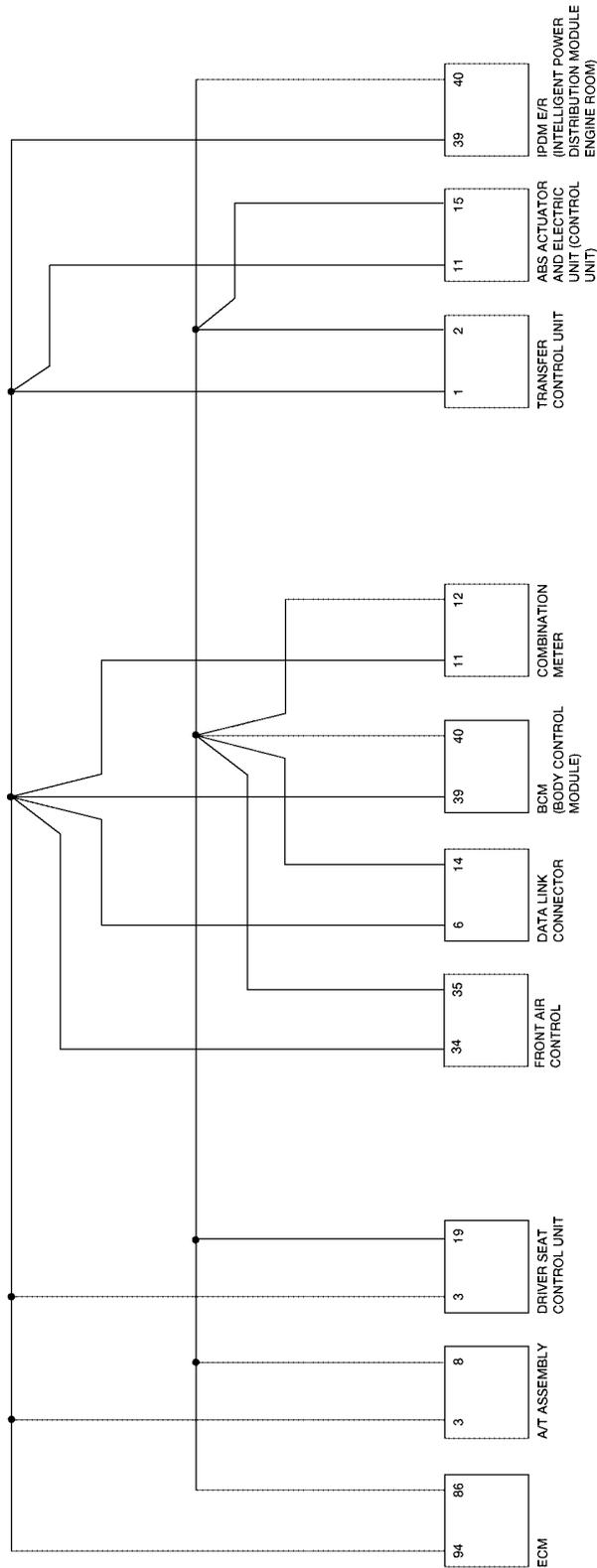


CAN SYSTEM (TYPE 8)

[CAN]

Schematic

UKS001G8



A
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LAN

BKWA0144E

CAN SYSTEM (TYPE 8)

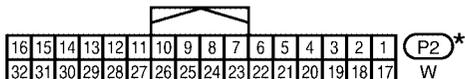
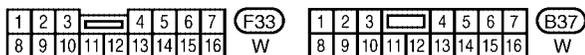
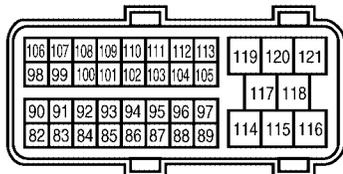
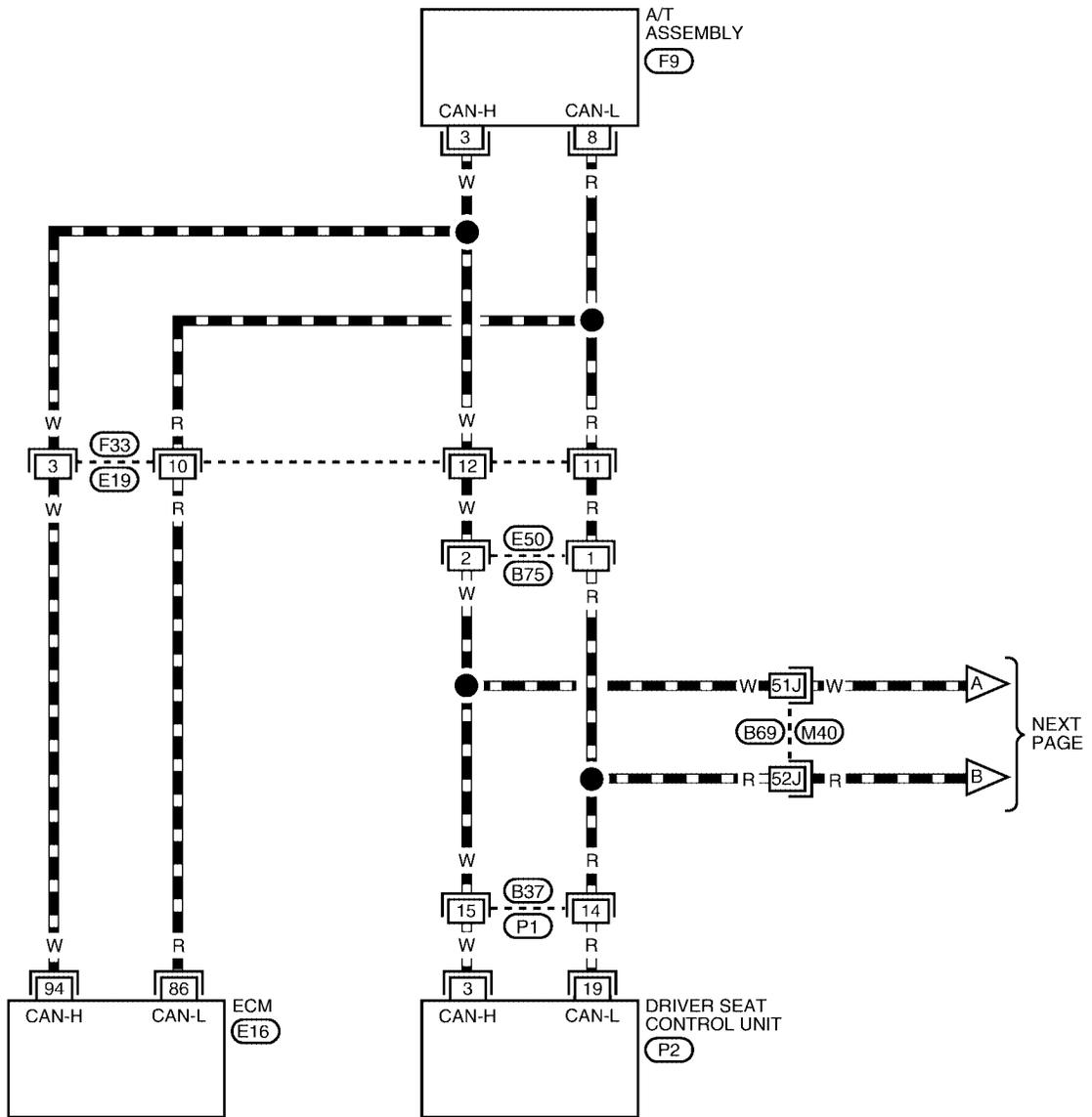
[CAN]

Wiring Diagram - CAN -

UKS001G9

LAN-CAN-22

▬ : DATA LINE



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

REFER TO THE FOLLOWING.

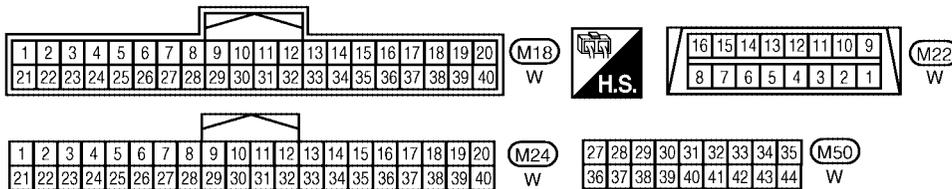
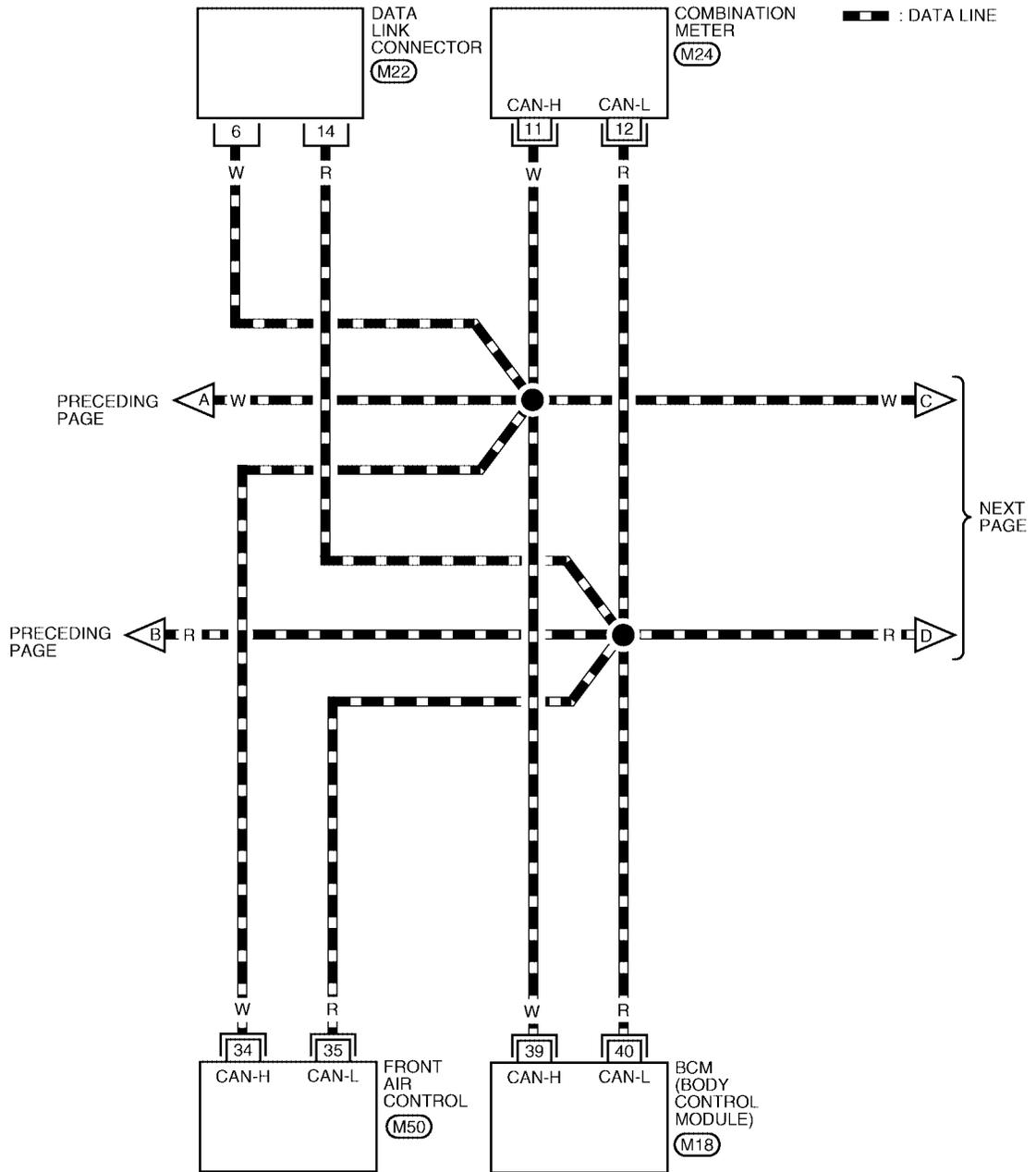
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0053E

CAN SYSTEM (TYPE 8)

[CAN]

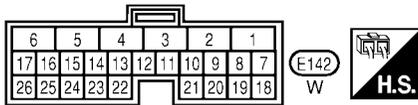
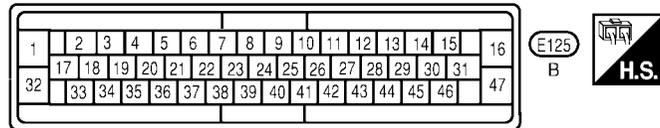
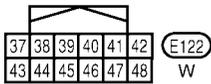
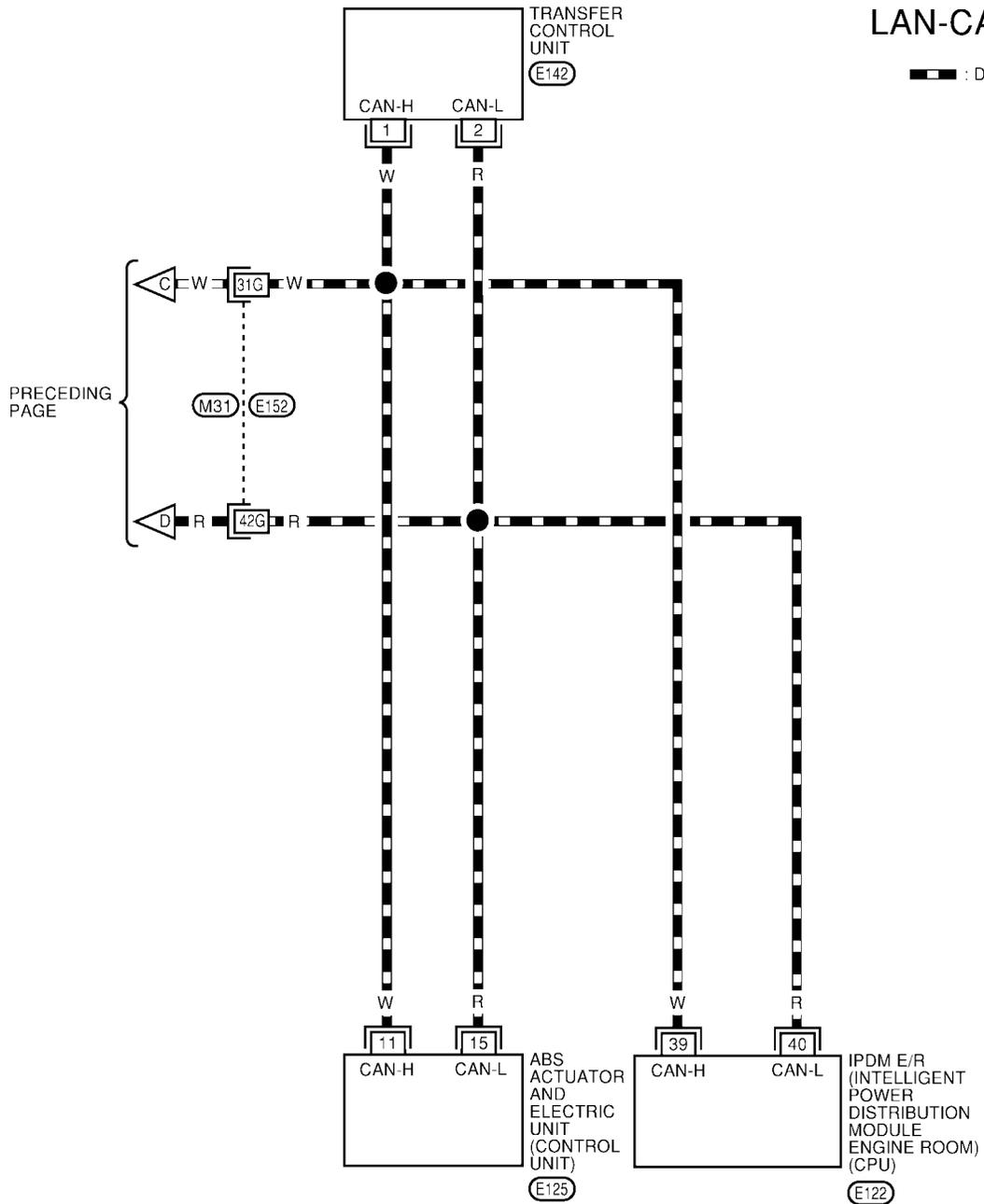
LAN-CAN-23



BKWA0145E

LAN-CAN-24

— : DATA LINE



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

BKWA0055E

Work Flow

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

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">NISSAN</td></tr> <tr><td colspan="2" style="text-align: center;">CONSULT-II</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">START (NISSAN BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">START (RENAULT BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">SUB MODE</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">LIGHT COPY</td></tr> </table>	NISSAN		CONSULT-II		ENGINE		START (NISSAN BASED VHCL)		START (RENAULT BASED VHCL)		SUB MODE			LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT SYSTEM</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">A/T</td></tr> <tr><td colspan="2" style="text-align: center;">ABS</td></tr> <tr><td colspan="2" style="text-align: center;">AIR BAG</td></tr> <tr><td colspan="2" style="text-align: center;">BCM</td></tr> <tr><td colspan="2" style="text-align: center;">METER A/C AMP</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT SYSTEM		ENGINE		A/T		ABS		AIR BAG		BCM		METER A/C AMP							BACK LIGHT COPY	PKIA2093E
NISSAN																																						
CONSULT-II																																						
ENGINE																																						
START (NISSAN BASED VHCL)																																						
START (RENAULT BASED VHCL)																																						
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BCM																																						
METER A/C AMP																																						
	BACK LIGHT COPY																																					

- 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.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DTC RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">TIME</td></tr> <tr><td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td><td style="width: 20%; text-align: center;">0</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">F.F.DATA</td></tr> <tr><td colspan="2" style="text-align: center;">ERASE PRINT</td></tr> <tr><td style="width: 50%;">MODE BACK</td><td style="width: 50%; text-align: center;">LIGHT COPY</td></tr> </table>	SELF-DIAG RESULTS		DTC RESULTS		TIME		CAN COMM CIRCUIT (U1000)	0							F.F.DATA		ERASE PRINT		MODE BACK	LIGHT COPY	PKIA8260E
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- 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.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">PRSNR</td></tr> <tr><td>INITIAL DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TRANSMIT DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TCM</td><td style="text-align: center;">OK</td></tr> <tr><td>VDC/TCS/ABS</td><td style="text-align: center;">OK</td></tr> <tr><td>METER/M&A</td><td style="text-align: center;">OK</td></tr> <tr><td>ICC</td><td style="text-align: center;">UNKWN</td></tr> <tr><td>BCM/SEC</td><td style="text-align: center;">OK</td></tr> <tr><td>IPDM E/R</td><td style="text-align: center;">OK</td></tr> <tr><td>AWD/4WD/e4WD</td><td style="text-align: center;">UNKWN</td></tr> <tr><td colspan="2" style="text-align: center;">PRINT</td></tr> <tr><td style="width: 50%;">MODE BACK</td><td style="width: 50%; text-align: center;">Scroll Down LIGHT COPY</td></tr> </table>	CAN DIAG SUPPORT MNTR		ENGINE		PRSNR		INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT		MODE BACK	Scroll Down LIGHT COPY	PKIA8343E
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MODE BACK	Scroll Down LIGHT COPY																																																			

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-238, "CHECK SHEET"](#) .

- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-238, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-240, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 8)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 8)

[CAN]

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

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CHECK SHEET RESULTS (EXAMPLE)

NOTE:

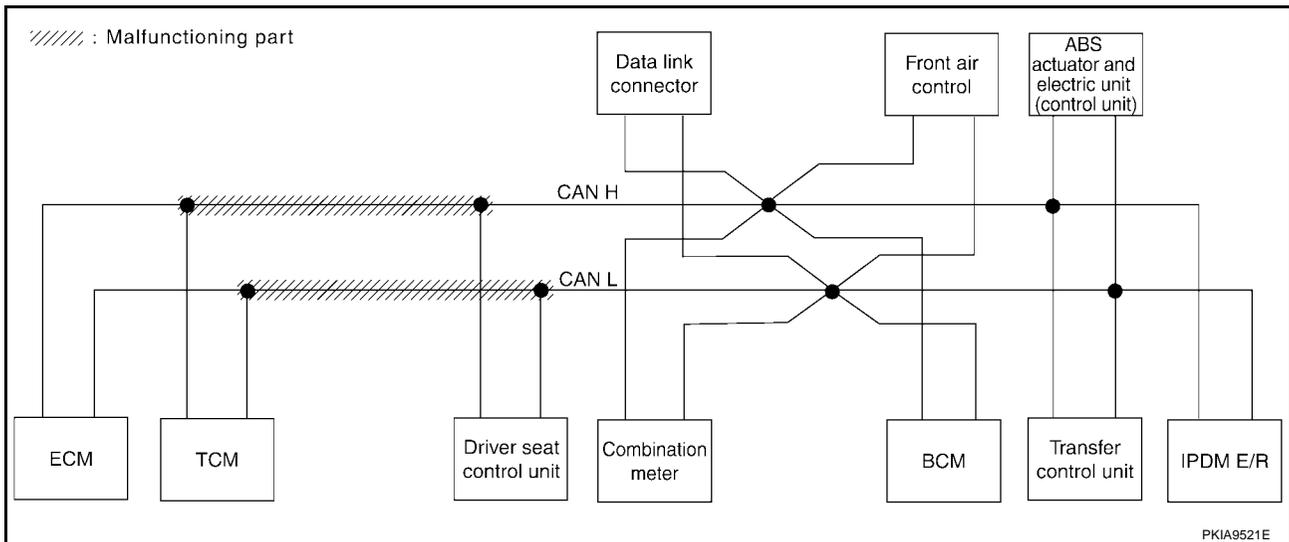
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-253, "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	AWD/4WD/e4WD	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	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	

PKIA9395E



CAN SYSTEM (TYPE 8)

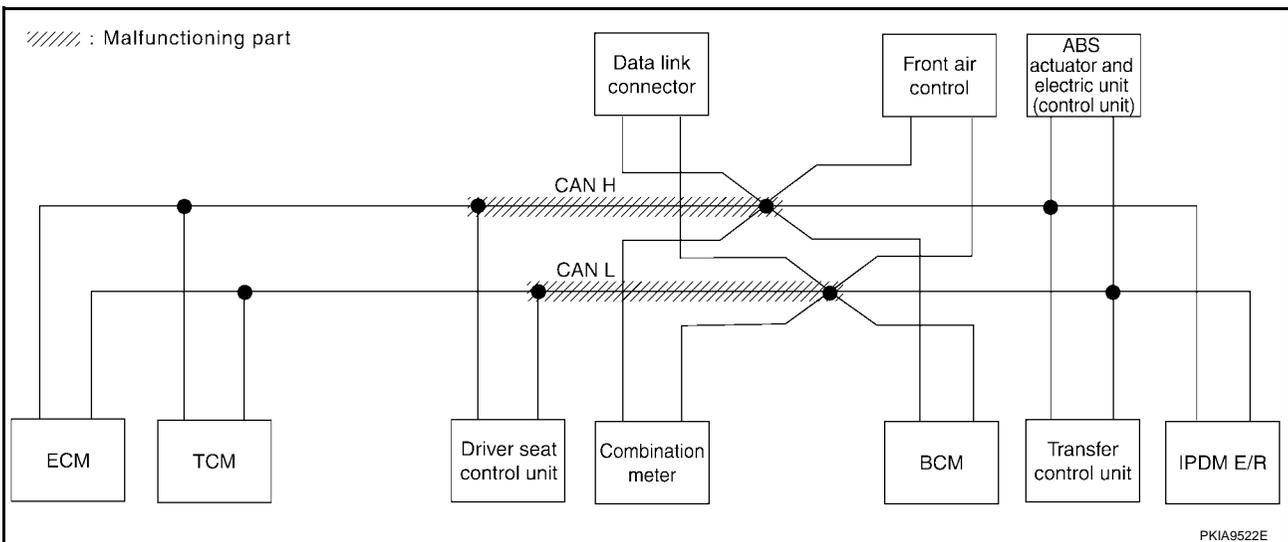
[CAN]

Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-254, "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	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—

PKIA9396E



CAN SYSTEM (TYPE 8)

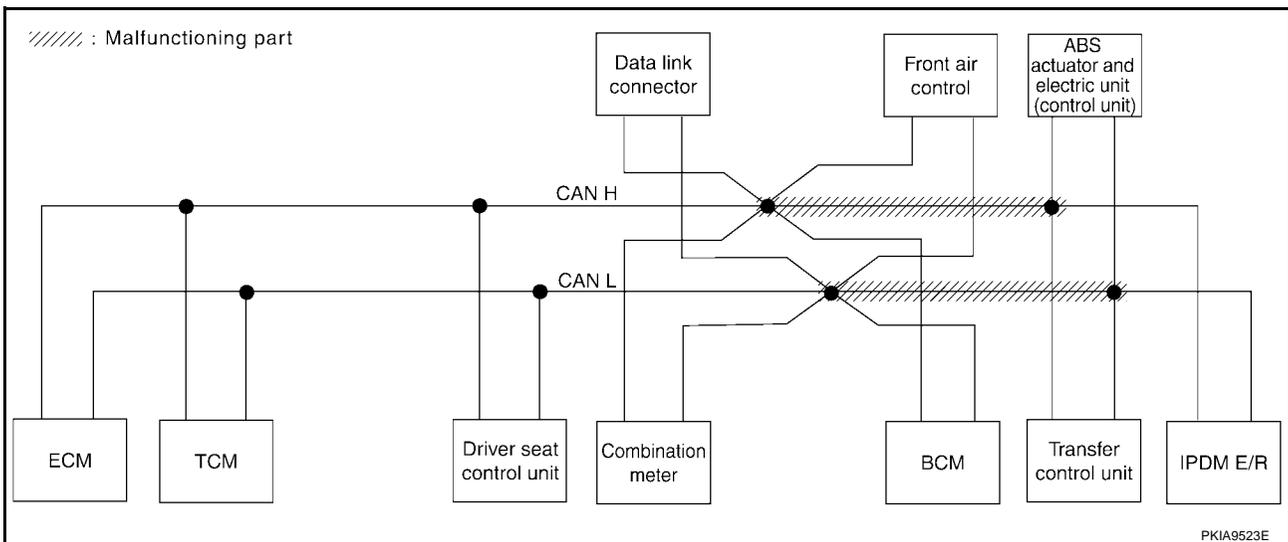
[CAN]

Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-255, "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	AWD/4WD /e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 8)

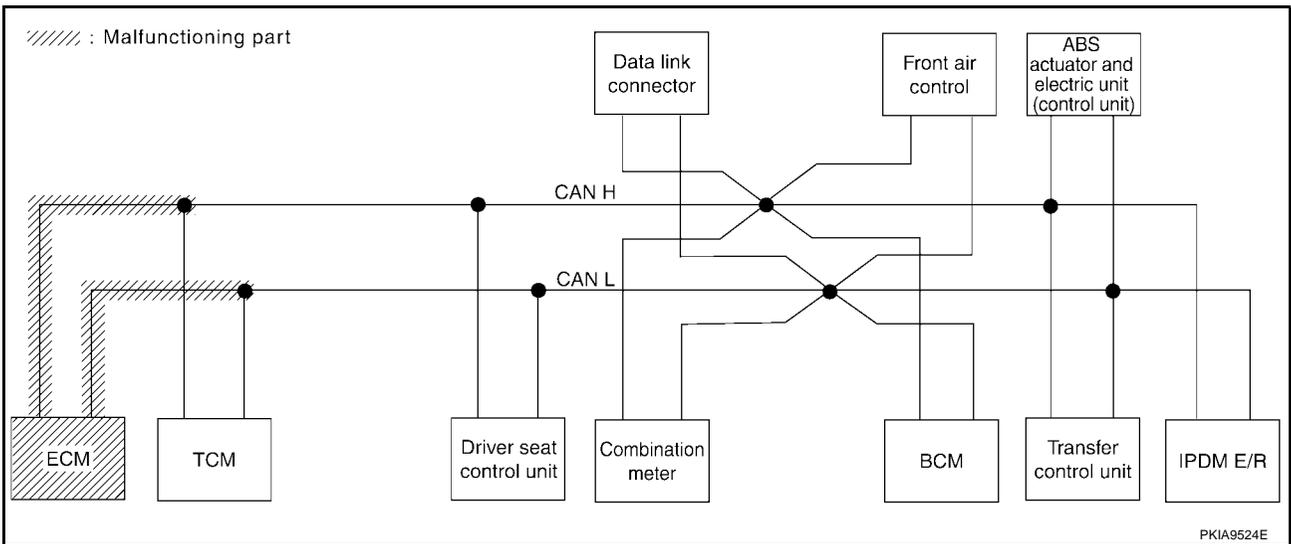
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-256, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 8)

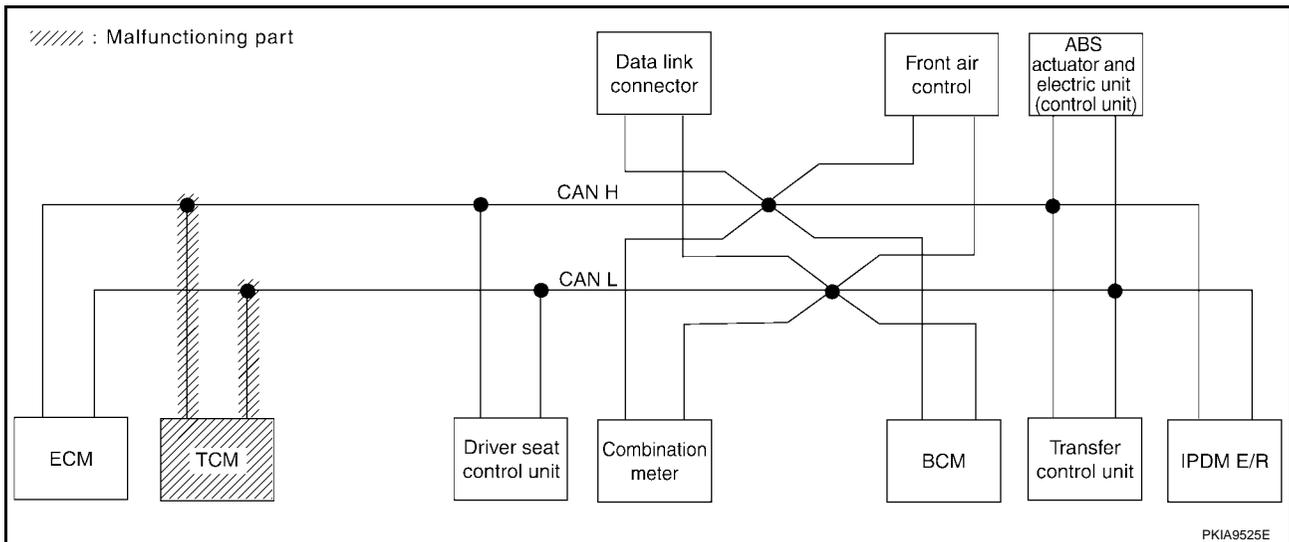
[CAN]

Case 5

Check TCM circuit. Refer to [LAN-256, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD /e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 8)

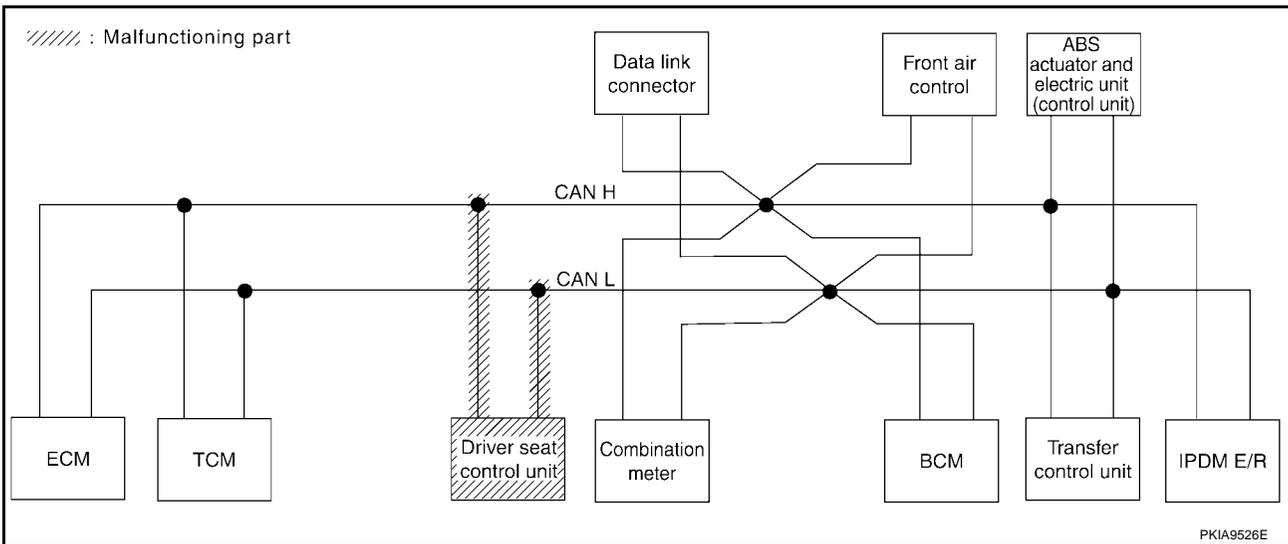
[CAN]

Case 6

Check driver seat control unit circuit. Refer to [LAN-257, "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	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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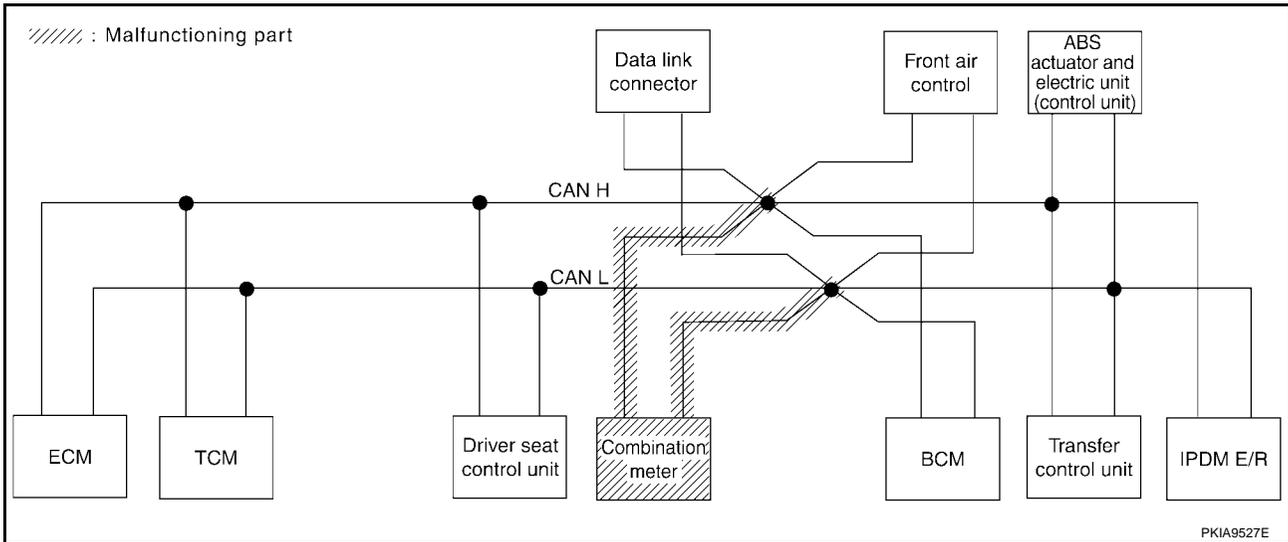
[CAN]

Case 7

Check combination meter circuit. Refer to [LAN-257, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	✓	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	✓	—	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	✓	UNKWN	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	✓	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 8)

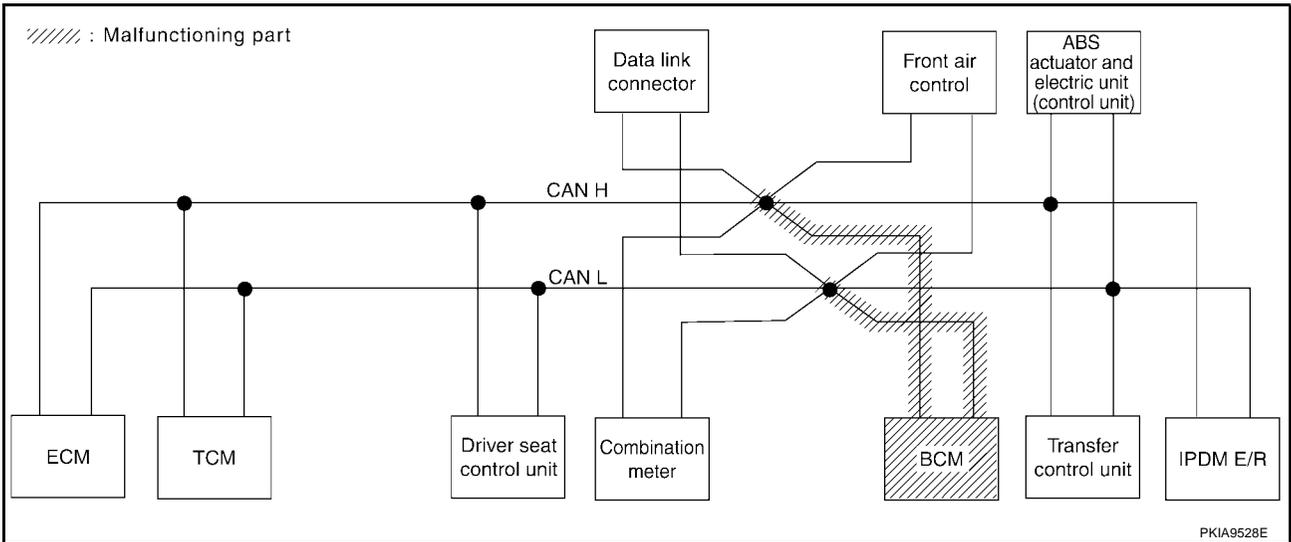
[CAN]

Case 8

Check BCM circuit. Refer to [LAN-258, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	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 ✓	—	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—

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CAN SYSTEM (TYPE 8)

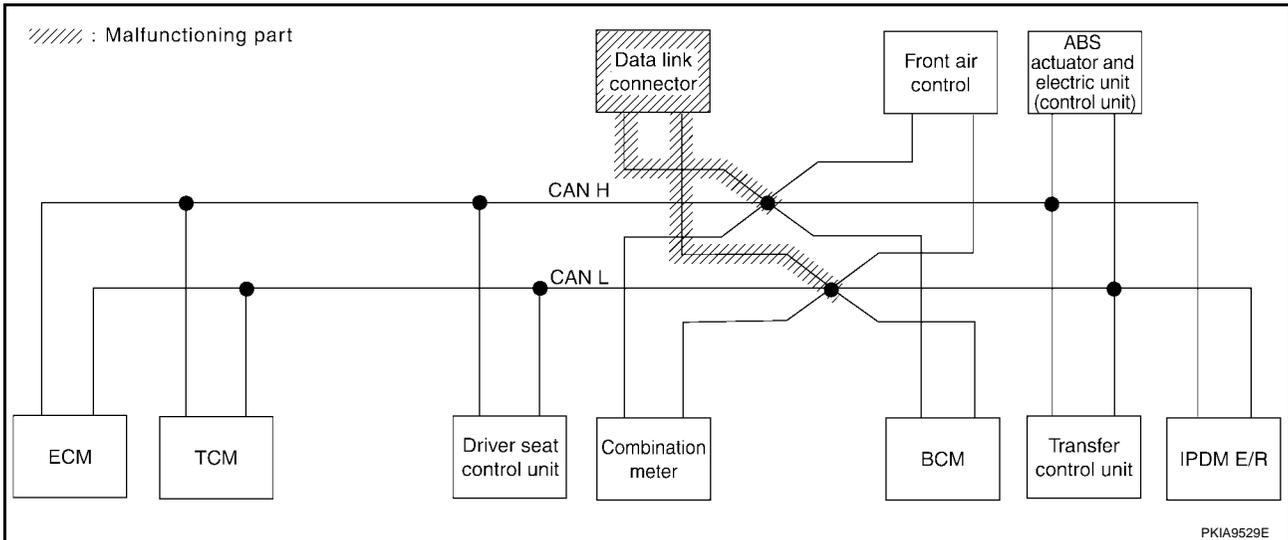
[CAN]

Case 9

Check data link connector circuit. Refer to [LAN-258, "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	AWD/4WD /e4WD	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	—	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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CAN SYSTEM (TYPE 8)

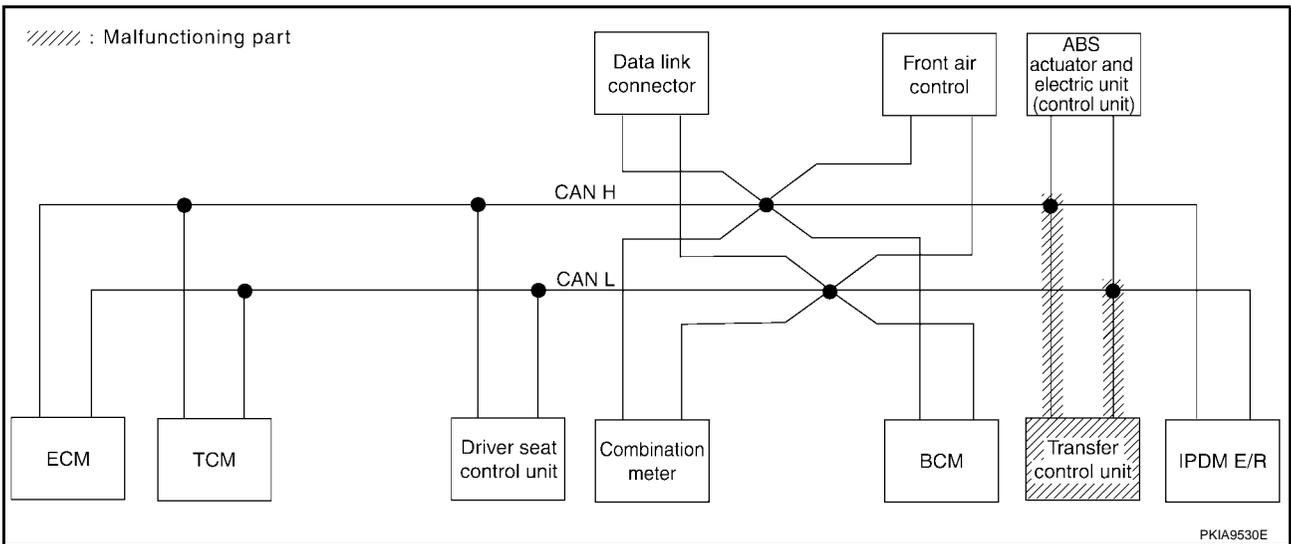
[CAN]

Case 10

Check transfer control unit circuit. Refer to [LAN-259, "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	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN ✓	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

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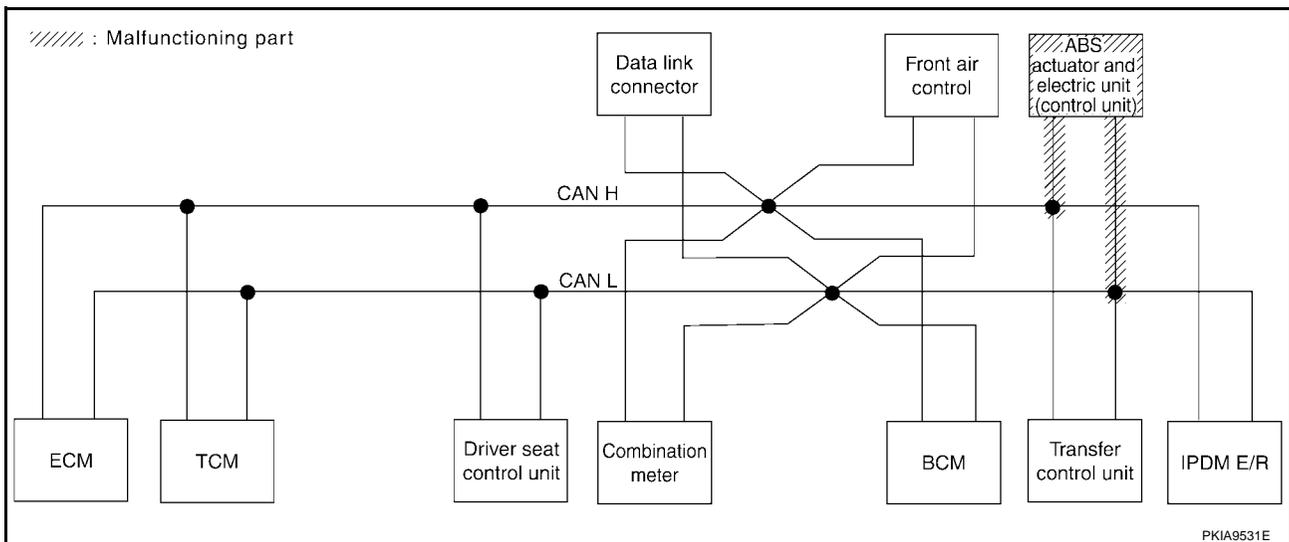
[CAN]

Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-259, "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	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9405E



PKIA9531E

CAN SYSTEM (TYPE 8)

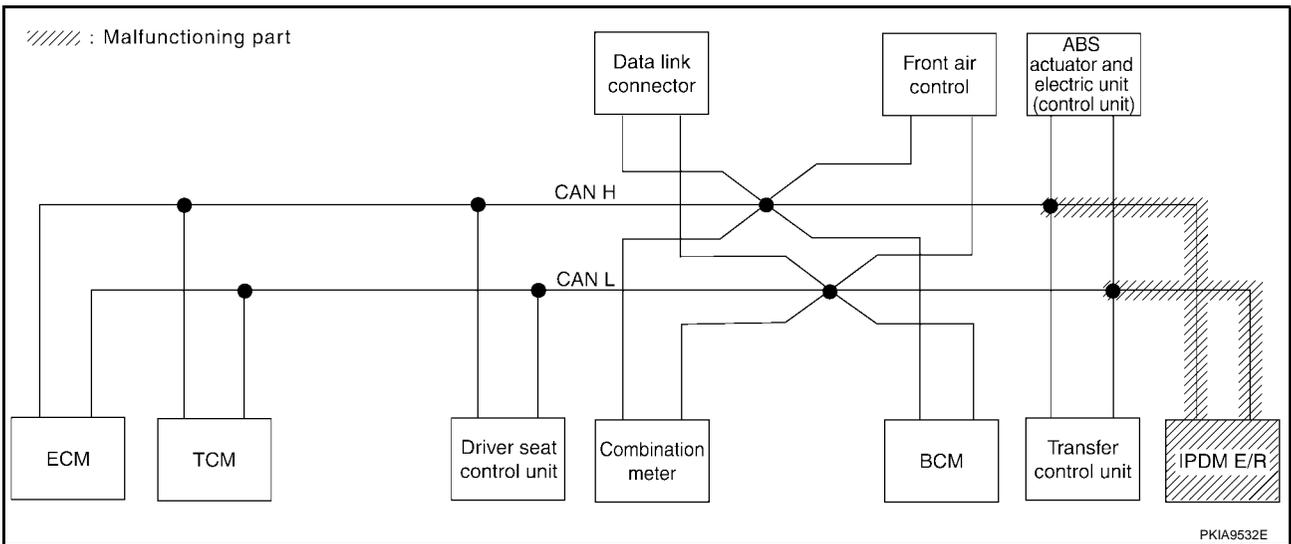
[CAN]

Case 12

Check IPDM E/R circuit. Refer to [LAN-260, "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	AWD/4WD/e4WD	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	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9406E



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CAN SYSTEM (TYPE 8)

[CAN]

Case 13

Check CAN communication circuit. Refer to [LAN-260, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N	—	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—
BCM	No indication ✓	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	UNKW N	—
ABS	—	NG ✓	UNKW N	UNKW N	—	—	—	—	—	—
IPDM E/R	No indication ✓	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9407E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-261, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	UNKW N	—	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	UNKW N	—	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—

PKIA9408E

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-261, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	—	UNKWN
A/T	—	NG	UNKWN	✓	—	✓	—	✓	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	✓	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—

PKIA9409E

Circuit Check Between TCM and Driver Seat Control Unit

UKS001GB

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 E50
 - Harness connector B75

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).

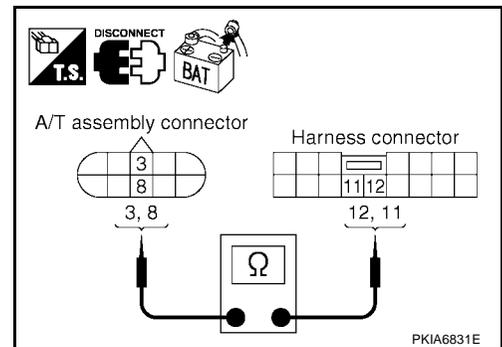
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



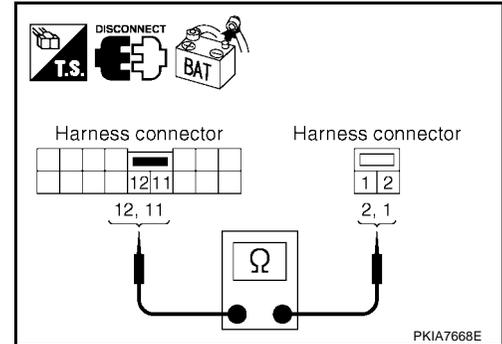
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



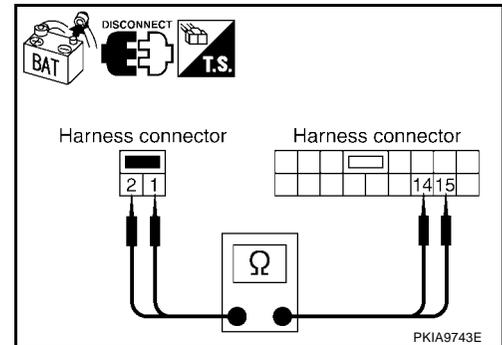
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-237, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS001GC

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.

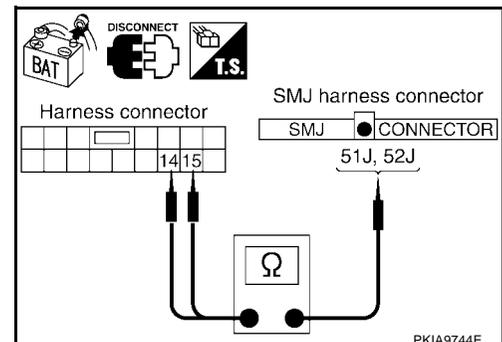
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

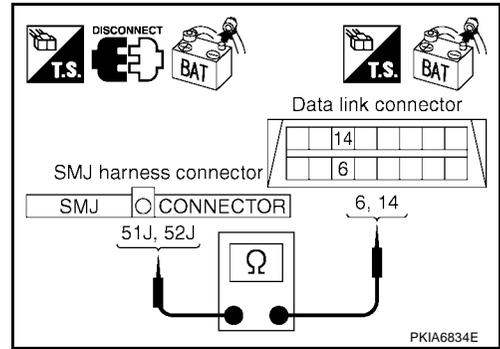
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-237, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001GD

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

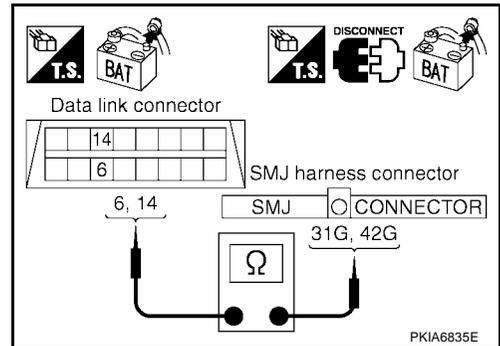
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

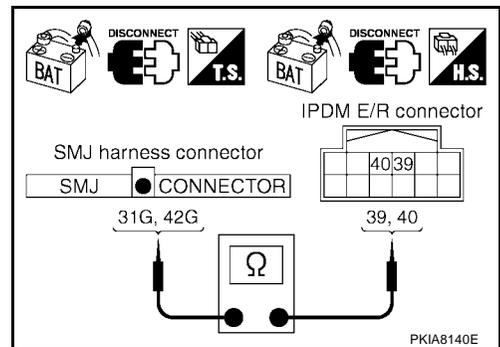
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-237, "Work Flow"](#).
- NG >> Repair harness.



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ECM Circuit Check**1. CHECK CONNECTOR**

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

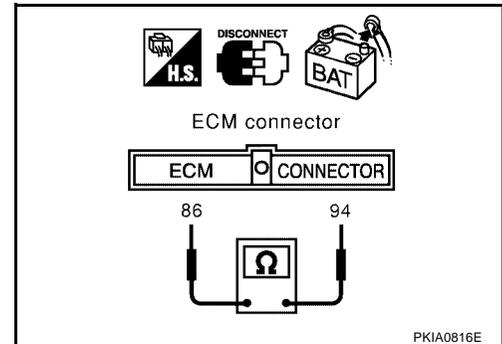
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

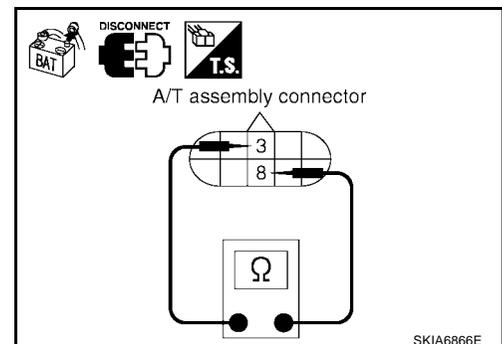
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

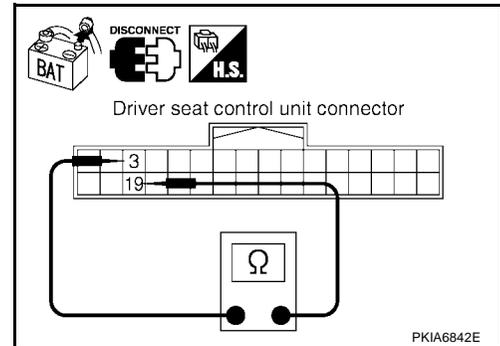
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

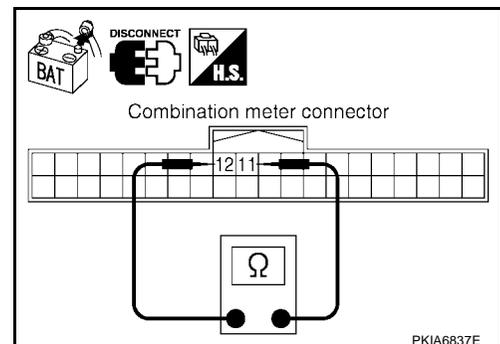
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



BCM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

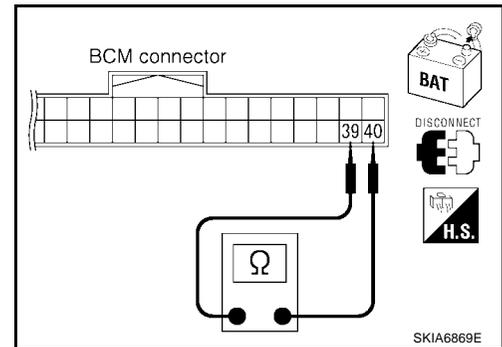
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



SKIA6869E

Data Link Connector Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

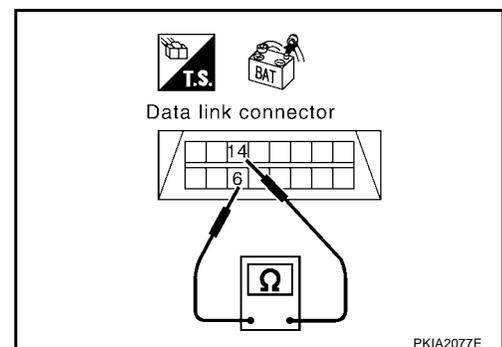
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-237, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



PKIA2077E

Transfer Control Unit Circuit Check**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.

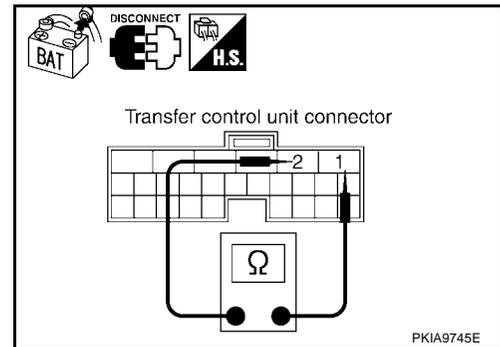
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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****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.

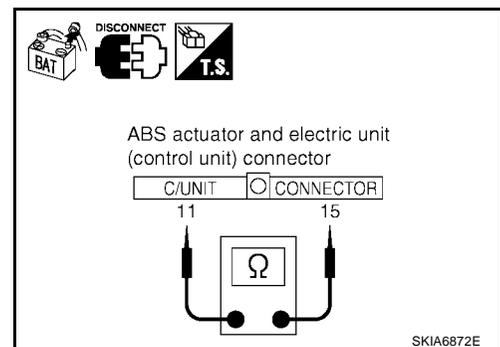
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

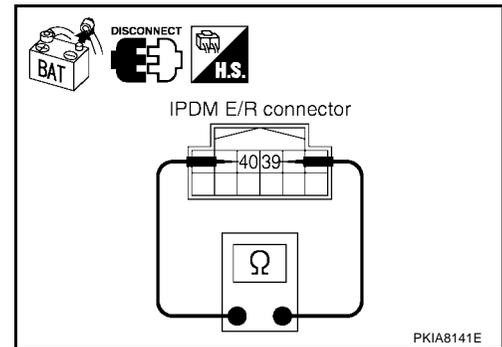
2. CHECK HARNESS FOR OPEN CIRCUIT

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****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Driver seat control unit
 - Combination meter
 - BCM
 - 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.

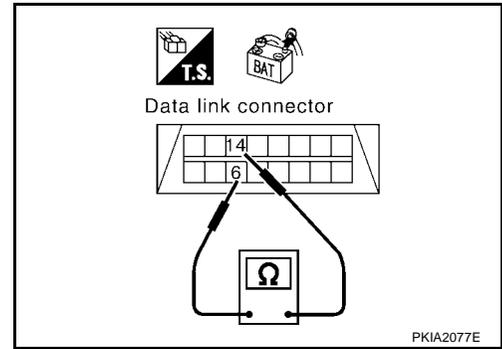
2. CHECK HARNESS FOR SHORT CIRCUIT

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

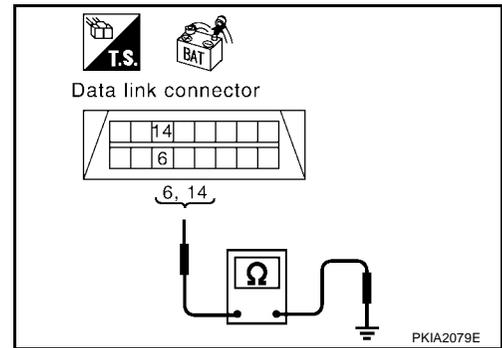
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-261, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
- NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

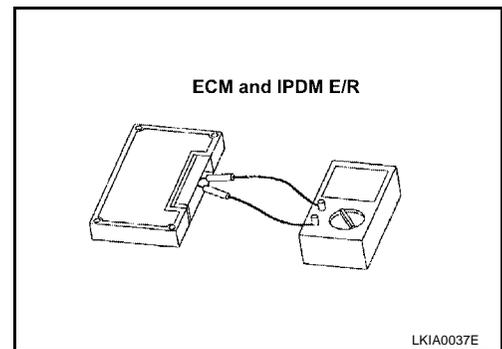
Check the following. If no malfunction is found, replace the IPDM E/R.

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

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

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

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



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CAN SYSTEM (TYPE 9)

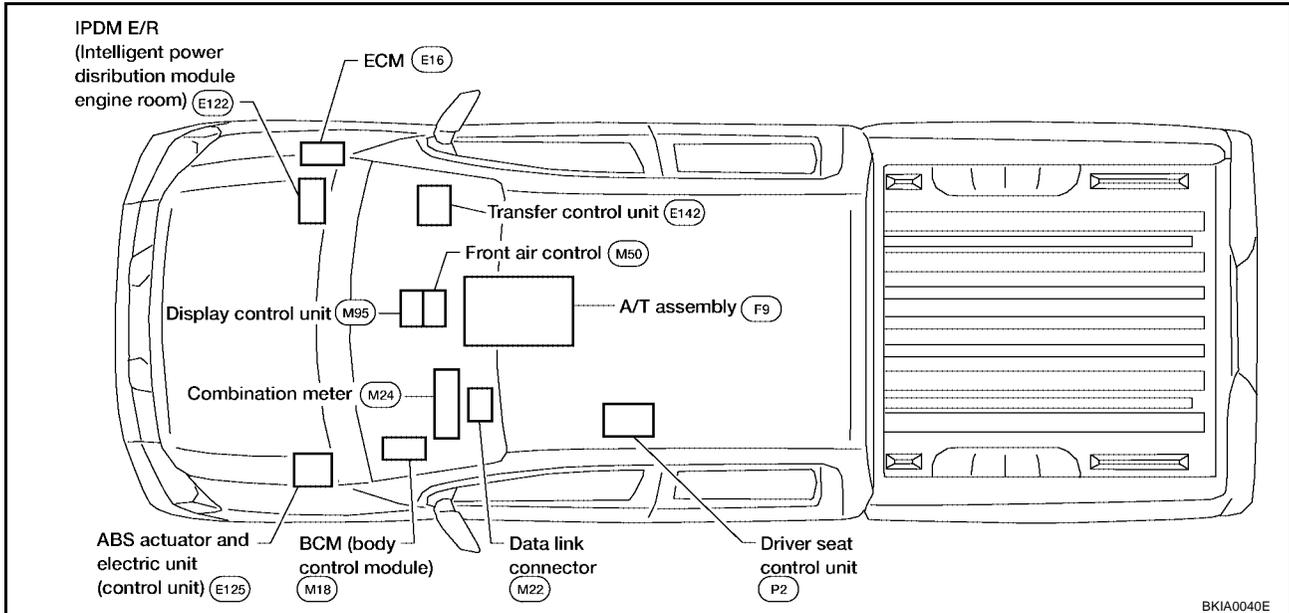
System Description

UKS001GR

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

UKS001GS

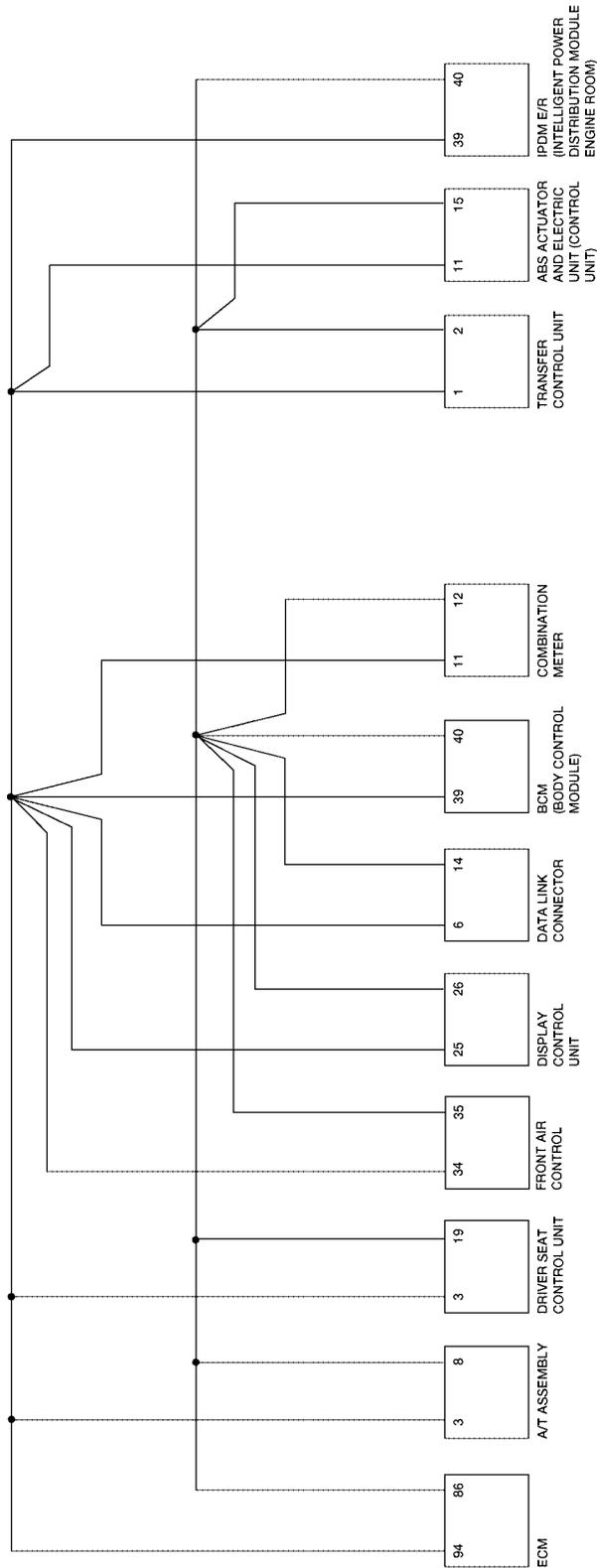


CAN SYSTEM (TYPE 9)

[CAN]

Schematic

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CAN SYSTEM (TYPE 9)

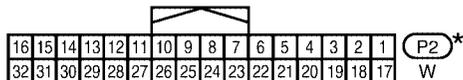
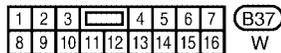
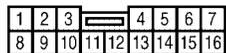
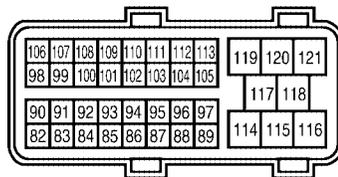
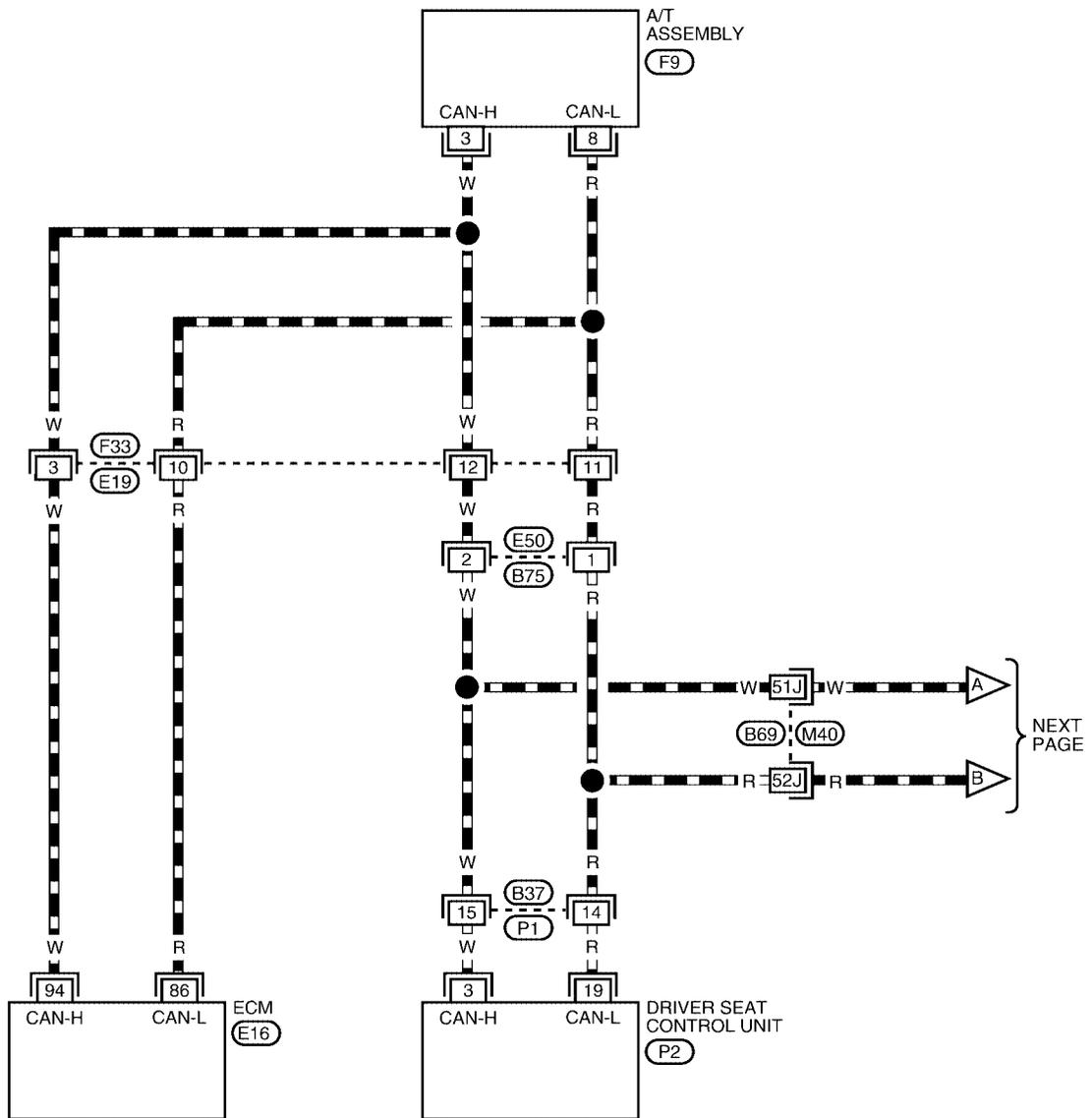
[CAN]

Wiring Diagram - CAN -

UKS001GU

LAN-CAN-25

▬ : DATA LINE



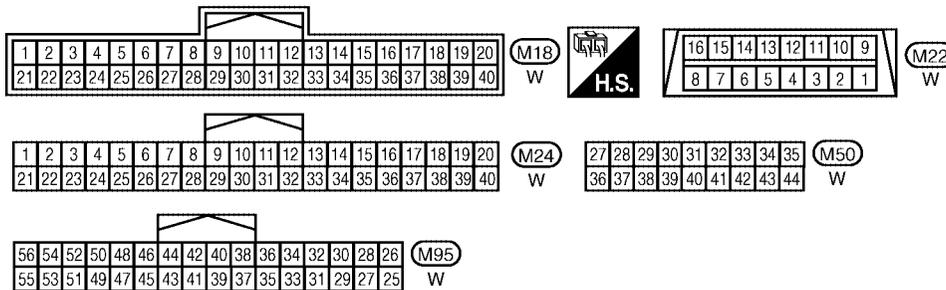
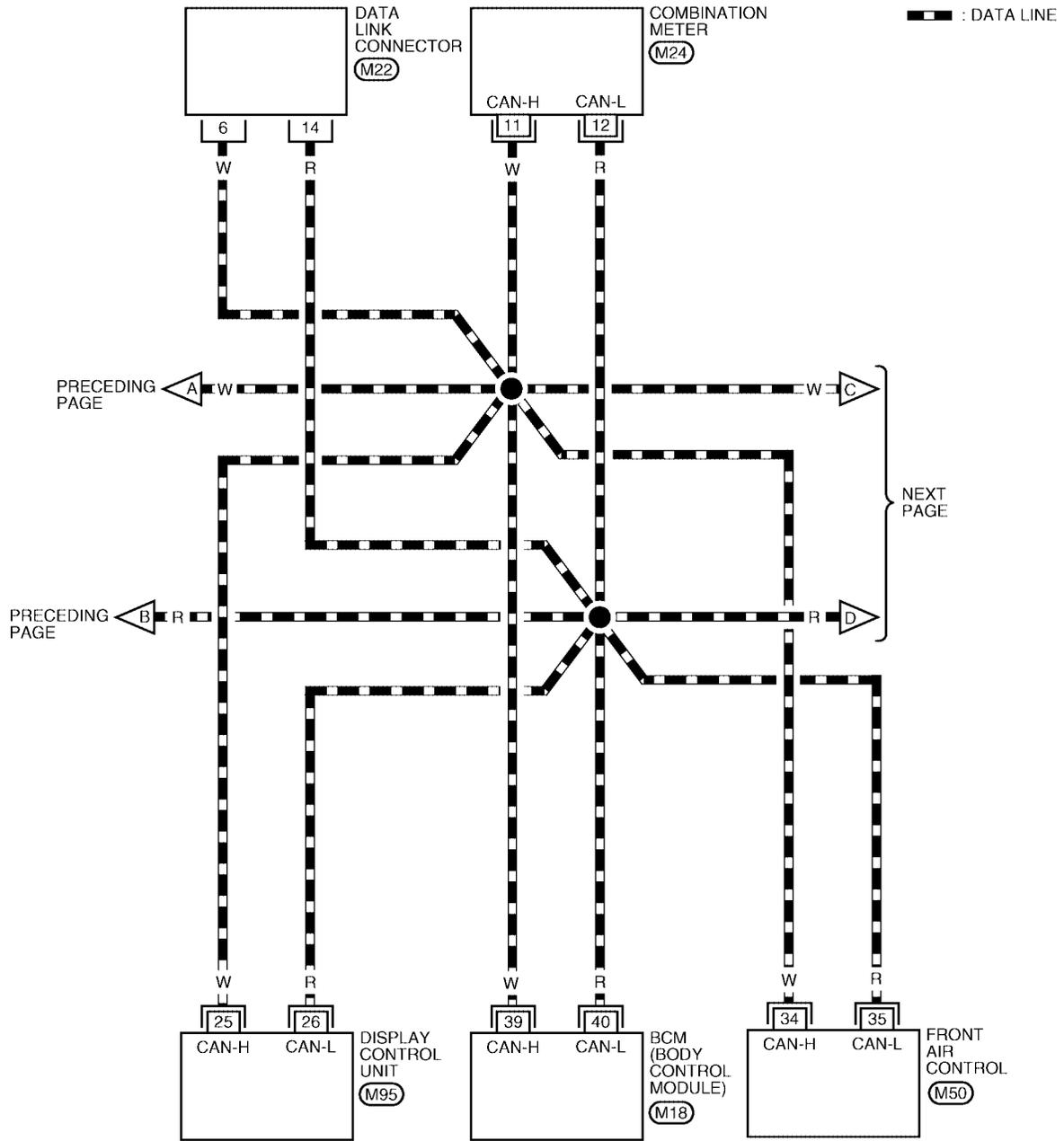
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

REFER TO THE FOLLOWING.

(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0060E

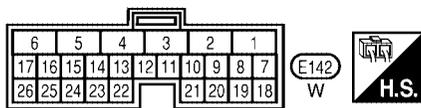
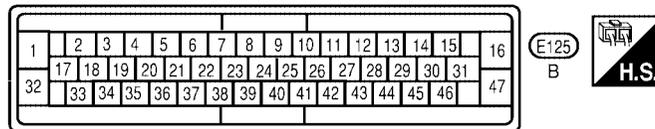
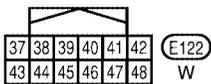
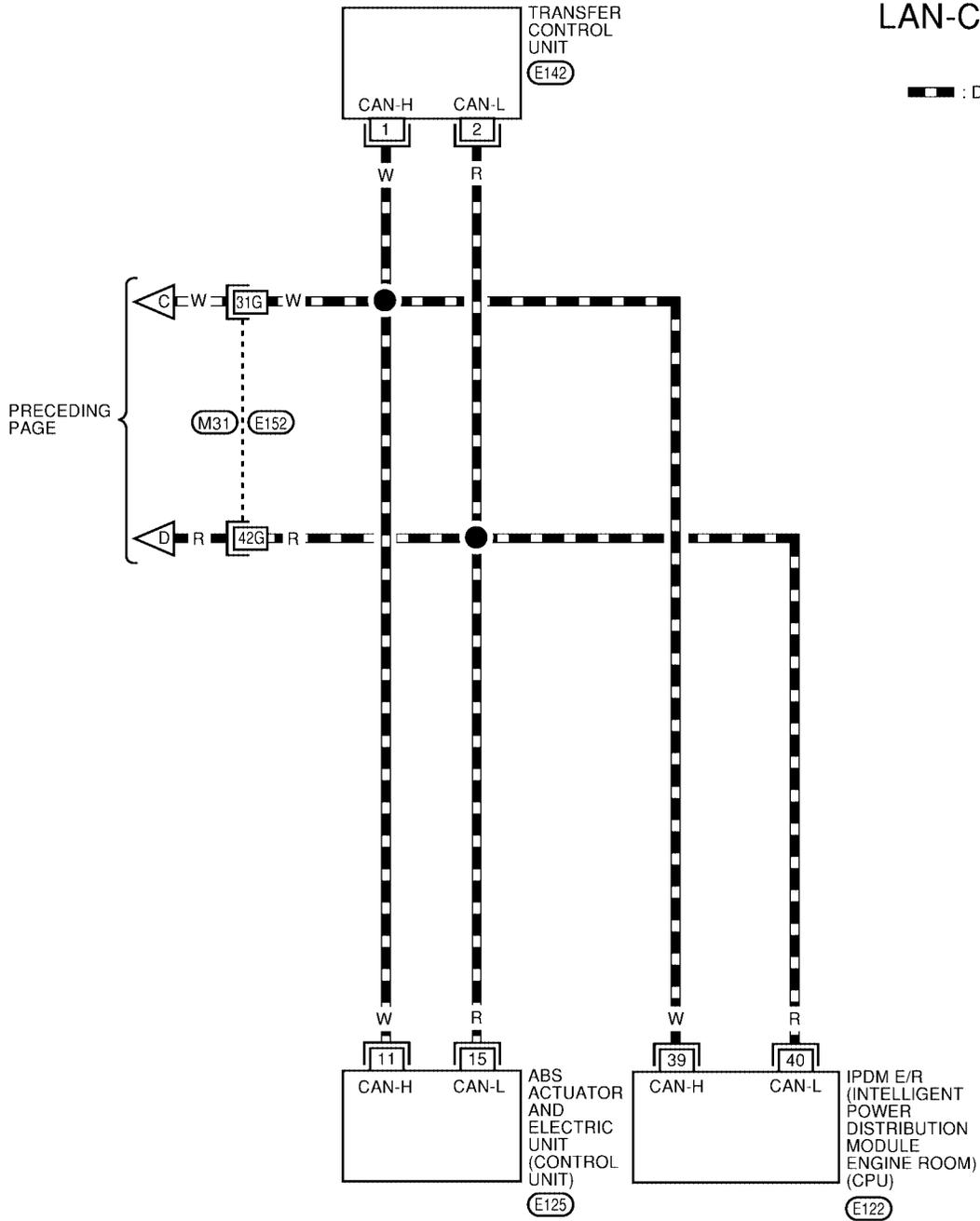
LAN-CAN-26



BKWA0147E

LAN-CAN-27

— : DATA LINE



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

BKWA0062E

Work Flow

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

(Example)	NISSAN CONSULT-II ENGINE START (NISSAN BASED VHCL) START (RENAULT BASED VHCL) SUB MODE LIGHT COPY	➔	SELECT SYSTEM ENGINE A/T ABS AIR BAG BCM METER A/C AMP BACK LIGHT COPY	PKIA2093E
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- 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.

(Example)	SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY	➔	SELF-DIAG RESULTS DTC RESULTS TIME CAN COMM CIRCUIT (U1000) 0 F.F.DATA ERASE PRINT MODE BACK LIGHT COPY	PKIA8260E
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- 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.

(Example)	SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY	➔	CAN DIAG SUPPORT MNTR ENGINE PRSNT INITIAL DIAG OK TRANSMIT DIAG OK TCM OK VDC/TCS/ABS OK METER/M&A OK ICC UNKWN BCM/SEC OK IPDM E/R OK AWD/4WD/e4WD UNKWN PRINT Scroll Down MODE BACK LIGHT COPY	PKIA8343E
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- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-269, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-269, "CHECK SHEET"](#).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.

- Check CAN communication line of the navigation system. Refer to [AV-149, "CAN Communication Line Check"](#).
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to [LAN-269, "CHECK SHEET"](#).

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LAN

CAN SYSTEM (TYPE 9)

[CAN]

-
8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to [LAN-269, "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-149, "CAN Communication Line Check"](#) .

9. According to the check sheet results (example), start inspection. Refer to [LAN-271, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 9)

[CAN]

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	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	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

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LAN

CAN SYSTEM (TYPE 9)

[CAN]

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

PKIA9145E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

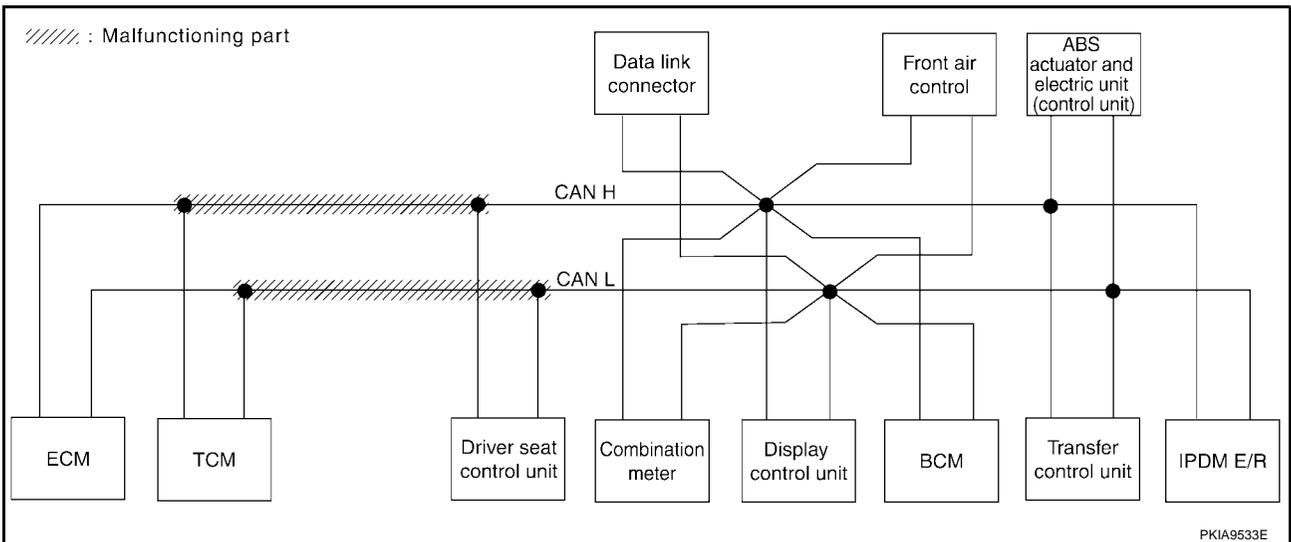
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-286, "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	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—	

PKIA9410E



CAN SYSTEM (TYPE 9)

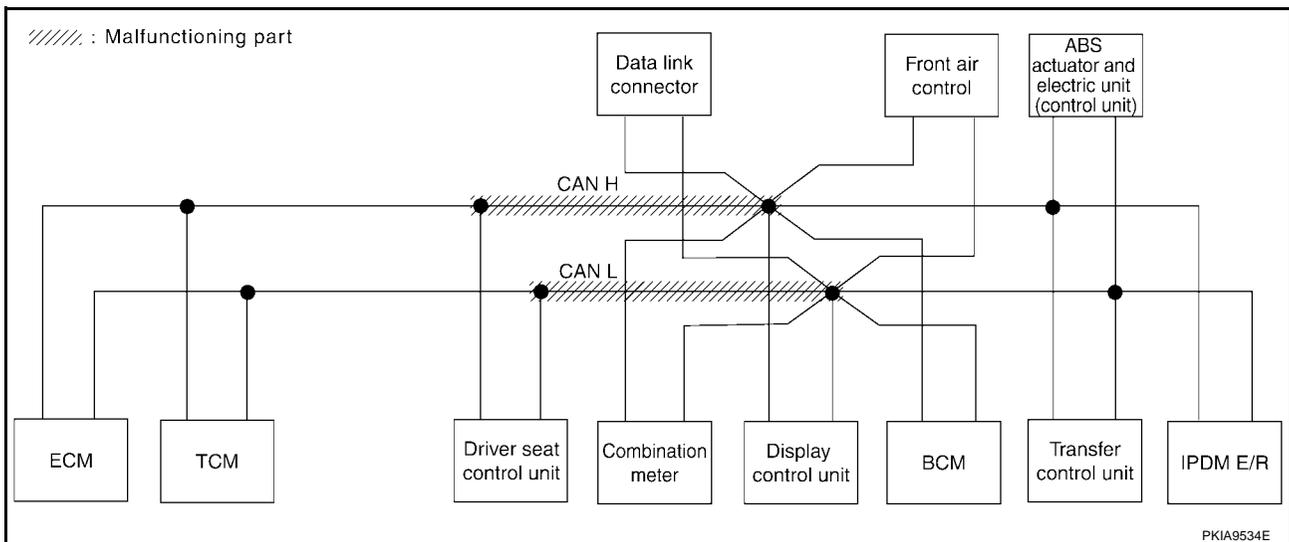
[CAN]

Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-287, "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	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—	

PKIA9411E



PKIA9534E

CAN SYSTEM (TYPE 9)

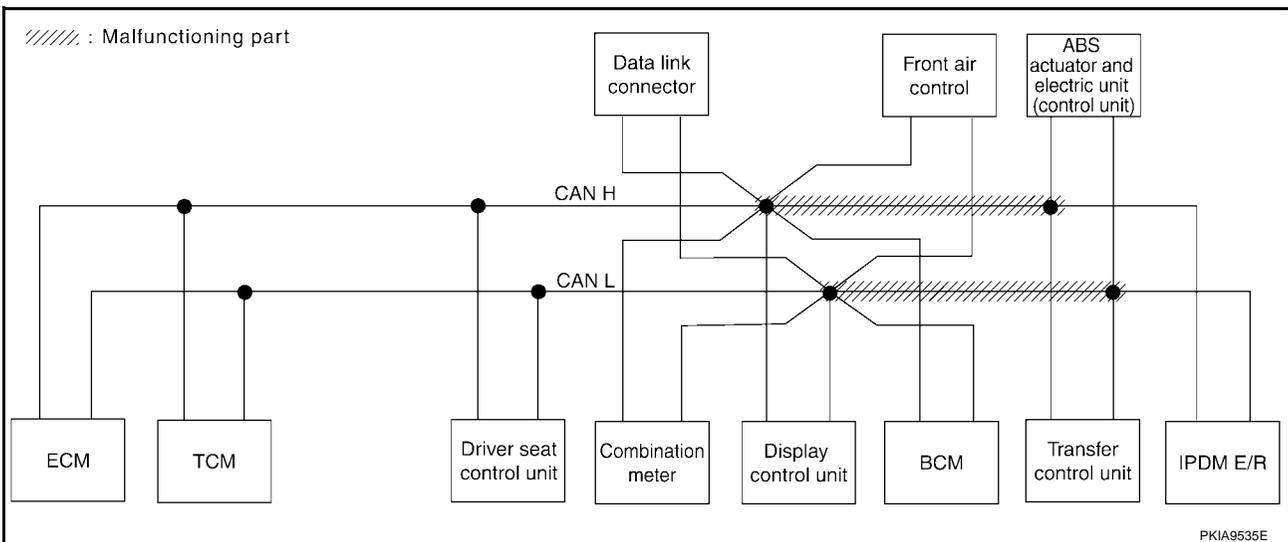
[CAN]

Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-288, "Circuit Check Between Data Link Connector and IPDM E/R"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9412E



PKIA9535E

CAN SYSTEM (TYPE 9)

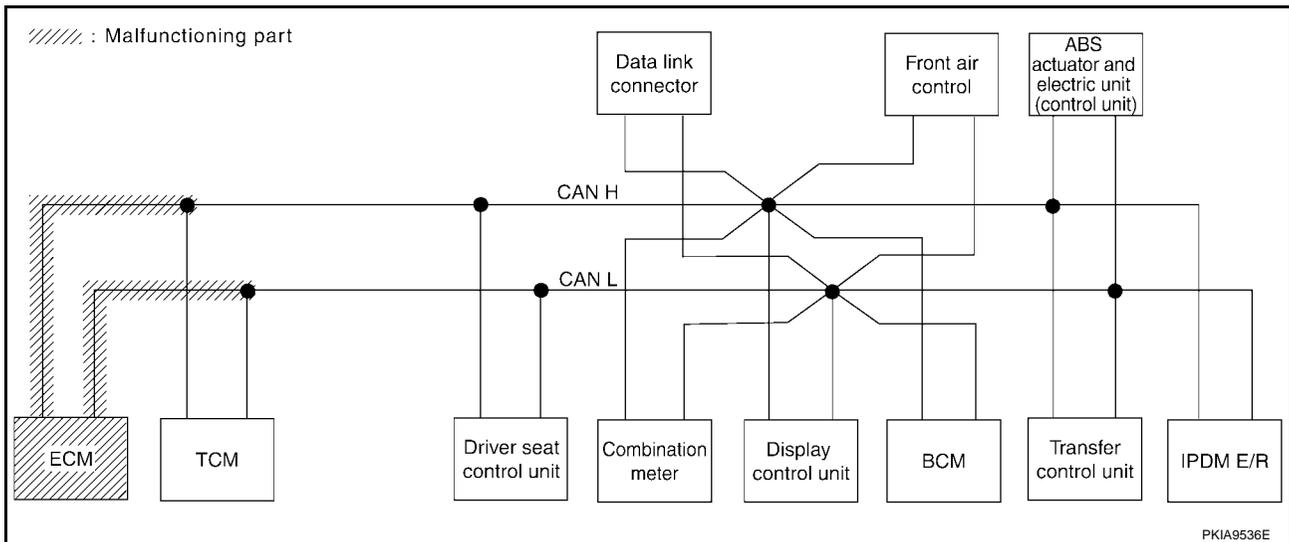
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-289, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9413E



PKIA9536E

CAN SYSTEM (TYPE 9)

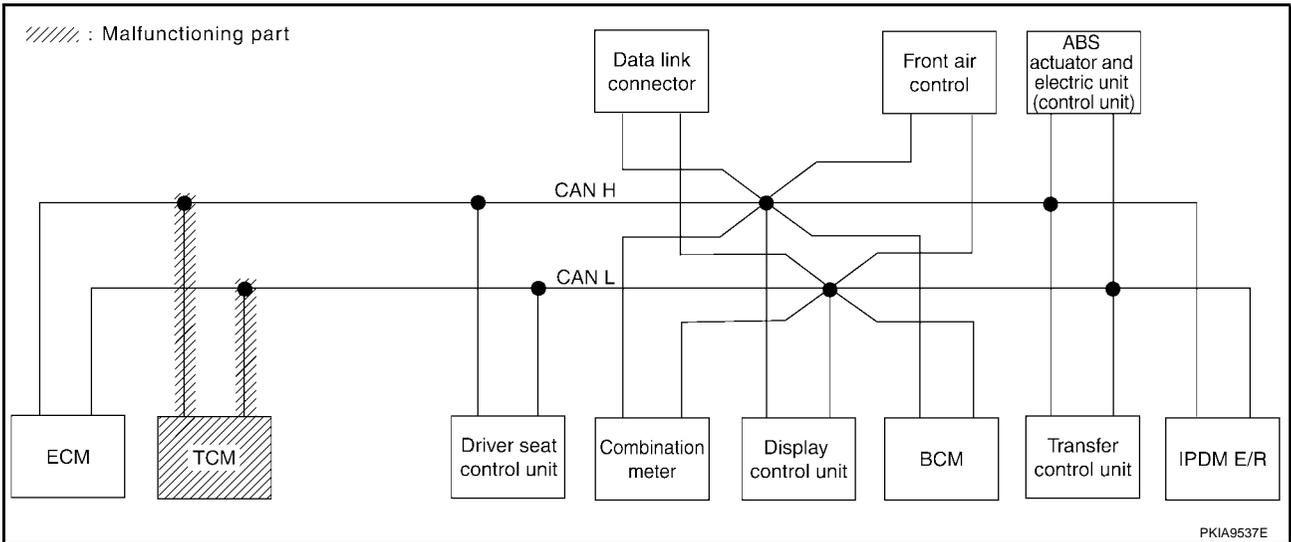
[CAN]

Case 5

Check TCM circuit. Refer to [LAN-289, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA9414E



CAN SYSTEM (TYPE 9)

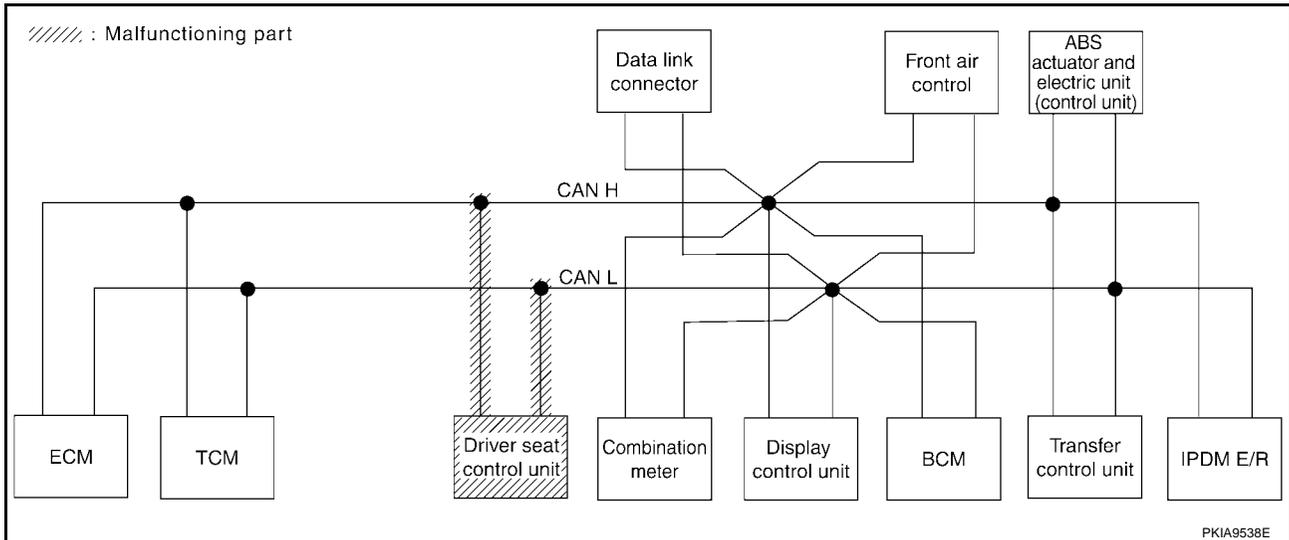
[CAN]

Case 6

Check driver seat control unit circuit. Refer to [LAN-290, "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	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9415E



PKIA9538E

CAN SYSTEM (TYPE 9)

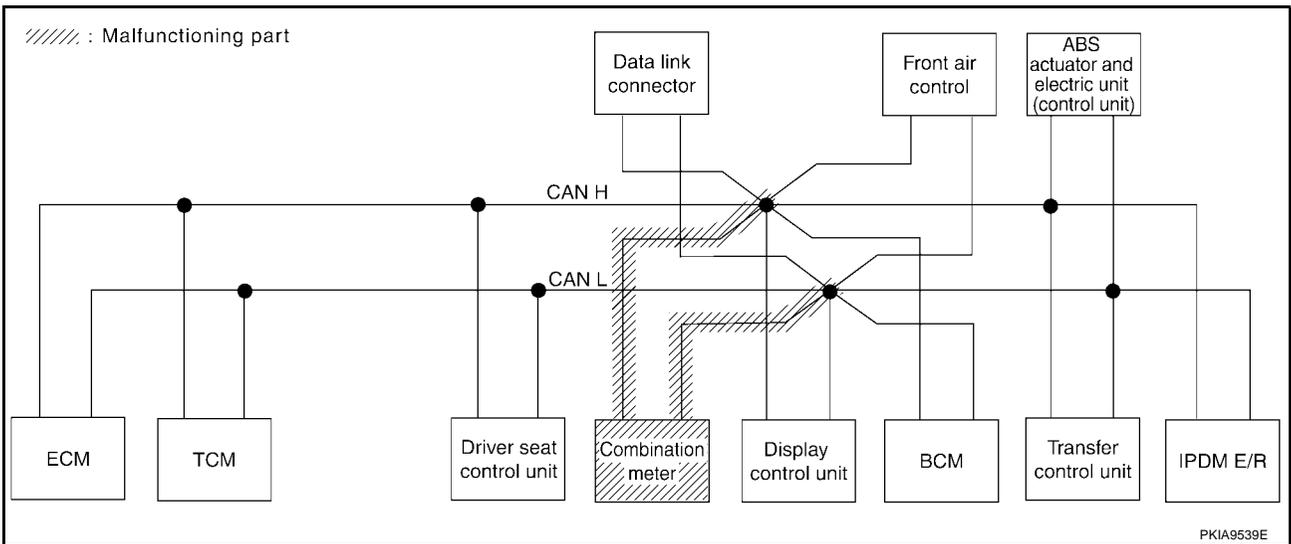
[CAN]

Case 7

Check combination meter circuit. Refer to [LAN-290, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9416E



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CAN SYSTEM (TYPE 9)

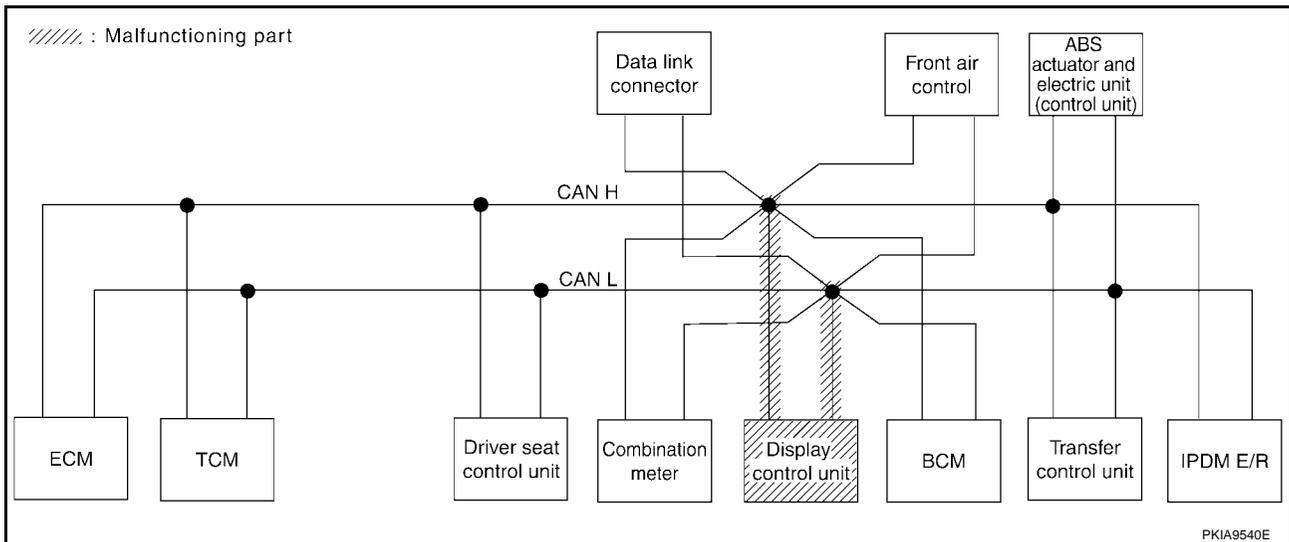
[CAN]

Case 8

Check display control unit circuit. Refer to [LAN-291, "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	Front air control	AWD/4WD /e4WD	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 CRC 1 ✓	CAN CRC 3 ✓	—	CAN CRC 5 ✓	CAN CRC 2 ✓	CAN CRC 4 ✓	—	—	CAN CRC 7 ✓	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9417E



PKIA9540E

CAN SYSTEM (TYPE 9)

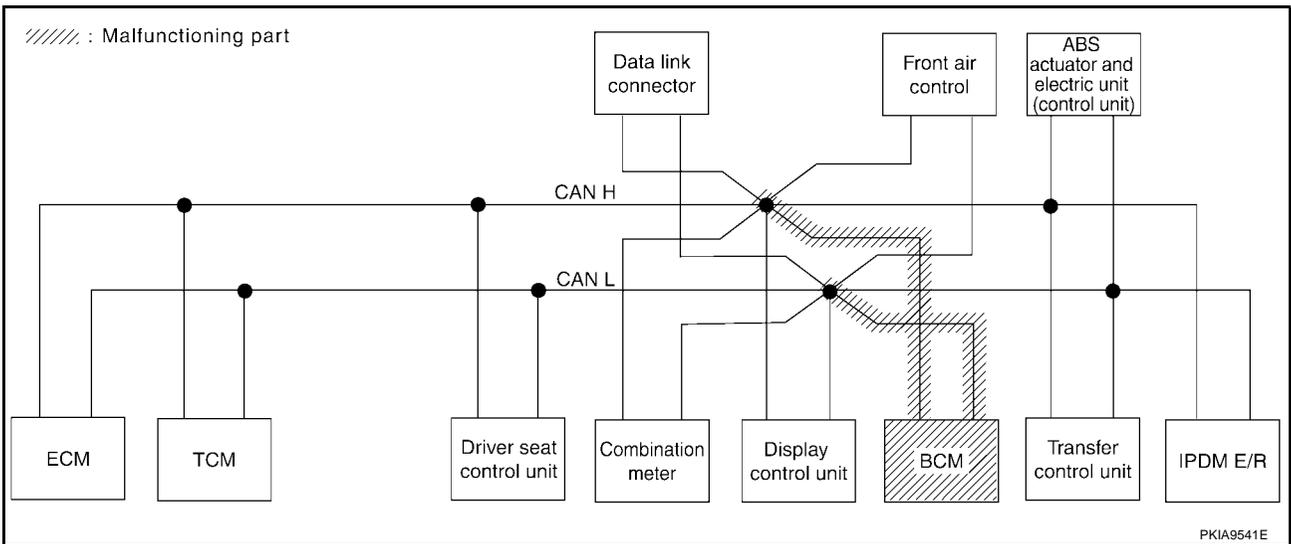
[CAN]

Case 9

Check BCM circuit. Refer to [LAN-291, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—	—	

PKIA9418E



CAN SYSTEM (TYPE 9)

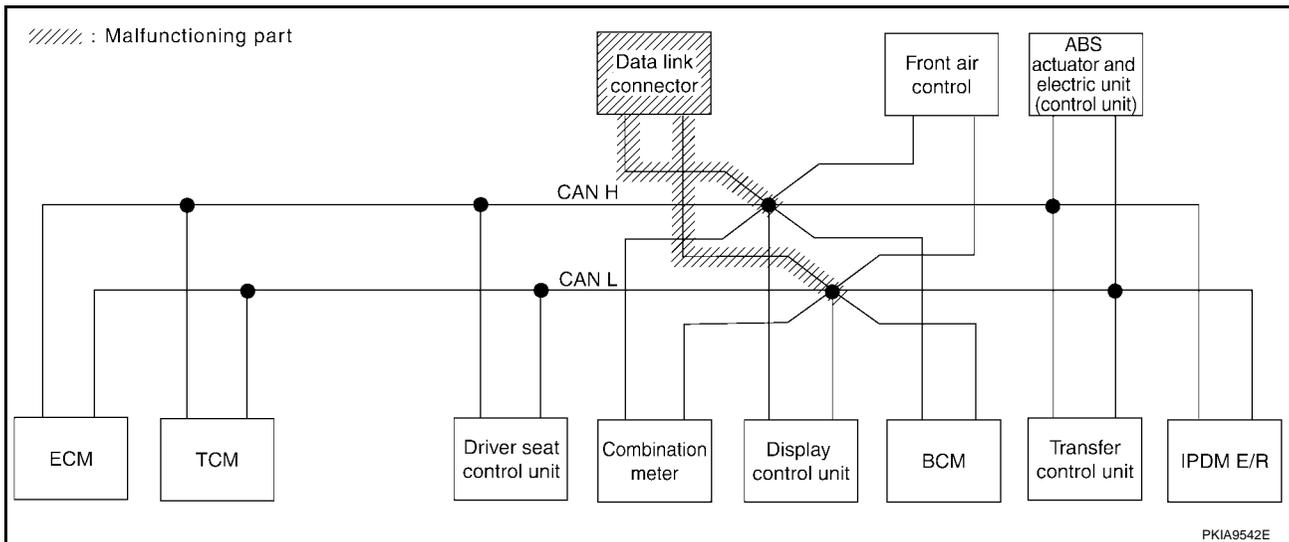
[CAN]

Case 10

Check data link connector circuit. Refer to [LAN-292, "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	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9419E



PKIA9542E

CAN SYSTEM (TYPE 9)

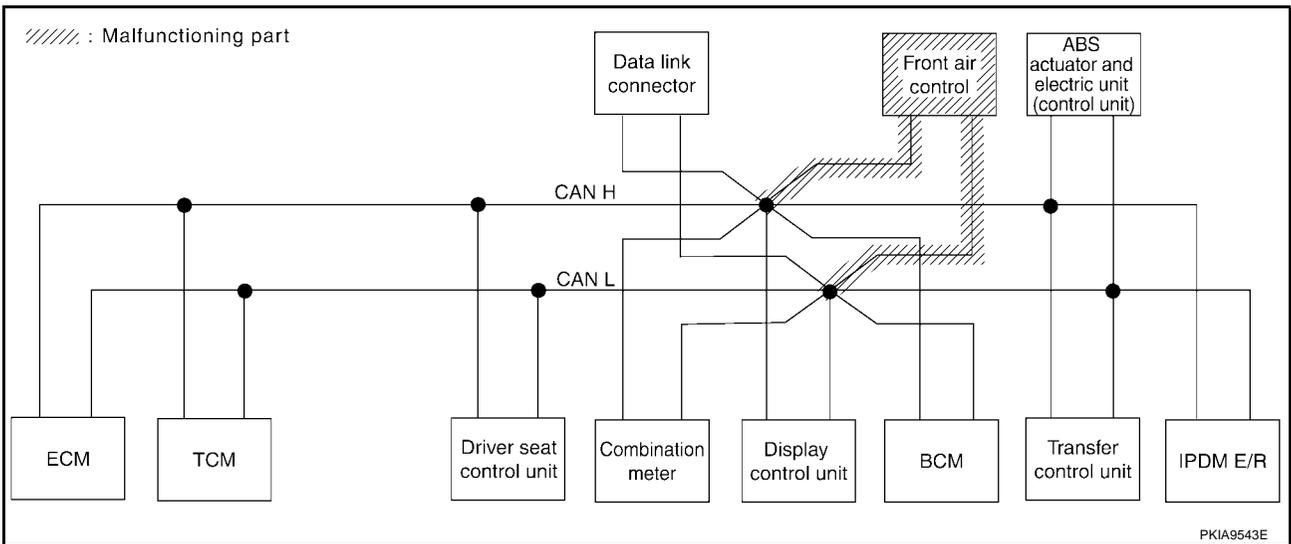
[CAN]

Case 11

Check front air control circuit. Refer to [LAN-292, "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	Front air control	AWD/4WD /e4WD	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA9420E



CAN SYSTEM (TYPE 9)

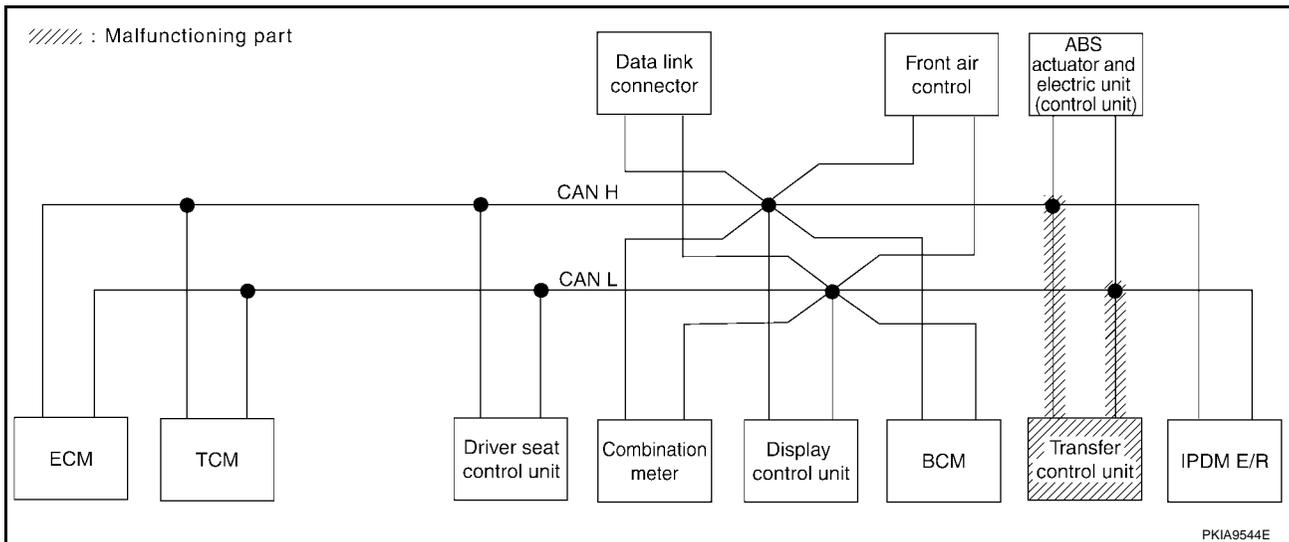
[CAN]

Case 12

Check transfer control unit circuit. Refer to [LAN-293, "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	Front air control	AWD/4WD /e4WD	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9421E



PKIA9544E

CAN SYSTEM (TYPE 9)

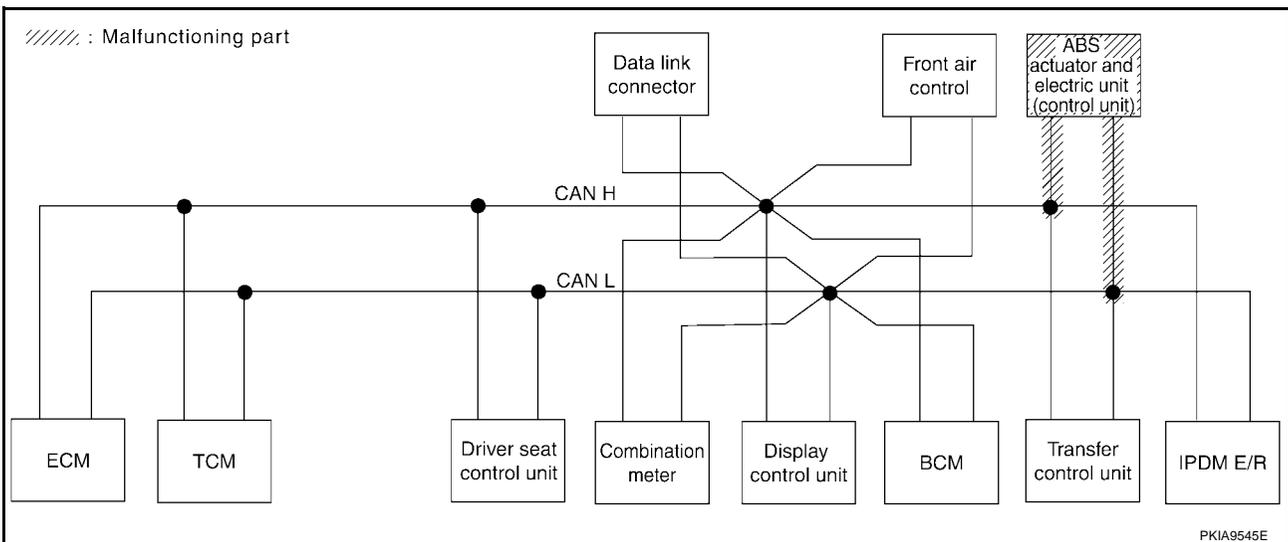
[CAN]

Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-293, "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	Front air control	AWD/4WD /e4WD	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA9422E



PKIA9545E

CAN SYSTEM (TYPE 9)

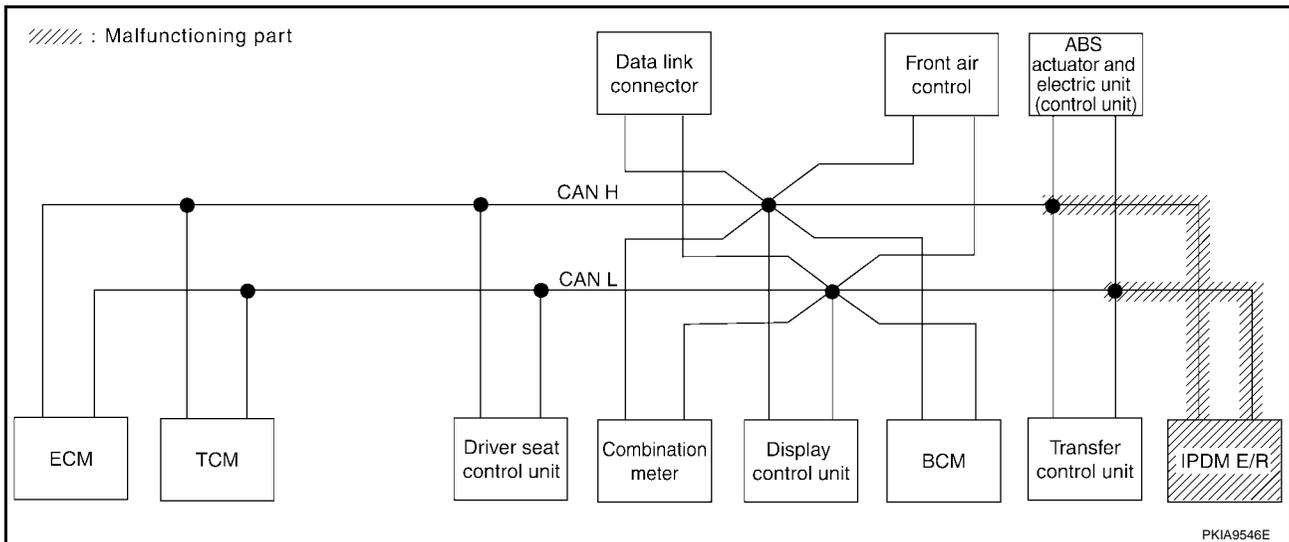
[CAN]

Case 14

Check IPDM E/R circuit. Refer to [LAN-294, "IPDM E/R Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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 ✓	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9423E



PKIA9546E

CAN SYSTEM (TYPE 9)

[CAN]

Case 15

Check CAN communication circuit. Refer to [LAN-294, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UN KN W N	—	UN KN W N	UN KN W N	UN KN W N	—	UN KN W N	—	UN KN W N	
A/T	—	NG	UN KN W N	UN KN W N	—	UN KN W N	—	—	UN KN W N	—	—	
AUTO DRIVE POS.	No indication	NG	UN KN W N	—	UN KN W N	UN KN W N	UN KN W N	—	—	—	—	
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	UN KN W N	UN KN W N	—	UN KN W N	—	—	—	—	UN KN W N	
ALL MODE AWD/4WD	—	NG	UN KN W N	UN KN W N	UN KN W N	—	—	—	—	UN KN W N	—	
ABS	—	NG	UN KN W N	UN KN W N	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UN KN W N	UN KN W N	—	—	UN KN W N	—	—	—	—	

PKIA9424E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-295, "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	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UN KN W N	—	UN KN W N	UN KN W N	UN KN W N	—	UN KN W N	—	UN KN W N	
A/T	—	NG	UN KN W N	UN KN W N	—	UN KN W N	—	—	UN KN W N	—	—	
AUTO DRIVE POS.	No indication	NG	UN KN W N	—	UN KN W N	UN KN W N	UN KN W N	—	—	—	—	
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	UN KN W N	UN KN W N	—	UN KN W N	—	—	—	—	UN KN W N	
ALL MODE AWD/4WD	—	NG	UN KN W N	UN KN W N	UN KN W N	—	—	—	—	UN KN W N	—	
ABS	—	NG	UN KN W N	UN KN W N	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UN KN W N	UN KN W N	—	—	UN KN W N	—	—	—	—	

PKIA9425E

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-295, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	—	—	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9426E

Circuit Check Between TCM and Driver Seat Control Unit

UKS001GW

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 E50
 - Harness connector B75

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).

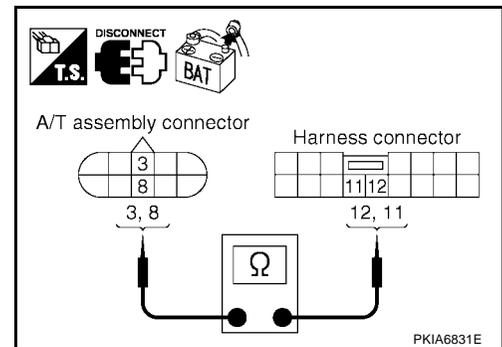
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



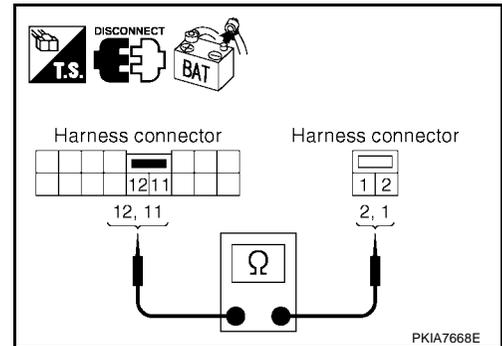
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



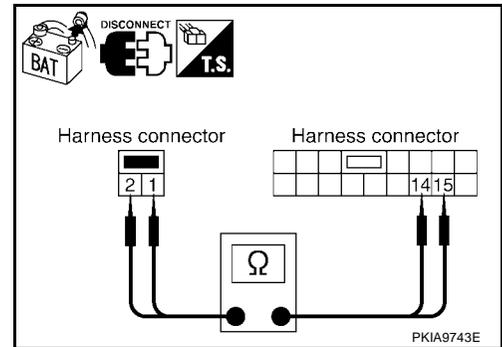
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-267, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS001GX

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.

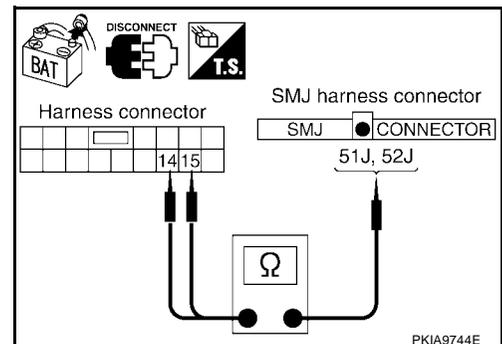
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



A
B
C
D
E
F
G
H
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J
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M

LAN

3. CHECK HARNESS FOR OPEN CIRCUIT

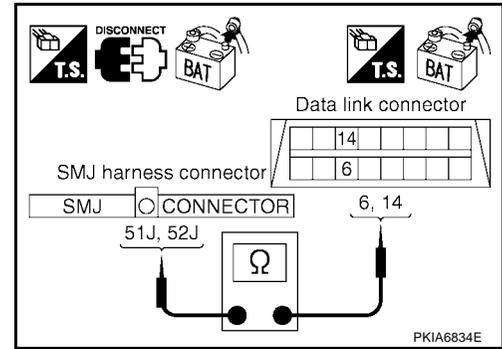
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-267, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001GY

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

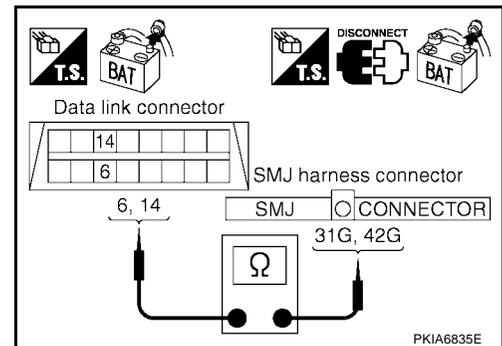
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

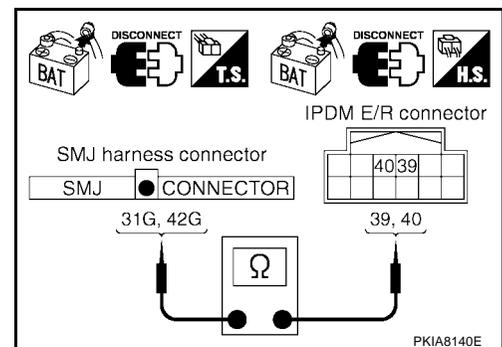
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-267, "Work Flow"](#).
- NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

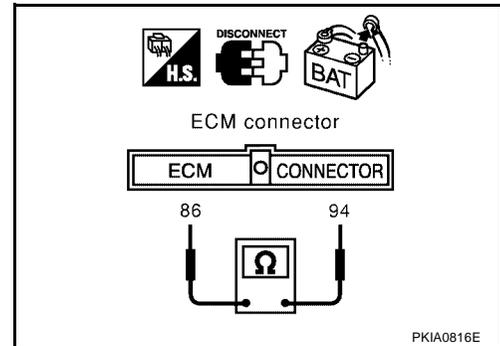
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

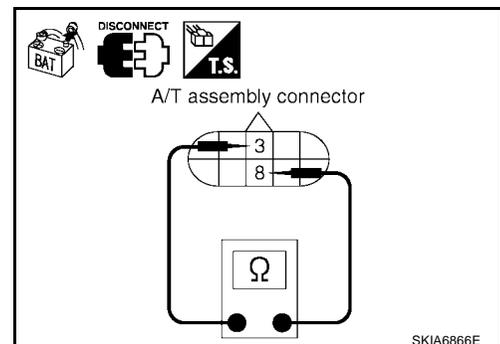
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

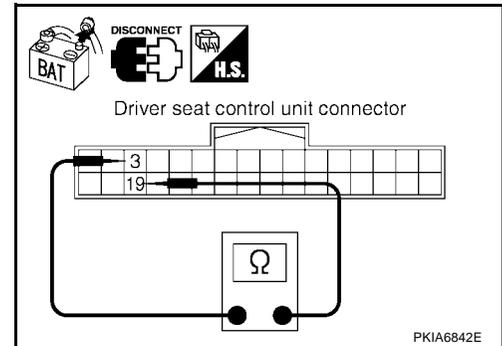
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

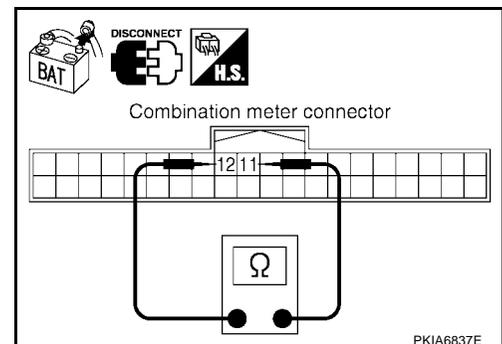
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

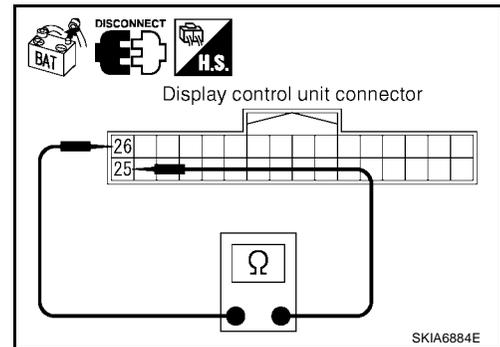
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

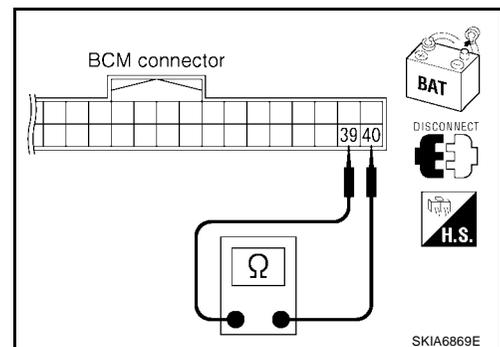
2. CHECK HARNESS FOR OPEN CIRCUIT

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-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



Data Link Connector Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

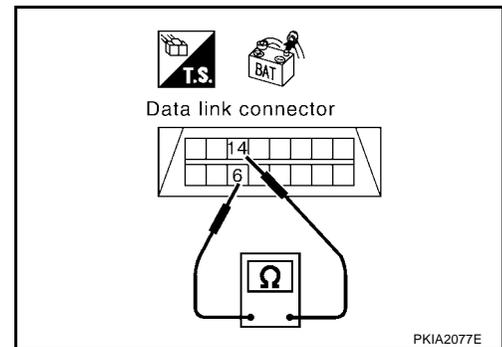
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-267, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.

**Front Air Control Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

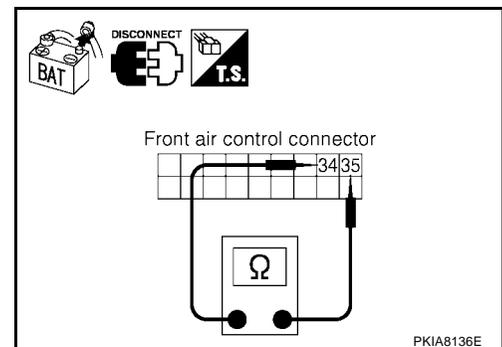
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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**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.

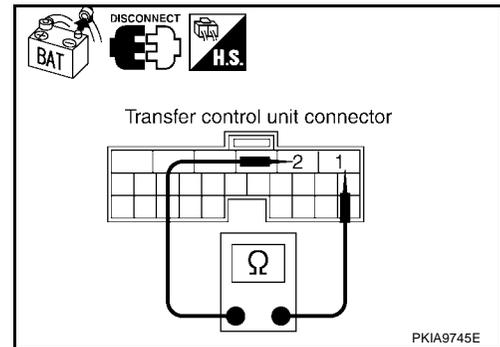
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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****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.

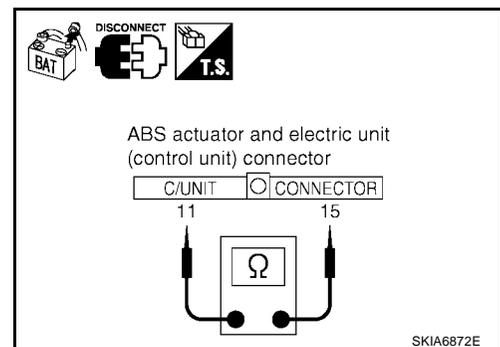
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

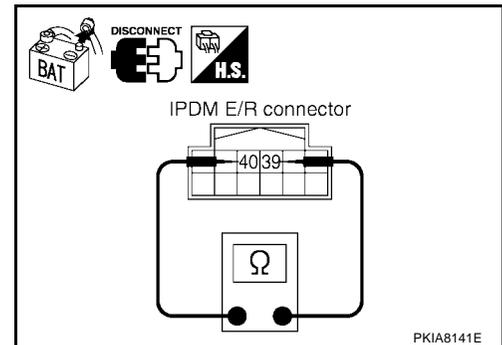
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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
 - 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.

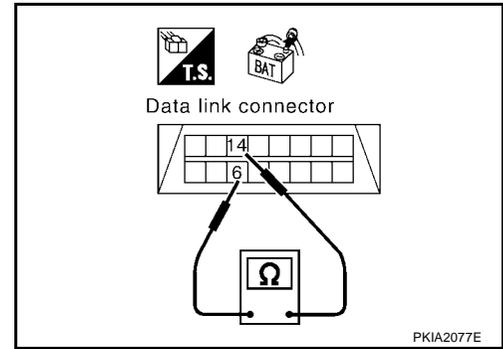
2. CHECK HARNESS FOR SHORT CIRCUIT

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

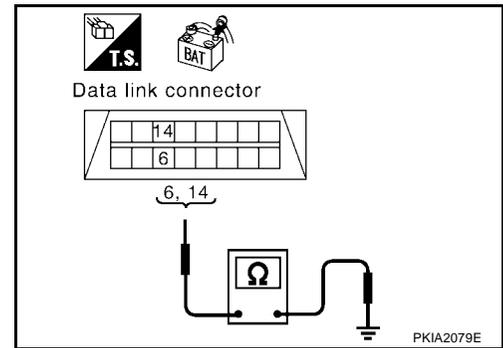
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-295, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
- NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

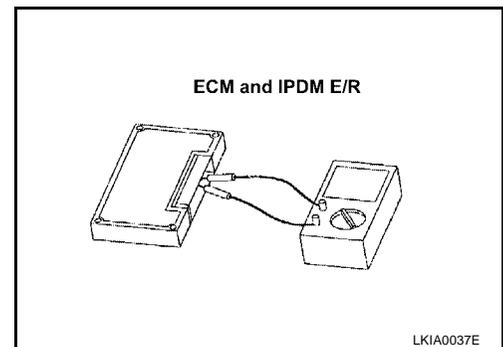
Check the following. If no malfunction is found, replace the IPDM E/R.

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

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

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

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



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CAN SYSTEM (TYPE 10)

PFP:23710

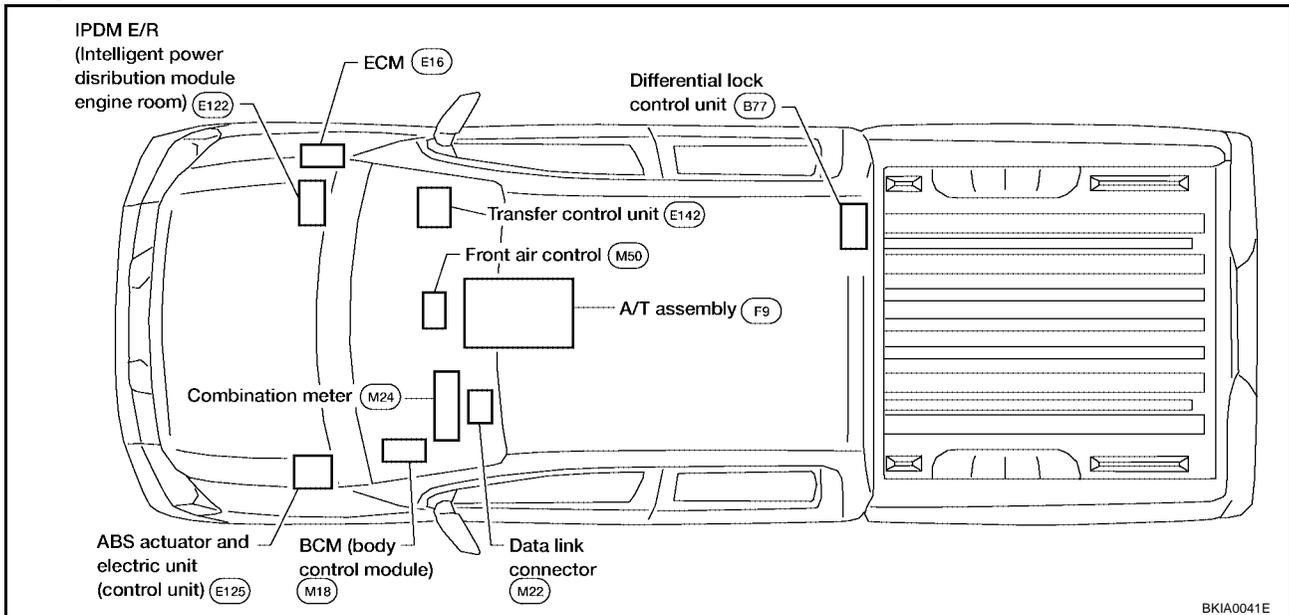
System Description

UKS001HE

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

UKS001HF

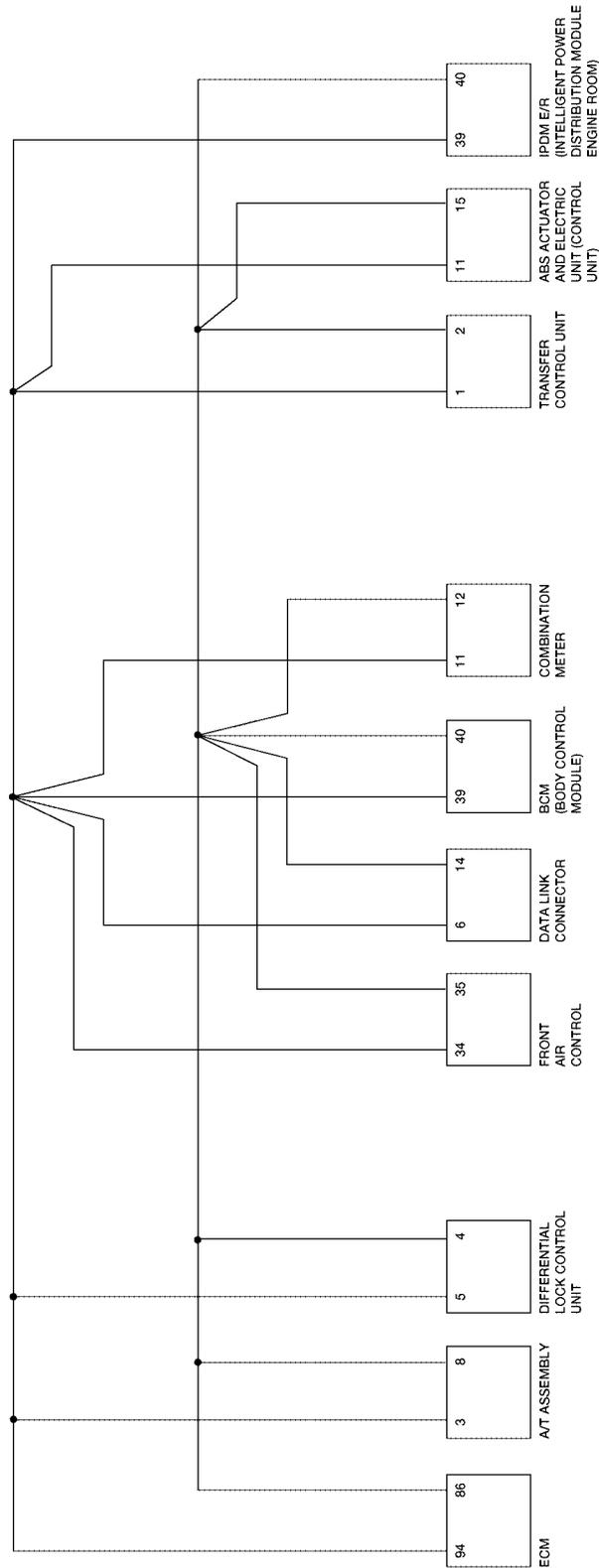


CAN SYSTEM (TYPE 10)

[CAN]

Schematic

UKS001HG



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BKWA0148E

CAN SYSTEM (TYPE 10)

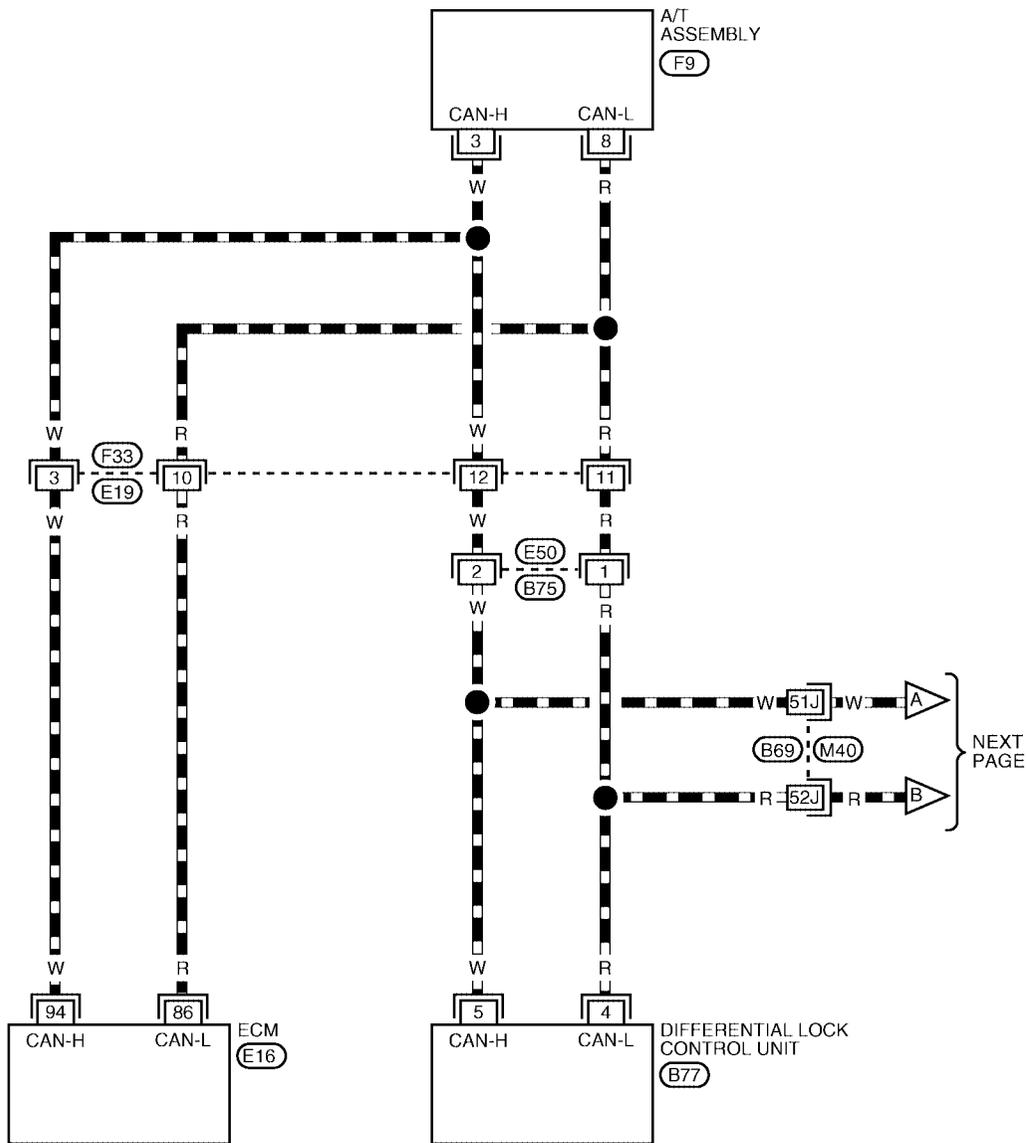
[CAN]

Wiring Diagram - CAN -

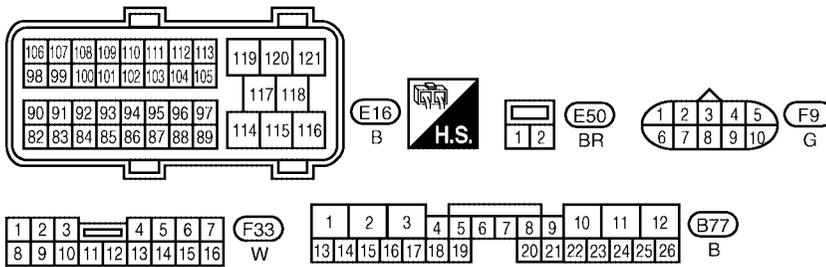
UKS001HH

LAN-CAN-28

— : DATA LINE



NEXT PAGE



REFER TO THE FOLLOWING.

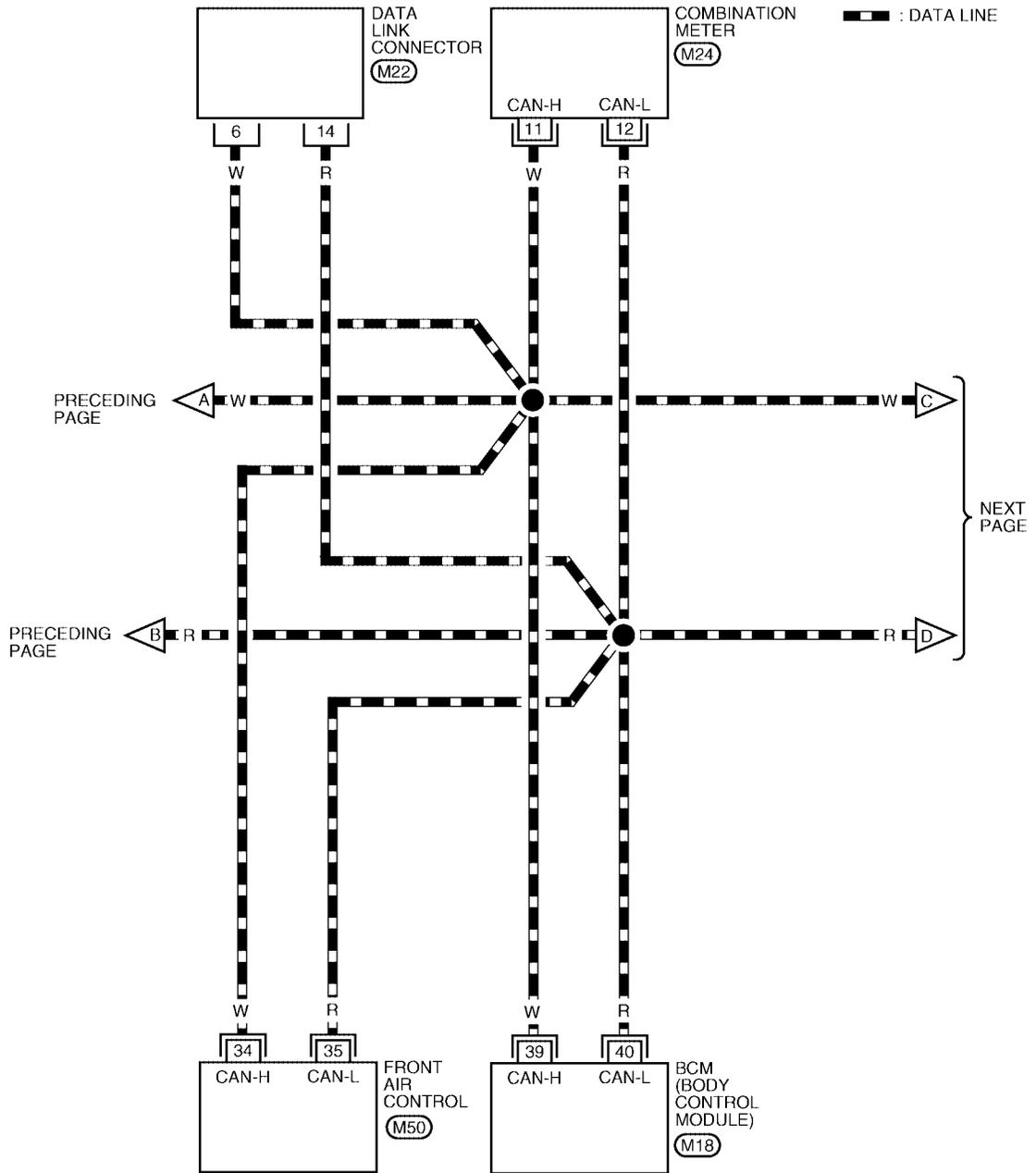
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0149E

CAN SYSTEM (TYPE 10)

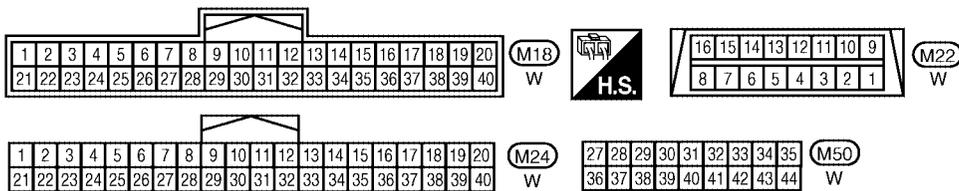
[CAN]

LAN-CAN-29



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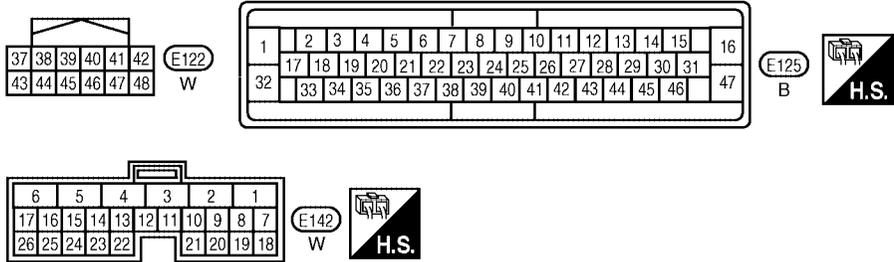
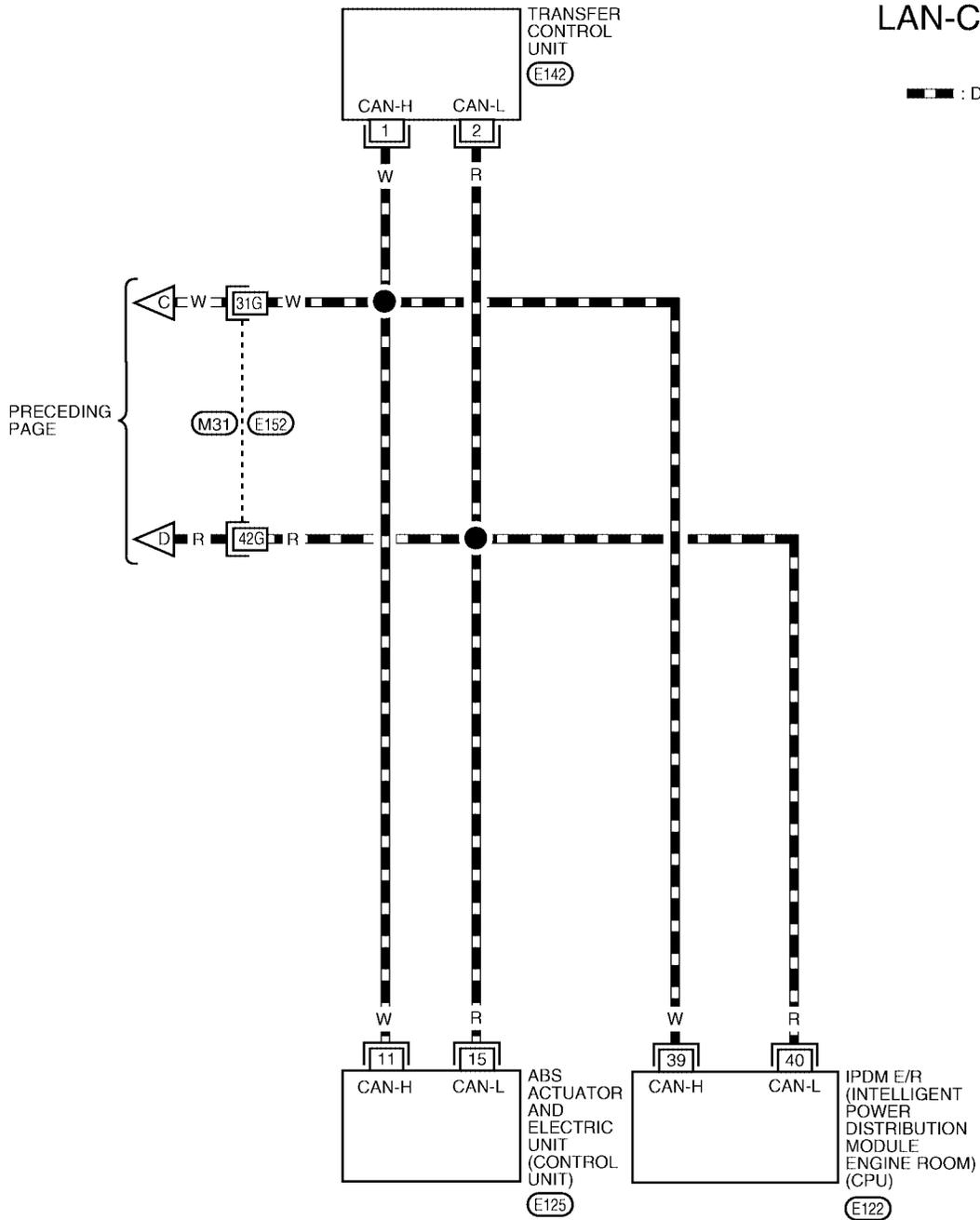
LAN



BKWA0150E

LAN-CAN-30

— : DATA LINE



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

BKWA0151E

Work Flow

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

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">NISSAN</td></tr> <tr><td colspan="2" style="text-align: center;">CONSULT-II</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">START (NISSAN BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">START (RENAULT BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">SUB MODE</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">LIGHT COPY</td></tr> </table>	NISSAN		CONSULT-II		ENGINE		START (NISSAN BASED VHCL)		START (RENAULT BASED VHCL)		SUB MODE			LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT SYSTEM</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">A/T</td></tr> <tr><td colspan="2" style="text-align: center;">ABS</td></tr> <tr><td colspan="2" style="text-align: center;">AIR BAG</td></tr> <tr><td colspan="2" style="text-align: center;">BCM</td></tr> <tr><td colspan="2" style="text-align: center;">METER A/C AMP</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT SYSTEM		ENGINE		A/T		ABS		AIR BAG		BCM		METER A/C AMP							BACK LIGHT COPY	PKIA2093E
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START (RENAULT BASED VHCL)																																						
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- Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "A/T", "DIFF LOCK", "BCM", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DTC RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">TIME</td></tr> <tr><td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td><td style="width: 20%; text-align: center;">0</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">F.F.DATA</td></tr> <tr><td colspan="2" style="text-align: center;">ERASE PRINT</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">MODE BACK LIGHT COPY</td></tr> </table>	SELF-DIAG RESULTS		DTC RESULTS		TIME		CAN COMM CIRCUIT (U1000)	0					F.F.DATA		ERASE PRINT			MODE BACK LIGHT COPY	PKIA8260E
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- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "DIFF LOCK", "BCM", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">PRSRNT</td></tr> <tr><td>INITIAL DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TRANSMIT DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TCM</td><td style="text-align: center;">OK</td></tr> <tr><td>VDC/TCS/ABS</td><td style="text-align: center;">OK</td></tr> <tr><td>METER/M&A</td><td style="text-align: center;">OK</td></tr> <tr><td>ICC</td><td style="text-align: center;">UNKWN</td></tr> <tr><td>BCM/SEC</td><td style="text-align: center;">OK</td></tr> <tr><td>IPDM E/R</td><td style="text-align: center;">OK</td></tr> <tr><td>AWD/4WD/e4WD</td><td style="text-align: center;">UNKWN</td></tr> <tr><td colspan="2" style="text-align: center;">PRINT</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">MODE BACK LIGHT COPY</td></tr> </table>	CAN DIAG SUPPORT MNTR		ENGINE		PRSRNT		INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT			Scroll Down		MODE BACK LIGHT COPY	PKIA8343E
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- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-302, "CHECK SHEET"](#) .

- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-302, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-304, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 10)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	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

CAN SYSTEM (TYPE 10)

[CAN]

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

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CHECK SHEET RESULTS (EXAMPLE)

NOTE:

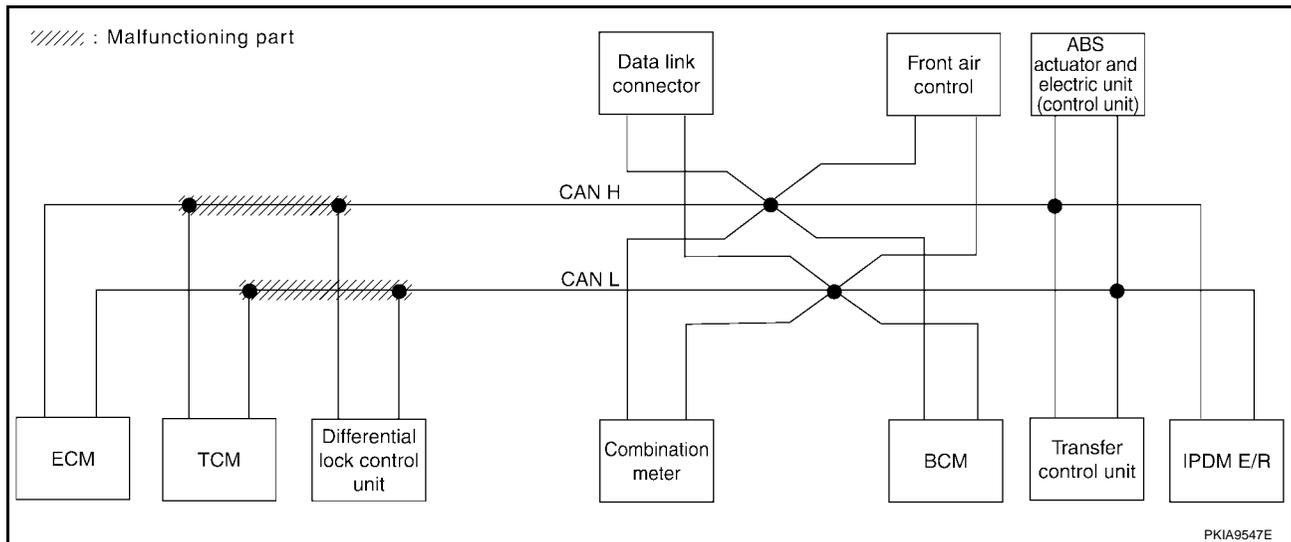
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and differential lock control unit. Refer to [LAN-317, "Circuit Check Between TCM and Differential Lock Control Unit"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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 ✓	—	
DIFF LOCK	—	NG	UNKWN	UNKWN ✓	—	—	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—	—	

PKIA9427E



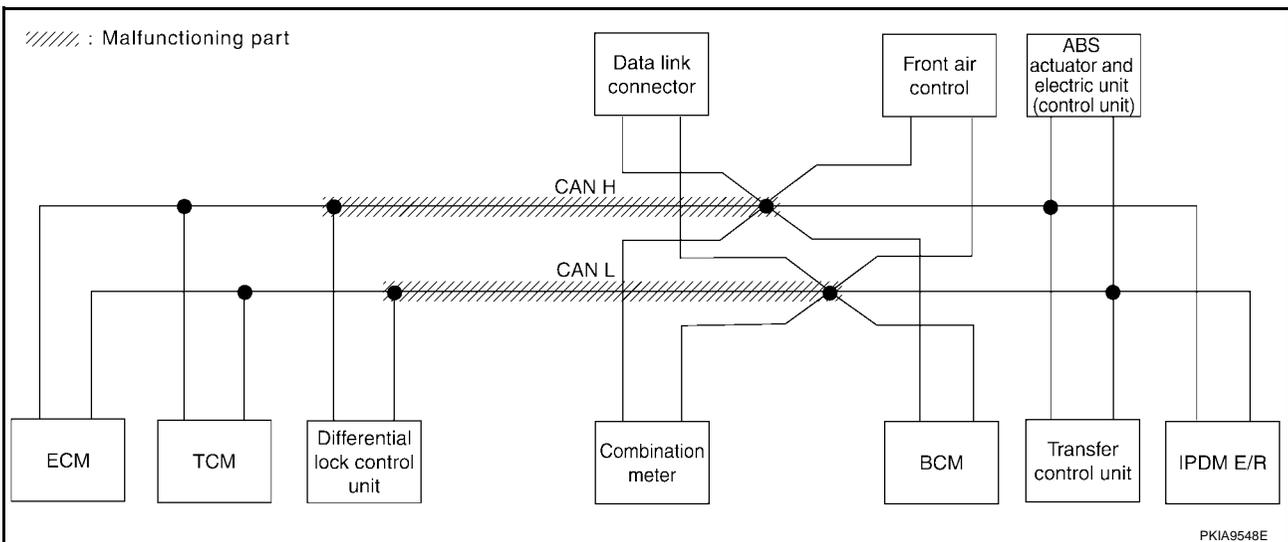
PKIA9547E

Case 2

Check harness between differential lock control unit and data link connector. Refer to [LAN-318, "Circuit Check Between Differential Lock Control Unit and Data Link Connector"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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 ✓	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN ✓	UNKWN ✓	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—	—

PKIA9428E



CAN SYSTEM (TYPE 10)

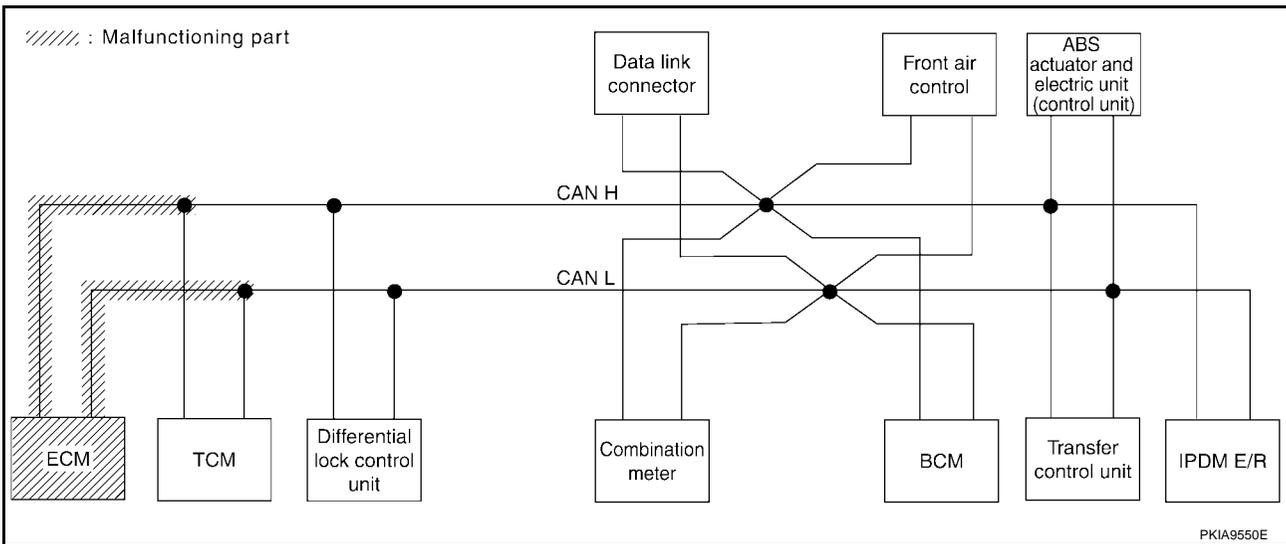
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-320, "ECM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW [✓] N	—	UNKW [✓] N	—	UNKW [✓] N				
A/T	—	NG	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	—
DIFF LOCK	—	NG	UNKW [✓] N	UNKW [✓] N	—	—	—	—	UNKW [✓] N	UNKW [✓] N	—
BCM	No indication	NG	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	—	—	UNKW [✓] N
ALL MODE AWD/4WD	—	NG	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	—	—	UNKW [✓] N	—
ABS	—	NG	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	—
IPDM E/R	No indication	—	UNKW [✓] N	UNKW [✓] N	—	—	—	UNKW [✓] N	—	—	—

PKIA9430E

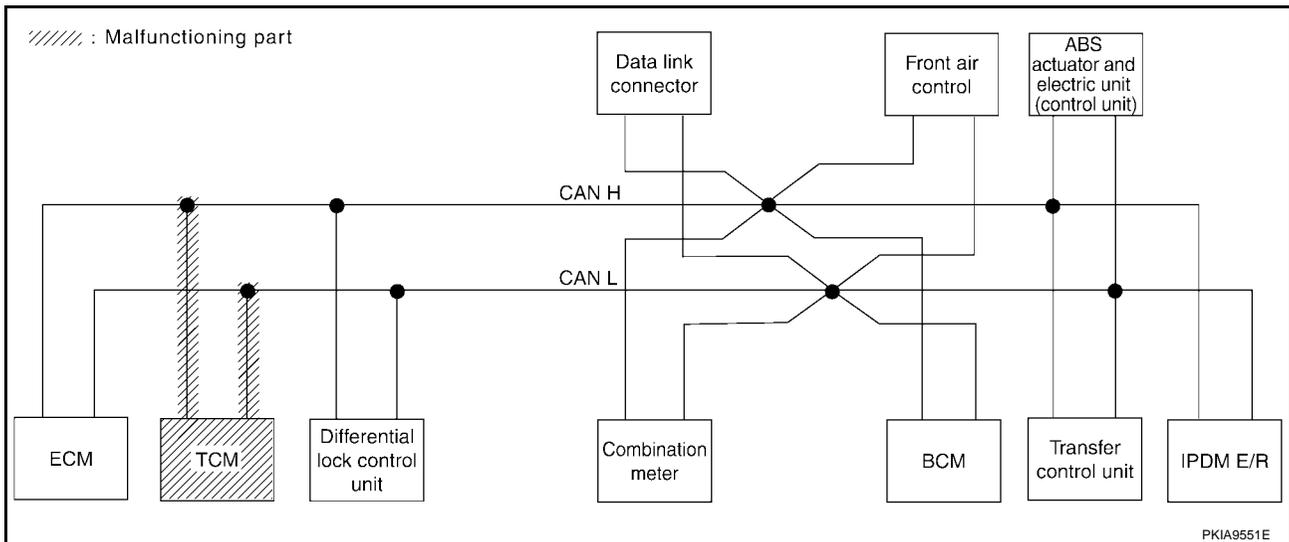


Case 5

Check TCM circuit. Refer to [LAN-320, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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 ✓	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN ✓	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—

PKIA9431E



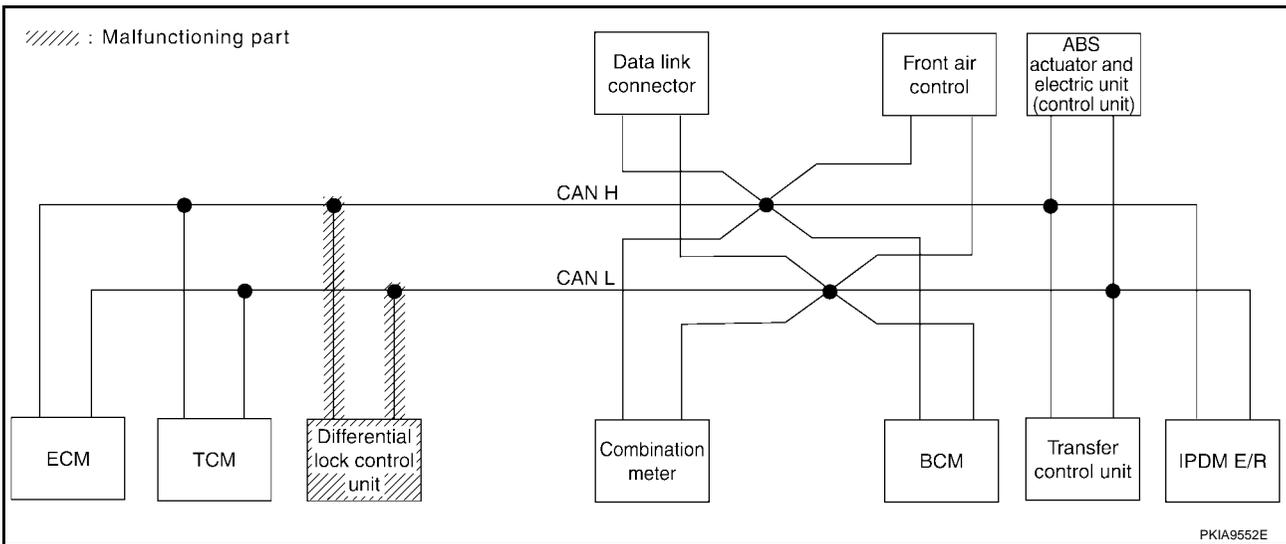
PKIA9551E

Case 6

Check differential lock control unit circuit. Refer to [LAN-321, "Differential Lock Control Unit Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	—
DIFF LOCK	—	NG	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN ✓	UNKWN ✓	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9432E

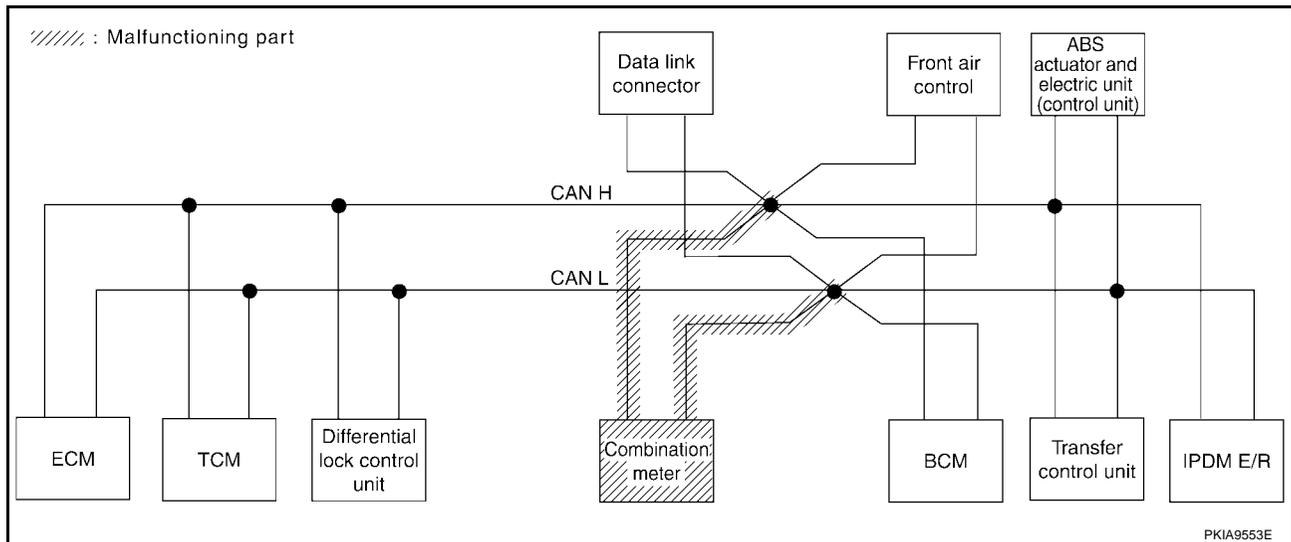


Case 7

Check combination meter circuit. Refer to [LAN-321, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9433E



CAN SYSTEM (TYPE 10)

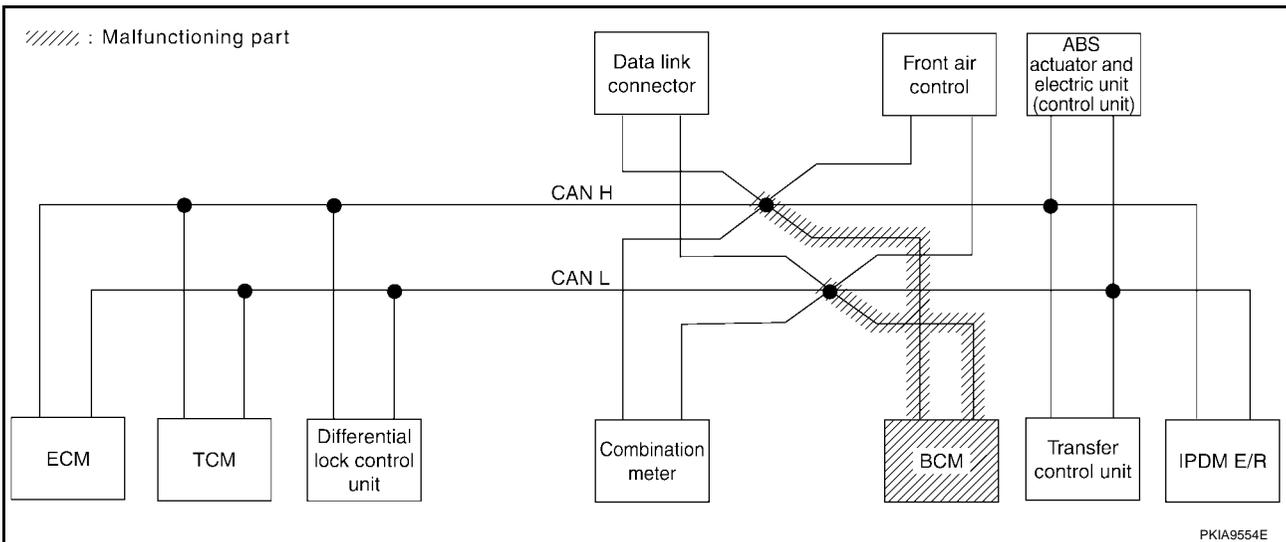
[CAN]

Case 8

Check BCM circuit. Refer to [LAN-322, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
BCM	No indication ✓	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN ✓	—	—	—	

PKIA9434E

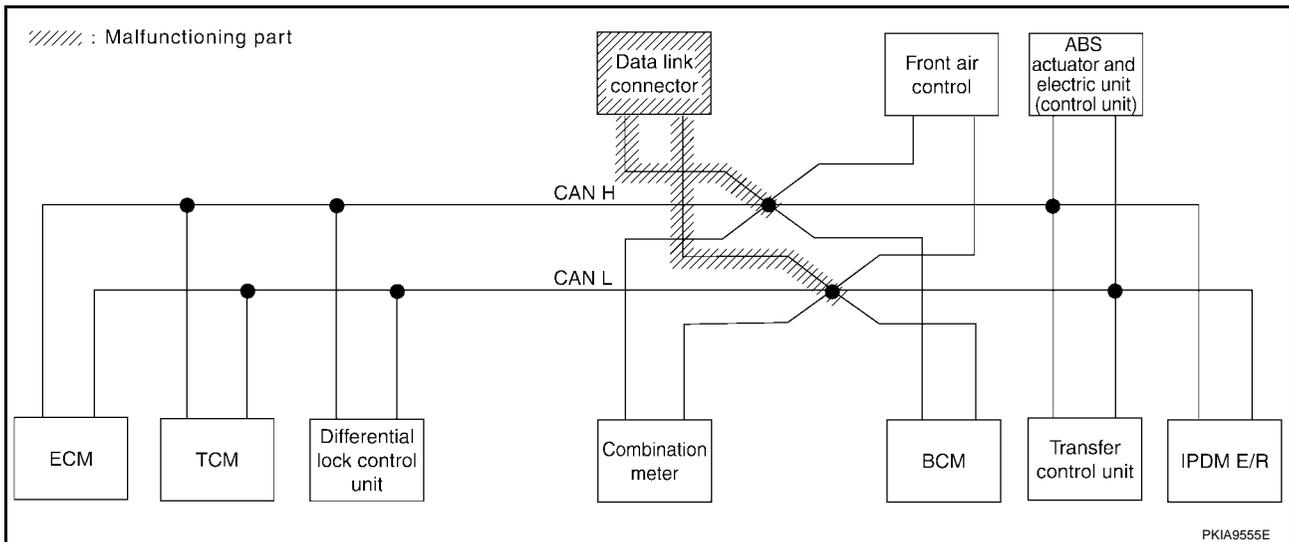


Case 9

Check data link connector circuit. Refer to [LAN-322, "Data Link Connector Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
BCM	No indication ✓	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9435E

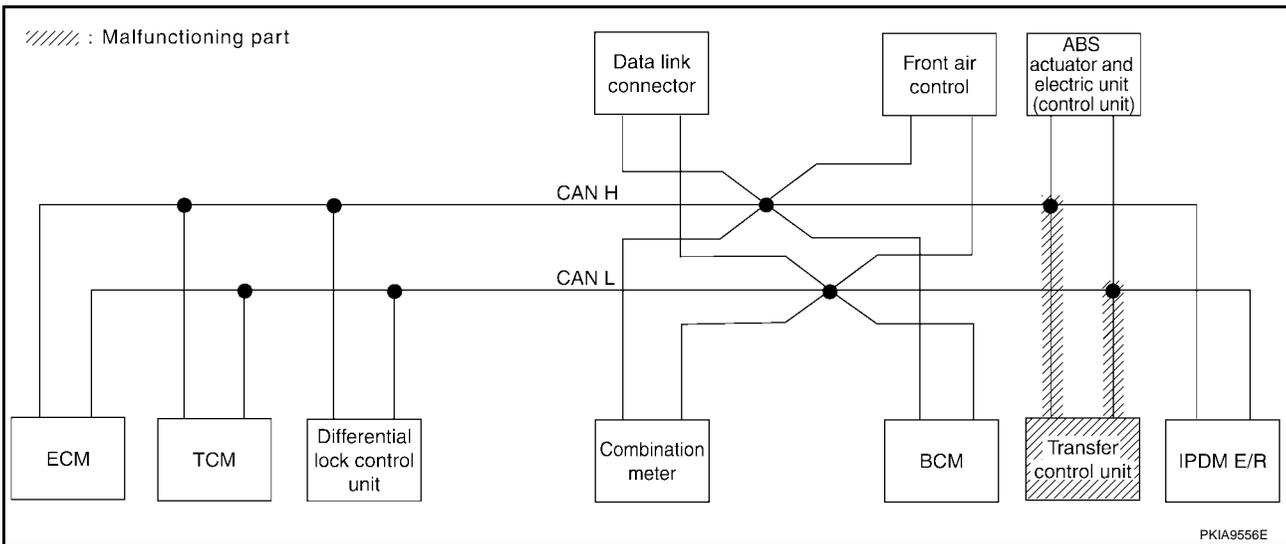


Case 10

Check transfer control unit circuit. Refer to [LAN-323, "Transfer Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—

PKIA9436E

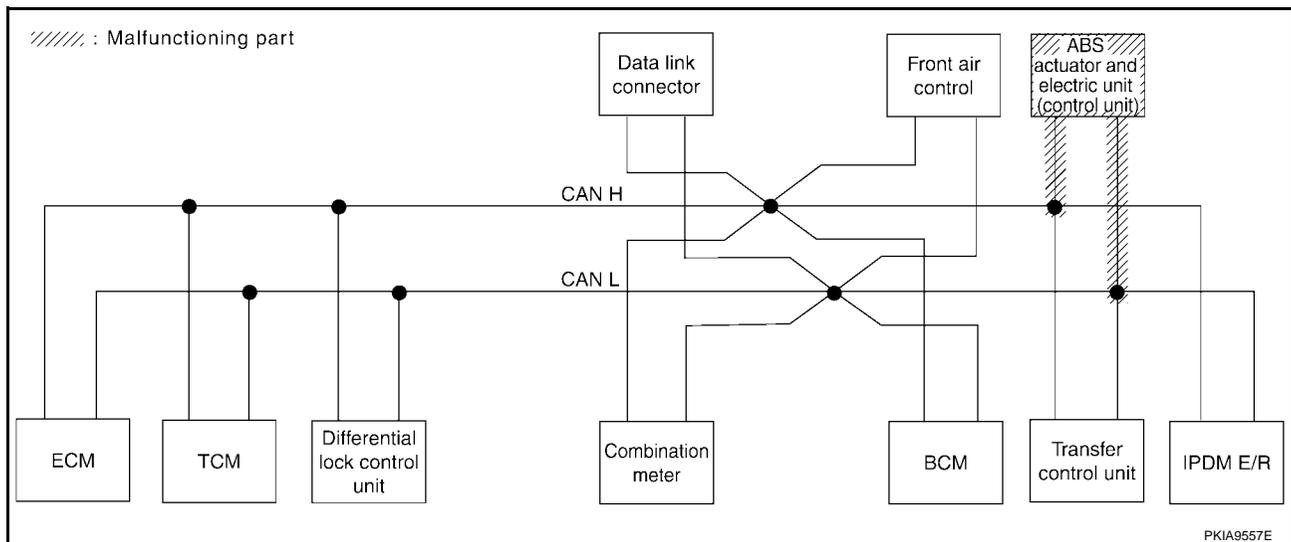


Case 11

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-323, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9437E



PKIA9557E

CAN SYSTEM (TYPE 10)

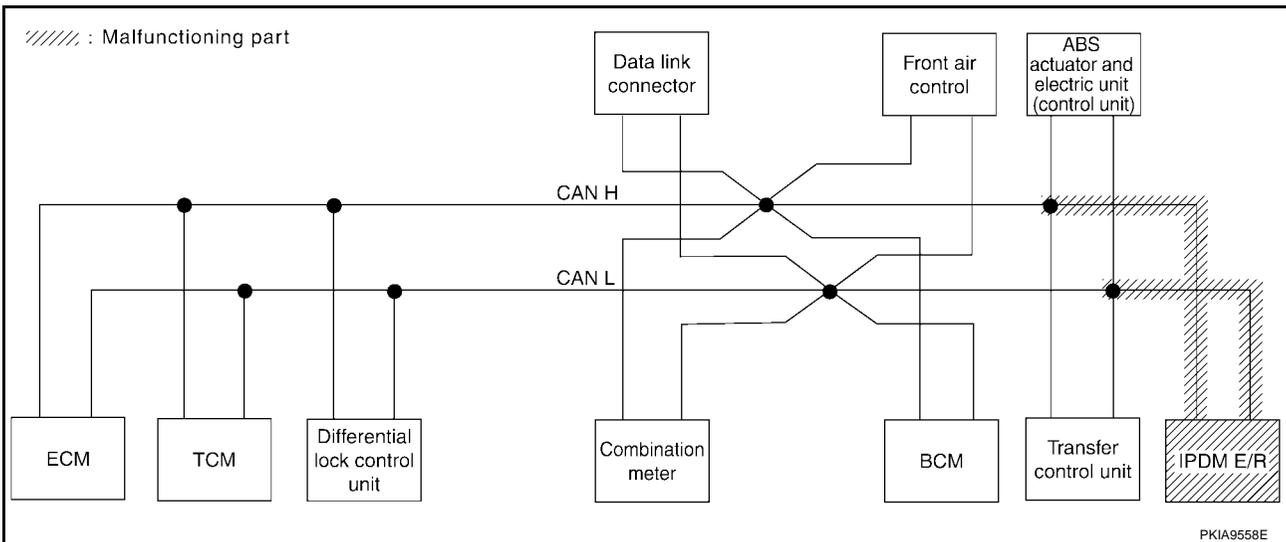
[CAN]

Case 12

Check IPDM E/R circuit. Refer to [LAN-324, "IPDM E/R Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—

PKIA9438E



PKIA9558E

Case 13

Check CAN communication circuit. Refer to [LAN-324, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								IPDM E/R
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS		
ENGINE	-	NG	UNKW N	-	UNKW N	-	UNKW N					
A/T	-	NG	UNKW N	UNKW N	-	-	UNKW N	-	UNKW N	UNKW N	UNKW N	-
DIFF LOCK	-	NG	UNKW N	UNKW N	-	-	-	-	UNKW N	UNKW N	UNKW N	-
BCM	No indication	NG	UNKW N	UNKW N	-	-	UNKW N	-	-	-	-	UNKW N
ALL MODE AWD/4WD	-	NG	UNKW N	UNKW N	UNKW N	-	-	-	-	-	UNKW N	-
ABS	-	NG	UNKW N	UNKW N	UNKW N	UNKW N	-	-	UNKW N	-	-	-
IPDM E/R	No indication	-	UNKW N	UNKW N	-	-	-	UNKW N	-	-	-	-

PKIA9439E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-325, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								IPDM E/R
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS		
ENGINE	-	NG	UNKW N	-	UNKW N	-	UNKW N					
A/T	-	NG	UNKW N	UNKW N	-	-	UNKW N	-	UNKW N	UNKW N	UNKW N	-
DIFF LOCK	-	NG	UNKW N	UNKW N	-	-	-	-	UNKW N	UNKW N	UNKW N	-
BCM	No indication	NG	UNKW N	UNKW N	-	-	UNKW N	-	-	-	-	UNKW N
ALL MODE AWD/4WD	-	NG	UNKW N	UNKW N	UNKW N	-	-	-	-	-	UNKW N	-
ABS	-	NG	UNKW N	UNKW N	UNKW N	UNKW N	-	-	UNKW N	-	-	-
IPDM E/R	No indication	-	UNKW N	UNKW N	-	-	-	UNKW N	-	-	-	-

PKIA9440E

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-325, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9441E

Circuit Check Between TCM and Differential Lock Control Unit

UKS0020I

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 E50
 - Harness connector B75

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).

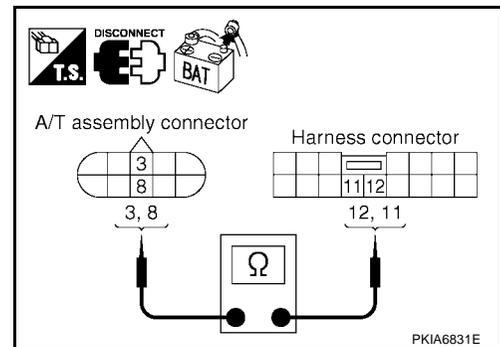
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



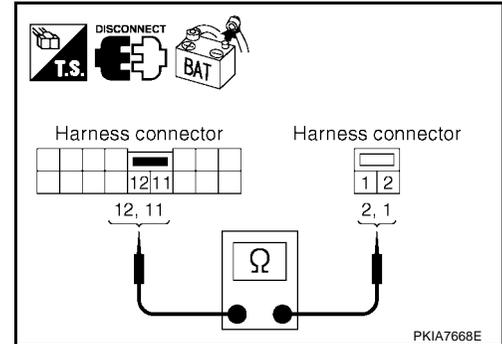
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



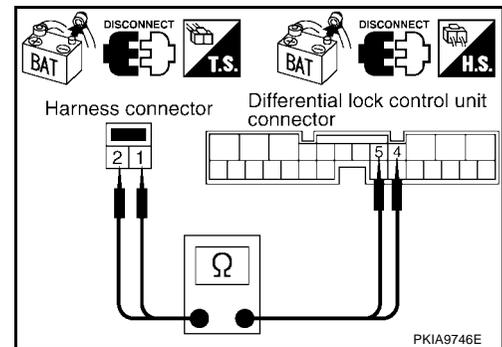
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and differential lock control unit harness connector B77 terminals 5 (W), 4 (R).

2 (W) - 5 (W) : Continuity should exist.
1 (R) - 4 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-301, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Differential Lock Control Unit and Data Link Connector

UKS001HJ

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.

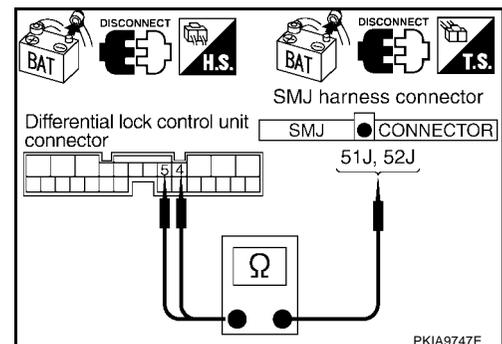
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector and harness connector B69.
2. Check continuity between differential lock control unit harness connector B77 terminals 5 (W), 4 (R) and harness connector B69 terminals 51J (W), 52J (R).

5 (W) - 51J (W) : Continuity should exist.
4 (R) - 52J (R) : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

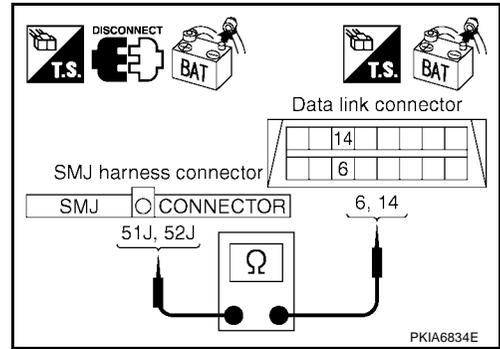
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-301, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS001HK

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

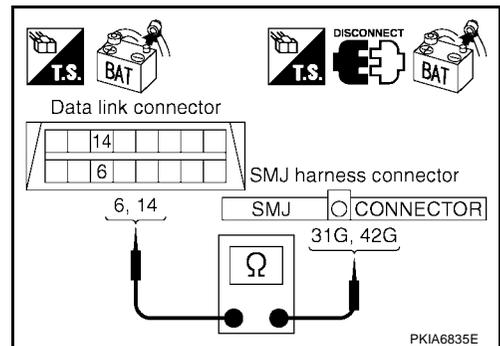
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

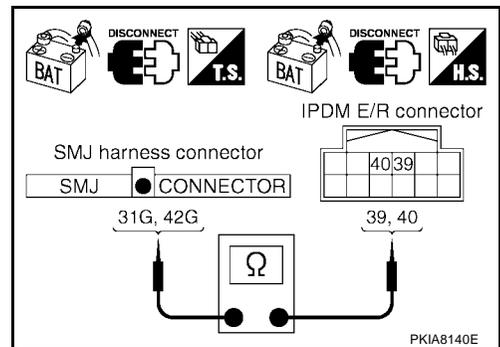
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-301, "Work Flow"](#).
- NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

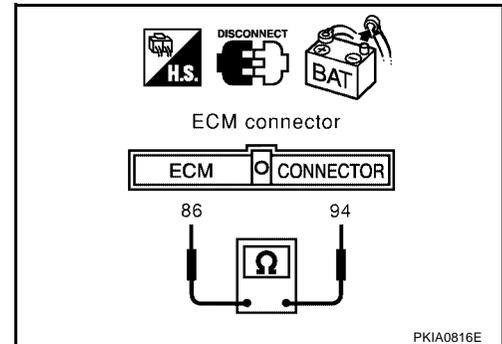
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

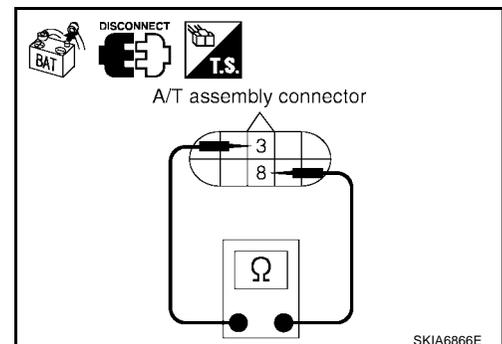
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Differential Lock Control Unit Circuit Check**1. CHECK CONNECTOR**

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

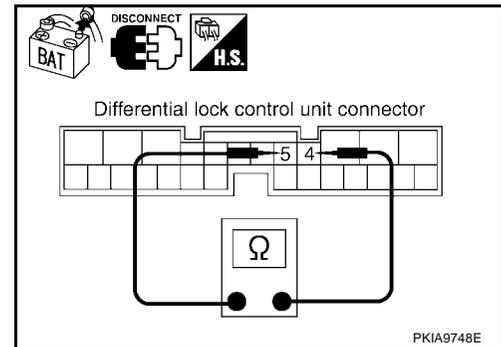
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector.
2. Check resistance between differential lock control unit harness connector B77 terminals 5 (W) and 4 (R).

5 (W) - 4 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace differential lock control unit.
 NG >> Repair harness between differential lock control unit and harness connector B75.

**Combination Meter Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

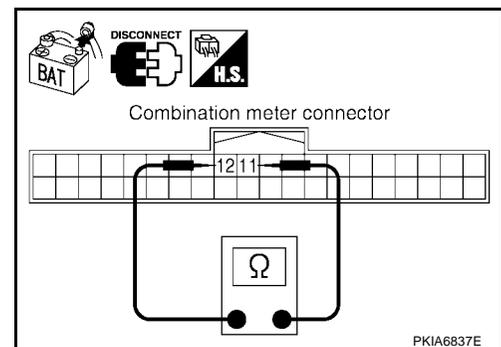
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



BCM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

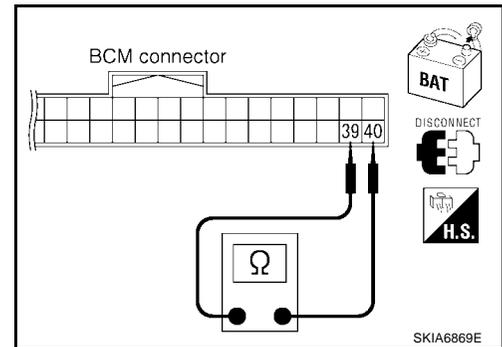
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.

**Data Link Connector Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

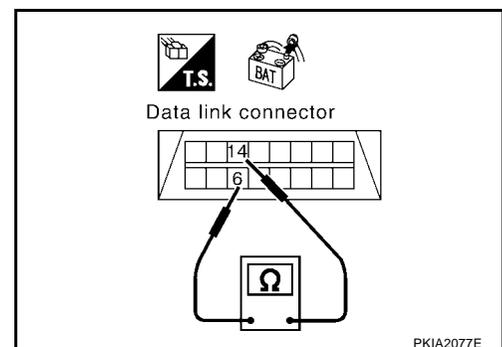
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-301, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Transfer Control Unit Circuit Check**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.

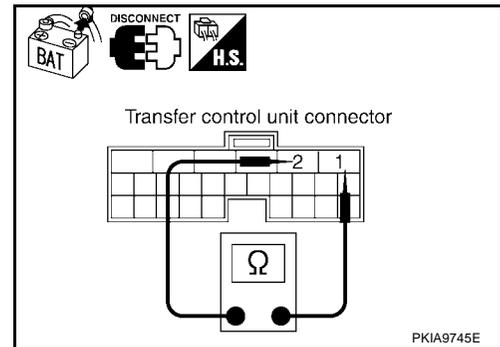
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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****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.

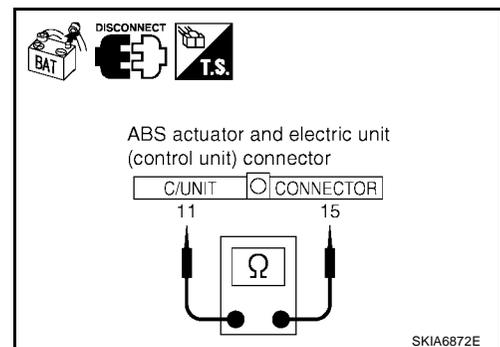
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

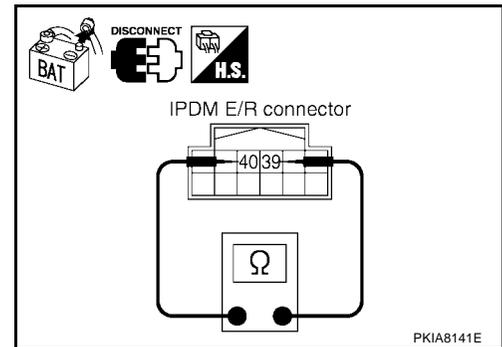
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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
 - Differential lock control unit
 - Combination meter
 - BCM
 - 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.

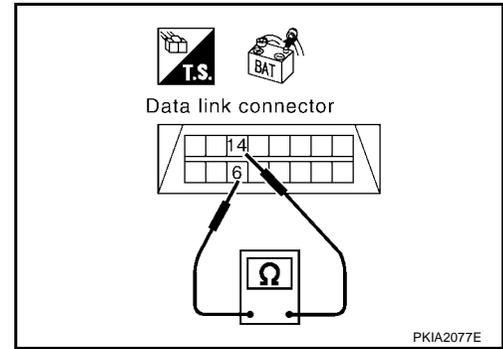
2. CHECK HARNESS FOR SHORT CIRCUIT

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

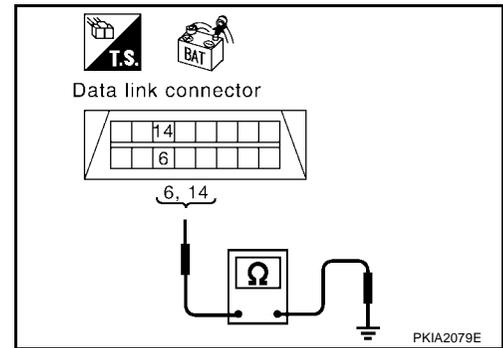
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-325, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
- NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

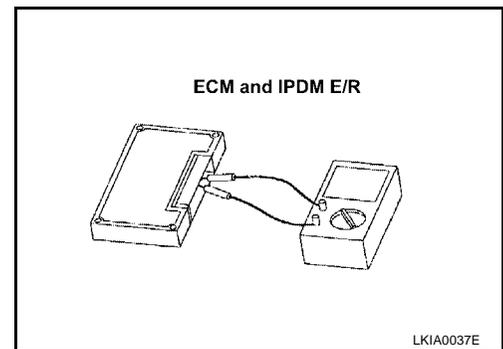
Check the following. If no malfunction is found, replace the IPDM E/R.

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

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

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

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



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CAN SYSTEM (TYPE 11)

PFP:23710

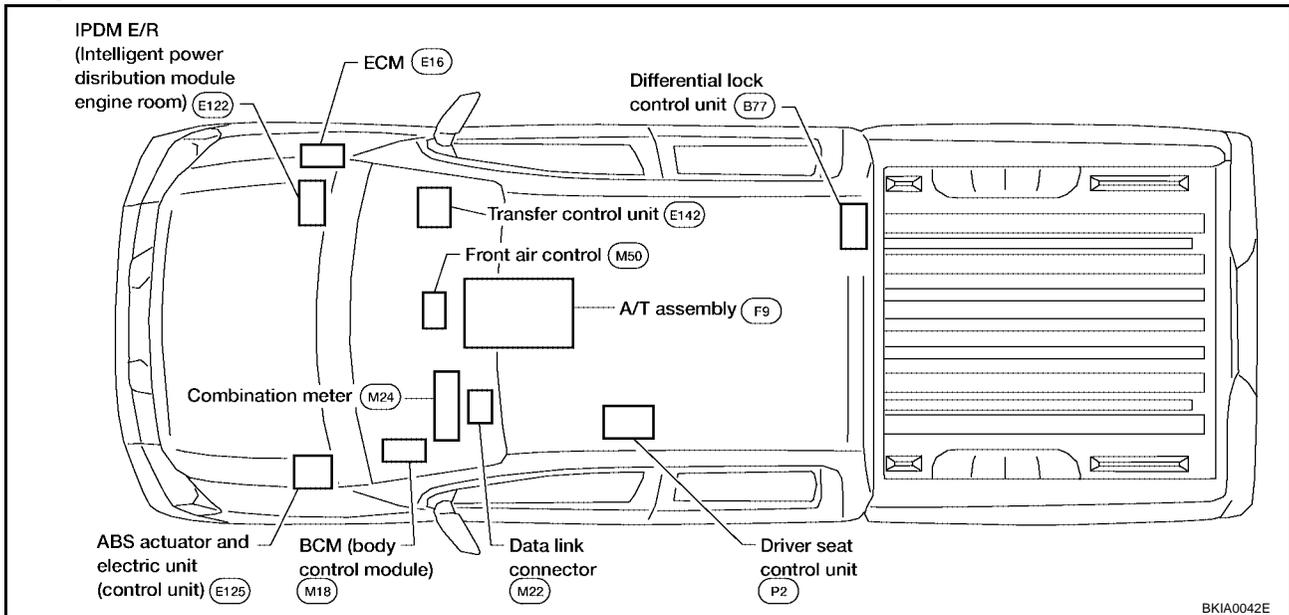
System Description

UKS001HX

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

UKS001HY

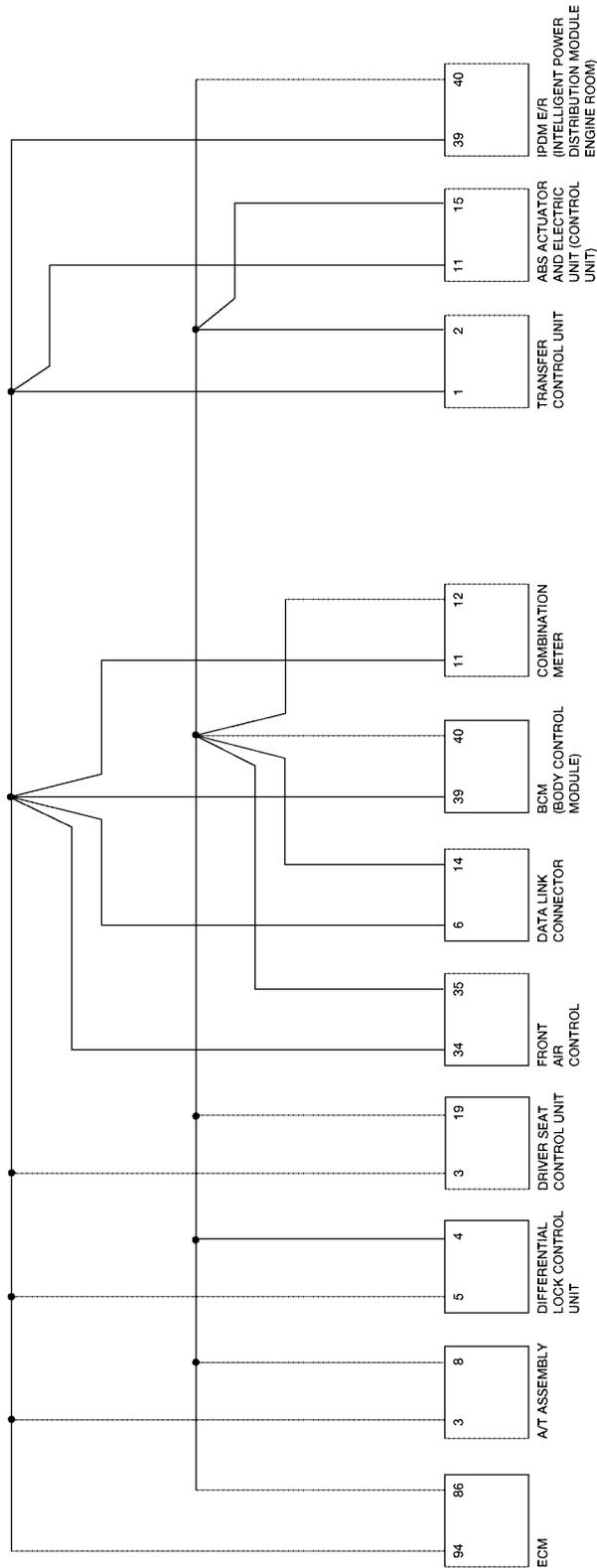


CAN SYSTEM (TYPE 11)

[CAN]

Schematic

UKS001HZ



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BKWA0152E

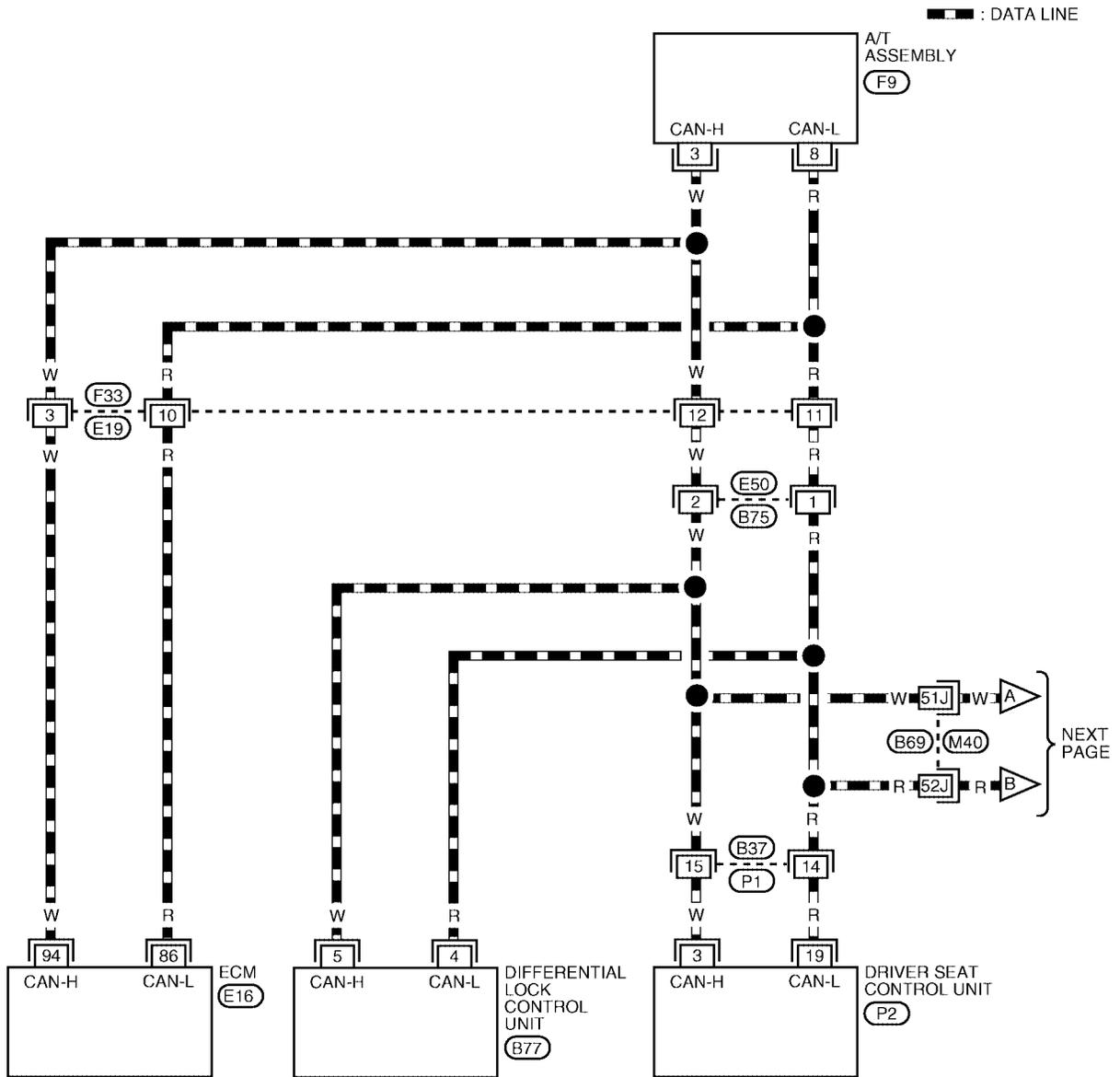
CAN SYSTEM (TYPE 11)

[CAN]

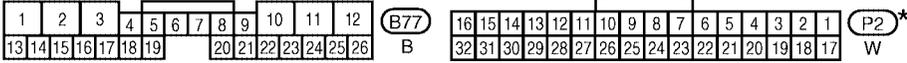
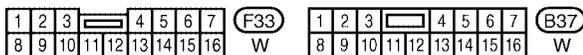
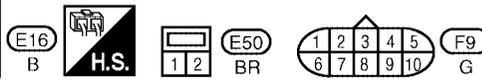
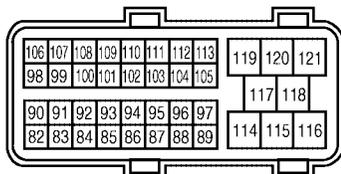
UKS00110

Wiring Diagram - CAN -

LAN-CAN-31



NEXT PAGE



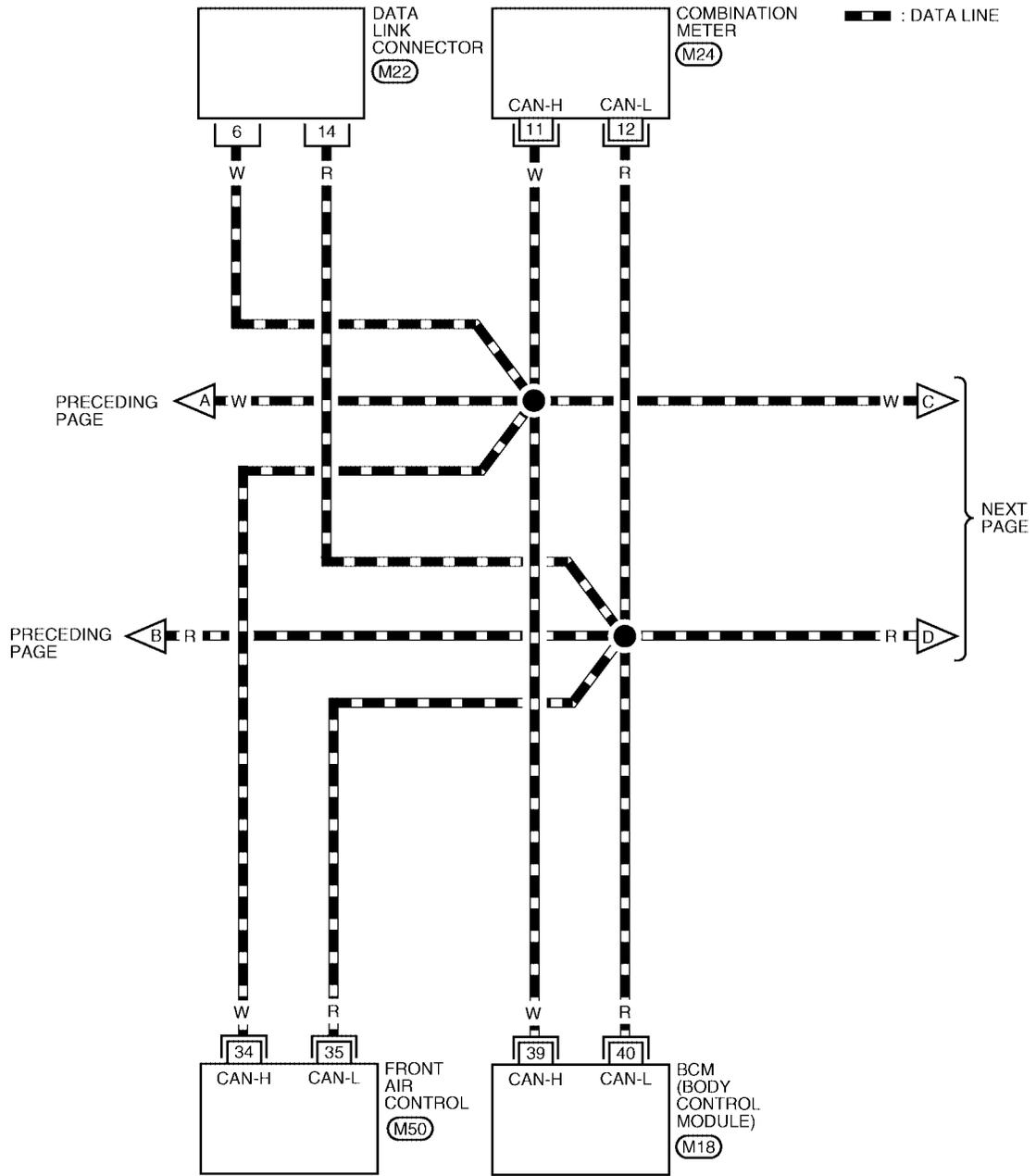
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

REFER TO THE FOLLOWING.

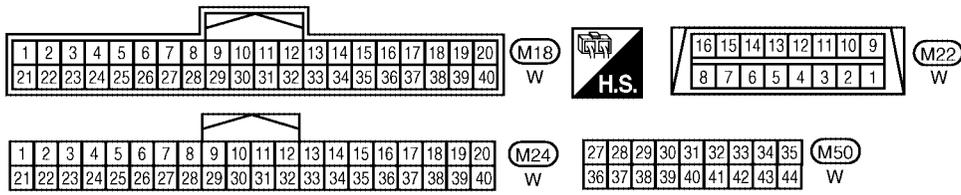
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0153E

LAN-CAN-32



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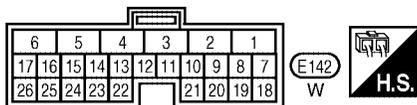
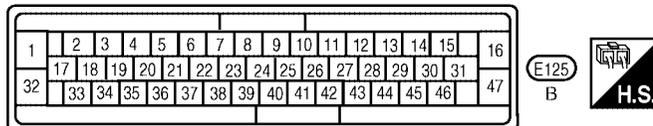
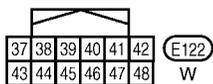
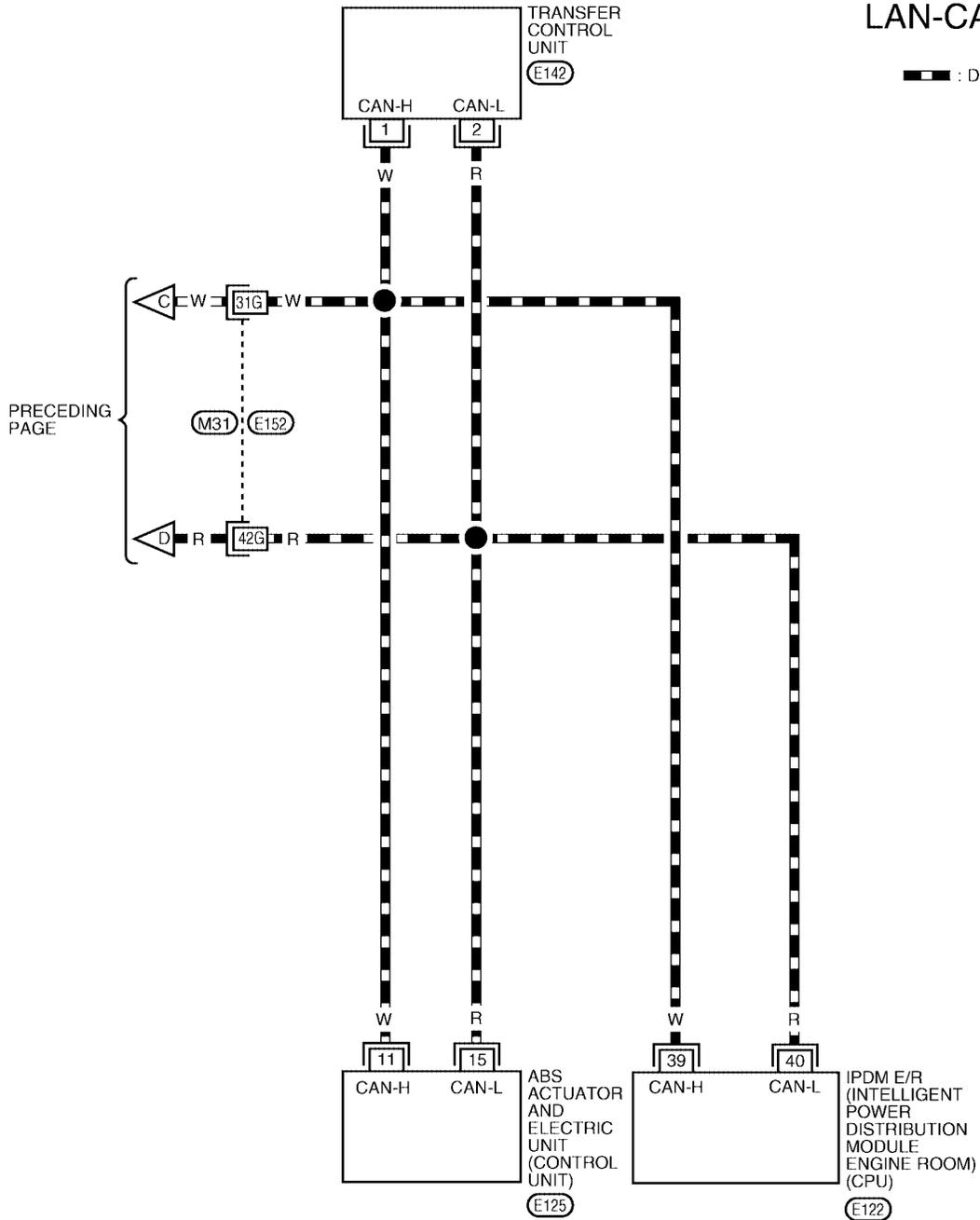
BKWA0154E

CAN SYSTEM (TYPE 11)

[CAN]

LAN-CAN-33

▬ : DATA LINE



REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0155E

Work Flow

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

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">NISSAN</td></tr> <tr><td colspan="2" style="text-align: center;">CONSULT-II</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">START (NISSAN BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">START (RENAULT BASED VHCL)</td></tr> <tr><td colspan="2" style="text-align: center;">SUB MODE</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">LIGHT COPY</td></tr> </table>	NISSAN		CONSULT-II		ENGINE		START (NISSAN BASED VHCL)		START (RENAULT BASED VHCL)		SUB MODE			LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT SYSTEM</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">A/T</td></tr> <tr><td colspan="2" style="text-align: center;">ABS</td></tr> <tr><td colspan="2" style="text-align: center;">AIR BAG</td></tr> <tr><td colspan="2" style="text-align: center;">BCM</td></tr> <tr><td colspan="2" style="text-align: center;">METER A/C AMP</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT SYSTEM		ENGINE		A/T		ABS		AIR BAG		BCM		METER A/C AMP							BACK LIGHT COPY	PKIA2093E
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CONSULT-II																																						
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START (RENAULT BASED VHCL)																																						
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AIR BAG																																						
BCM																																						
METER A/C AMP																																						
	BACK LIGHT COPY																																					

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

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DTC RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">TIME</td></tr> <tr><td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td><td style="width: 20%; text-align: center;">0</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">F.F.DATA</td></tr> <tr><td colspan="2" style="text-align: center;">ERASE PRINT</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">MODE BACK LIGHT COPY</td></tr> </table>	SELF-DIAG RESULTS		DTC RESULTS		TIME		CAN COMM CIRCUIT (U1000)	0					F.F.DATA		ERASE PRINT			MODE BACK LIGHT COPY	PKIA8260E
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- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "DIFF LOCK", "AUTO DRIVE POS.", "BCM", "ALL MODE AWD/4WD", "ABS" and "IPDM E/R" displayed on CONSULT-II.

(Example)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td colspan="2" style="text-align: center;">WORK SUPPORT</td></tr> <tr><td colspan="2" style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR</td></tr> <tr><td colspan="2" style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ACTIVE TEST</td></tr> <tr><td colspan="2" style="text-align: center;"> </td></tr> <tr><td colspan="2" style="text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE		WORK SUPPORT		SELF-DIAG RESULTS		DATA MONITOR		DATA MONITOR (SPEC)		CAN DIAG SUPPORT MNTR		ACTIVE TEST				Scroll Down			BACK LIGHT COPY	➔	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td colspan="2" style="text-align: center;">ENGINE</td></tr> <tr><td colspan="2" style="text-align: center;">PRSNR</td></tr> <tr><td>INITIAL DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TRANSMIT DIAG</td><td style="text-align: center;">OK</td></tr> <tr><td>TCM</td><td style="text-align: center;">OK</td></tr> <tr><td>VDC/TCS/ABS</td><td style="text-align: center;">OK</td></tr> <tr><td>METER/M&A</td><td style="text-align: center;">OK</td></tr> <tr><td>ICC</td><td style="text-align: center;">UNKWN</td></tr> <tr><td>BCM/SEC</td><td style="text-align: center;">OK</td></tr> <tr><td>IPDM E/R</td><td style="text-align: center;">OK</td></tr> <tr><td>AWD/4WD/e4WD</td><td style="text-align: center;">UNKWN</td></tr> <tr><td colspan="2" style="text-align: center;">PRINT</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">Scroll Down</td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%; text-align: center;">MODE BACK LIGHT COPY</td></tr> </table>	CAN DIAG SUPPORT MNTR		ENGINE		PRSNR		INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT			Scroll Down		MODE BACK LIGHT COPY	PKIA8343E
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- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-332, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-332, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-334, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

CAN SYSTEM (TYPE 11)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 11)

[CAN]

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

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CHECK SHEET RESULTS (EXAMPLE)

NOTE:

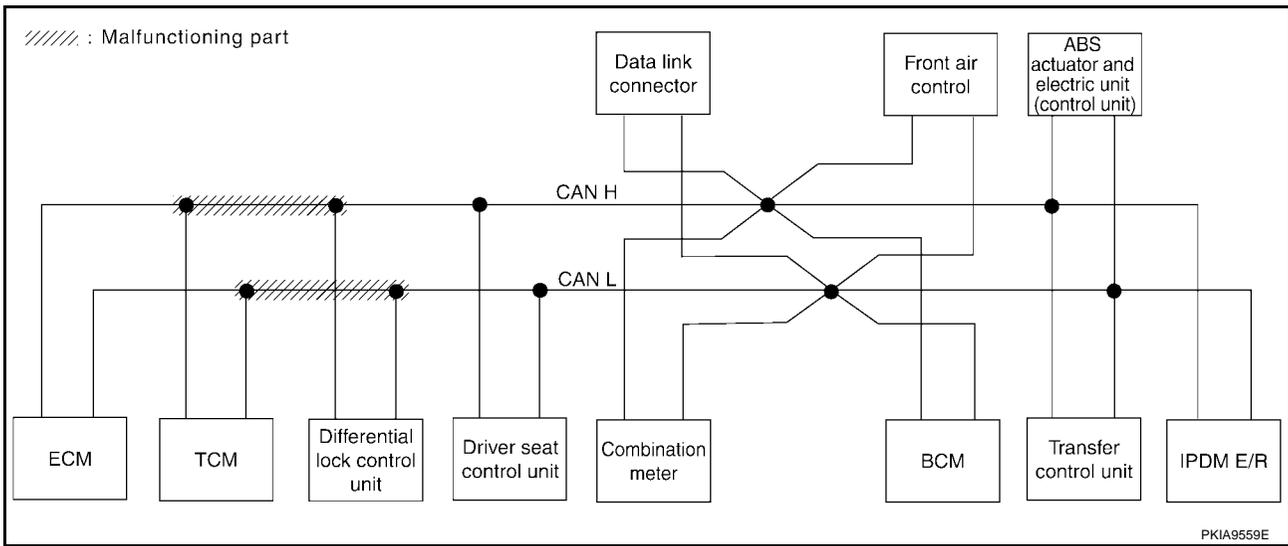
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and differential lock control unit. Refer to [LAN-349, "Circuit Check Between TCM and Differential Lock Control Unit"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9442E



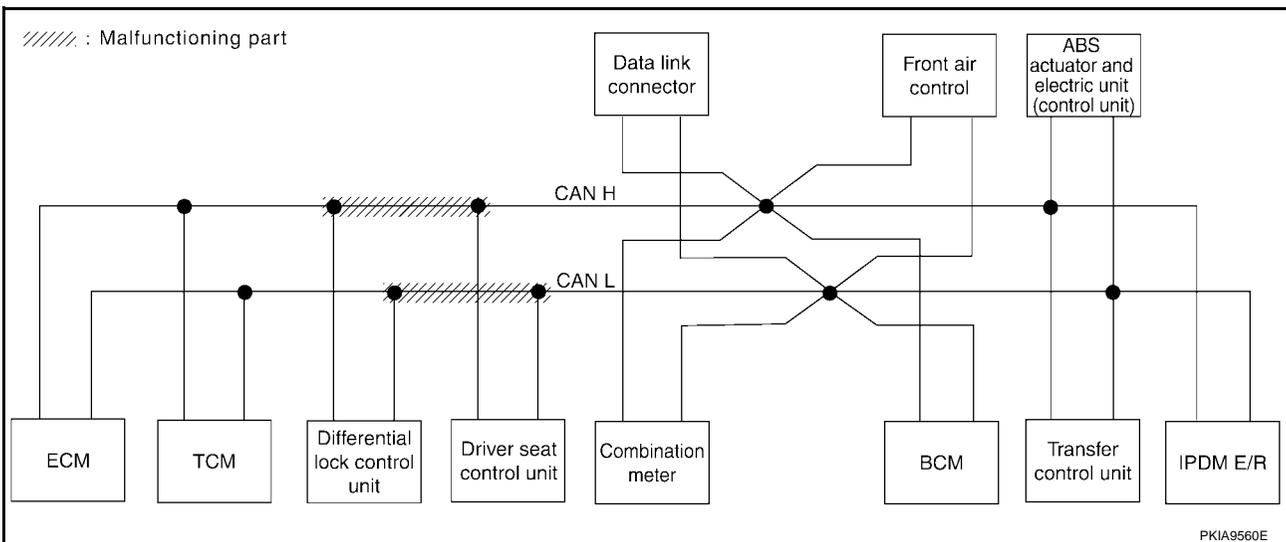
PKIA9559E

Case 2

Check harness between differential lock control unit and driver seat control unit. Refer to [LAN-350, "Circuit Check Between Differential Lock Control Unit and Driver Seat Control Unit"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9443E



CAN SYSTEM (TYPE 11)

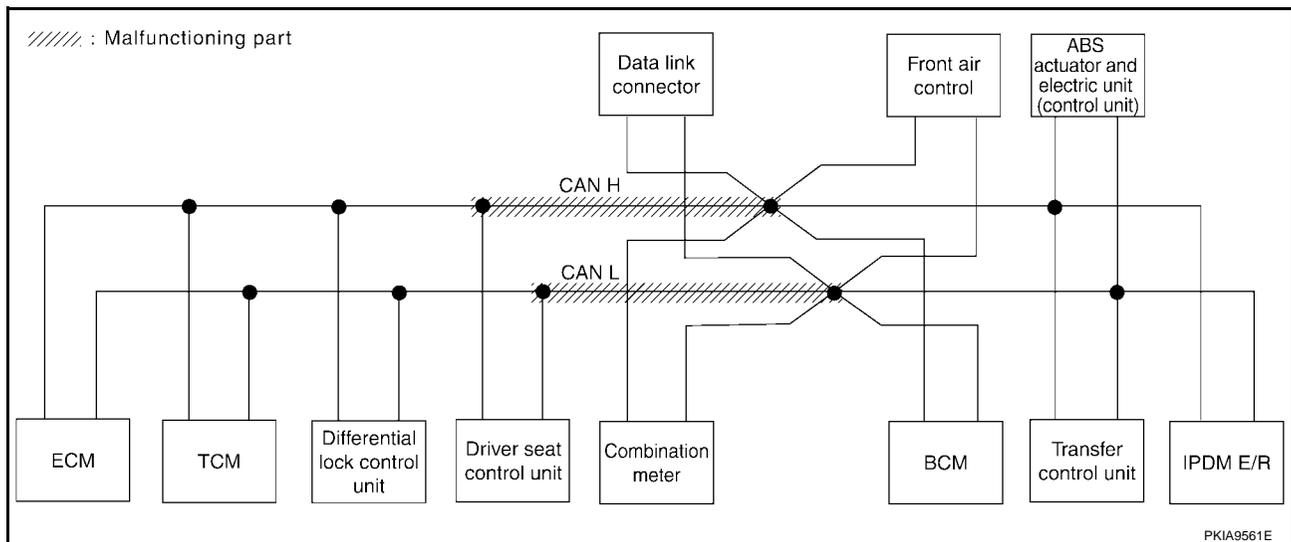
[CAN]

Case 3

Check harness between driver seat control unit and data link connector. Refer to [LAN-351, "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	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

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PKIA9561E

CAN SYSTEM (TYPE 11)

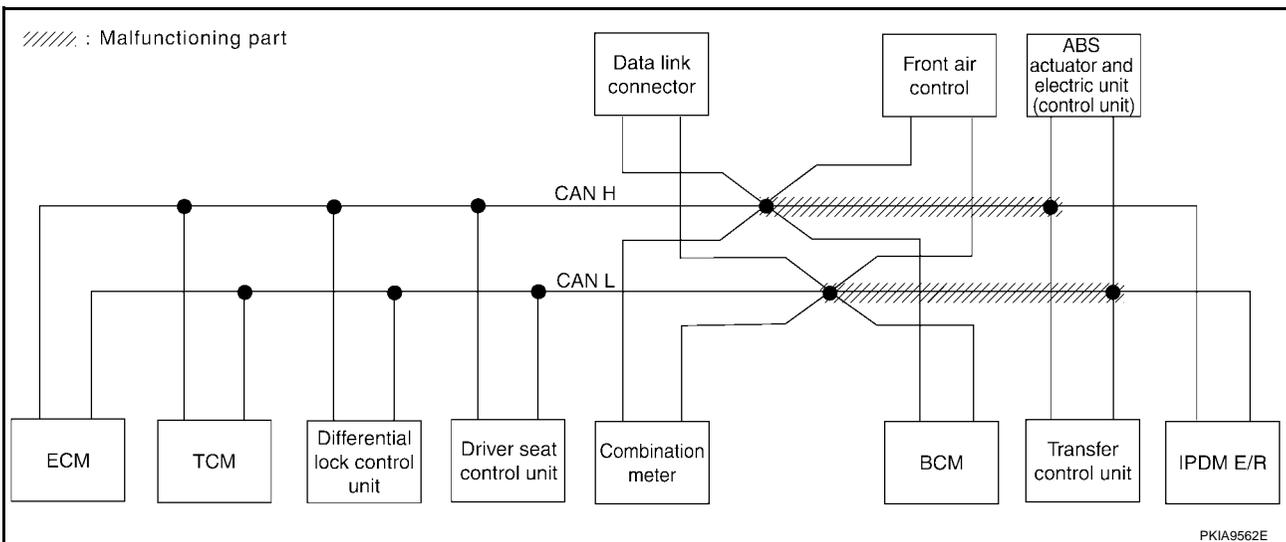
[CAN]

Case 4

Check harness between data link connector and IPDM E/R. Refer to [LAN-351, "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	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	UN ✓ KN	UN ✓ KN	UN ✓ KN	
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	—	UN ✓ KN	UN ✓ KN	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UN ✓ KN	UN ✓ KN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UN ✓ KN	
ALL MODE AWD/4WD	—	NG	UNKWN	UN ✓ KN	UN ✓ KN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UN ✓ KN	UN ✓ KN	UN ✓ KN	—	—	UNKWN	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9445E

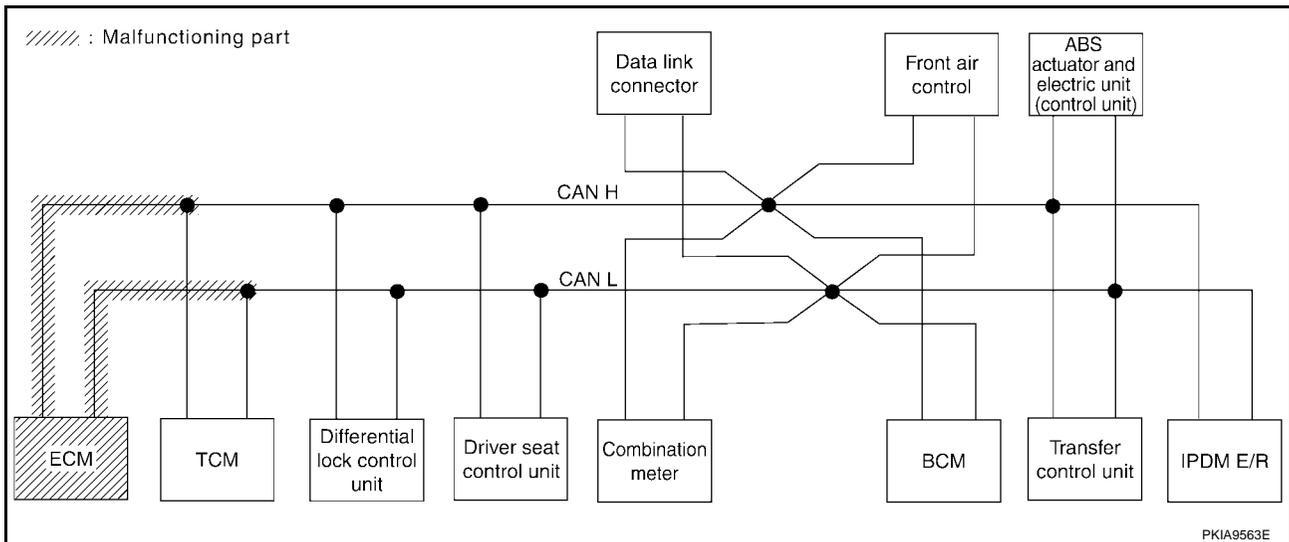


Case 5

Check ECM circuit. Refer to [LAN-352. "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKW [✓] N	—	UNKW [✓] N	—	UNKW [✓] N					
A/T	—	NG	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	—	
DIFF LOCK	—	NG	UNKW [✓] N	UNKW [✓] N	—	—	—	—	UNKW [✓] N	UNKW [✓] N	—	
AUTO DRIVE POS.	No indication	NG	UNKW [✓] N	—	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	—	—	—	
BCM	No indication	NG	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	—	—	UNKW [✓] N	
ALL MODE AWD/4WD	—	NG	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	—	—	UNKW [✓] N	—	
ABS	—	NG	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	—	
IPDM E/R	No indication	—	UNKW [✓] N	UNKW [✓] N	—	—	—	UNKW [✓] N	—	—	—	

PKIA9446E

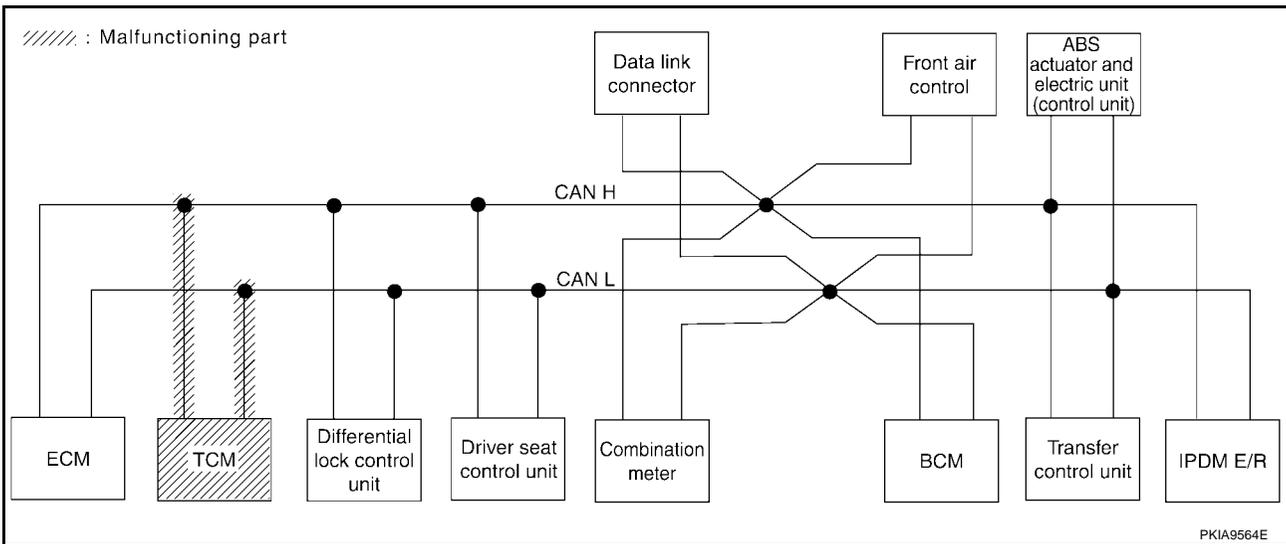


Case 6

Check TCM circuit. Refer to [LAN-353, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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 ✓	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN ✓	—	UNKWN	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN ✓	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9447E

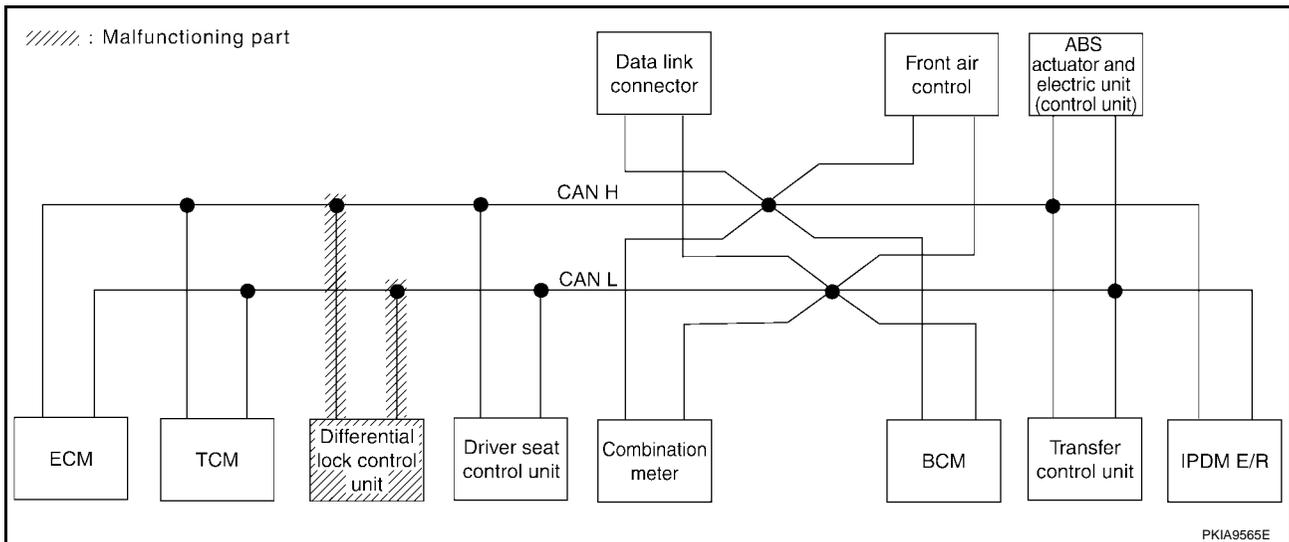


Case 7

Check differential lock control unit circuit. Refer to [LAN-353, "Differential Lock Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN ✓	UNKWN ✓	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9448E

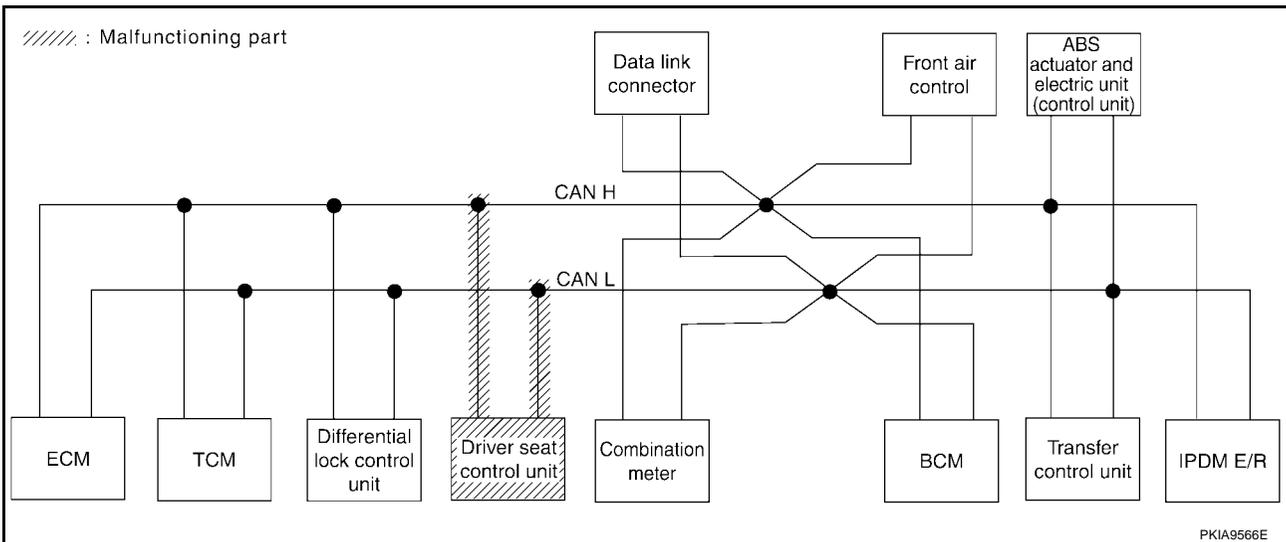


Case 8

Check driver seat control unit circuit. Refer to [LAN-354, "Driver Seat Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	—
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	—
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9449E



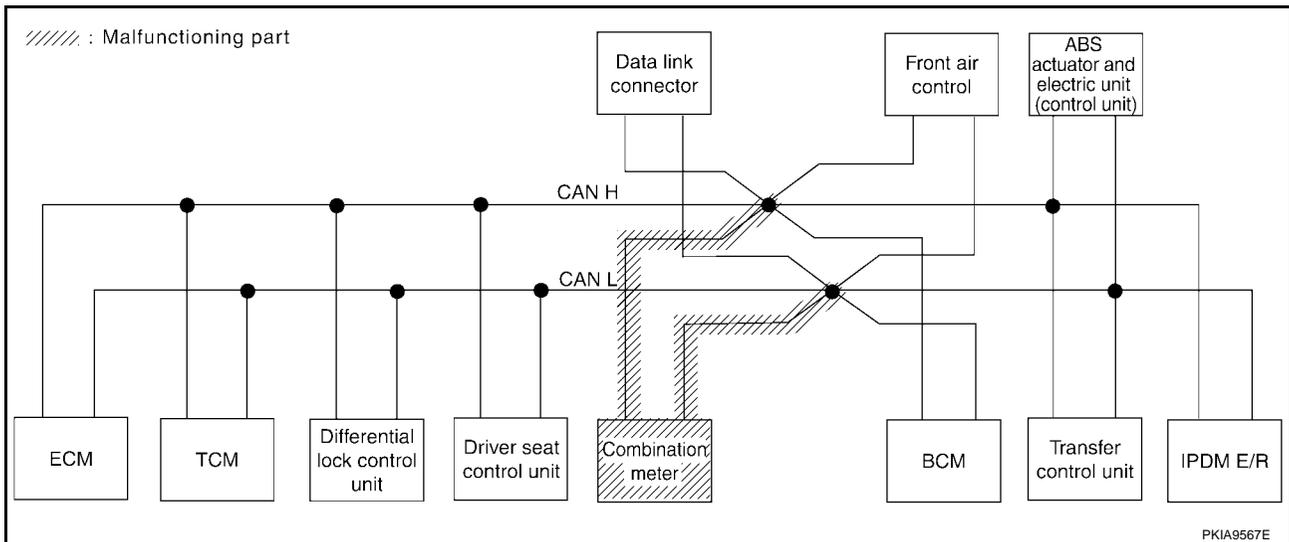
A
B
C
D
E
F
G
H
I
J
LAN
L
M

Case 9

Check combination meter circuit. Refer to [LAN-354, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN ✓	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9450E

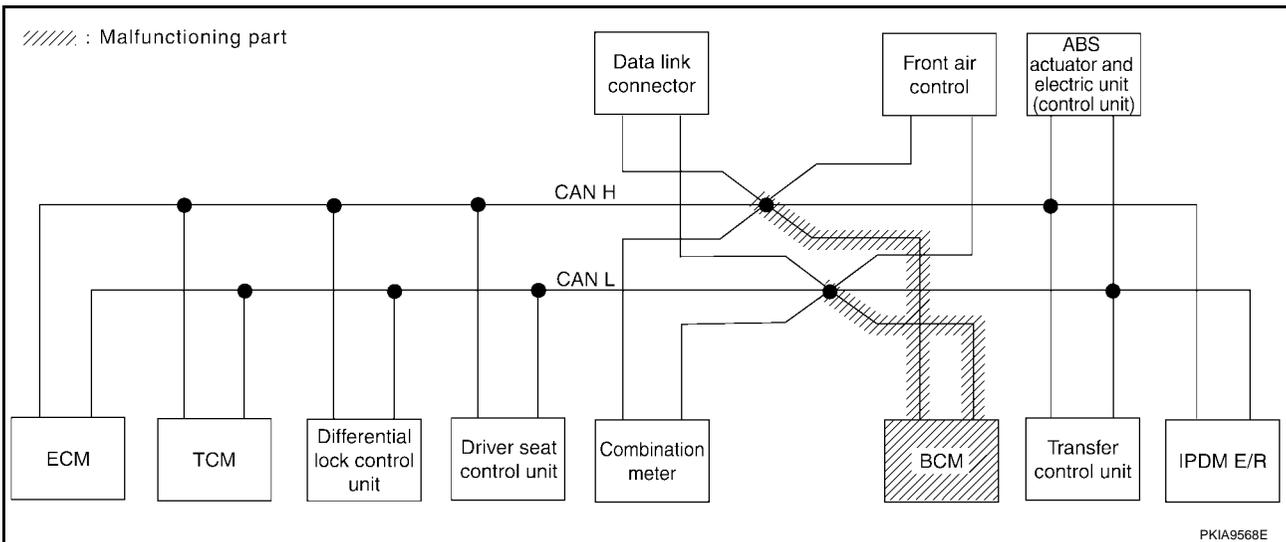


Case 10

Check BCM circuit. Refer to [LAN-355, "BCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9451E

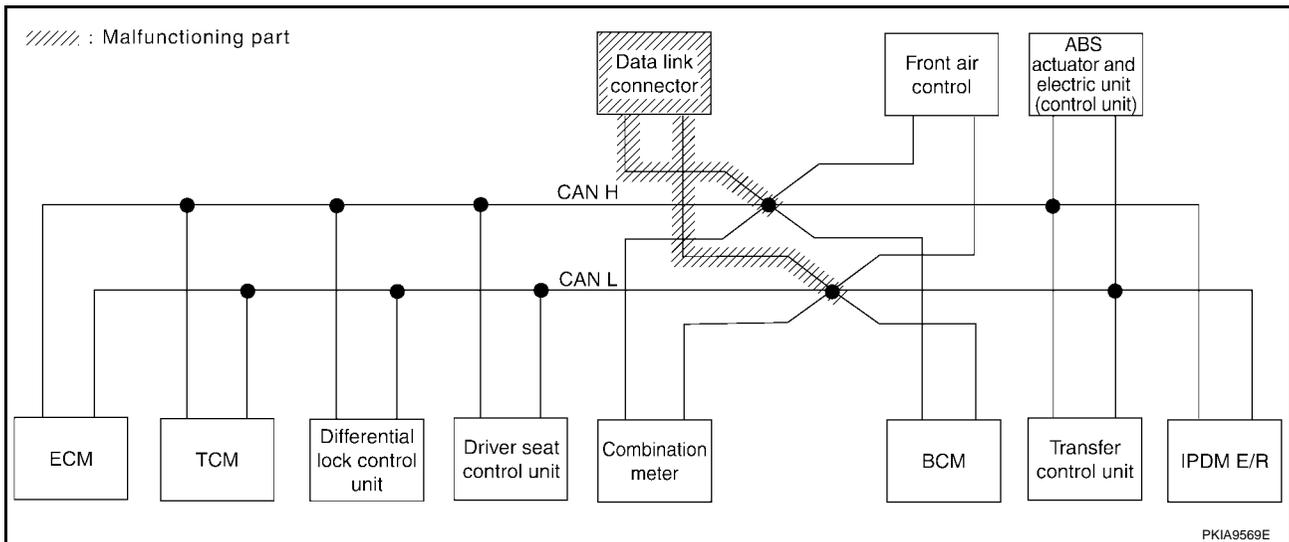


Case 11

Check data link connector circuit. Refer to [LAN-355, "Data Link Connector Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication ✓	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	
BCM	No indication ✓	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9452E

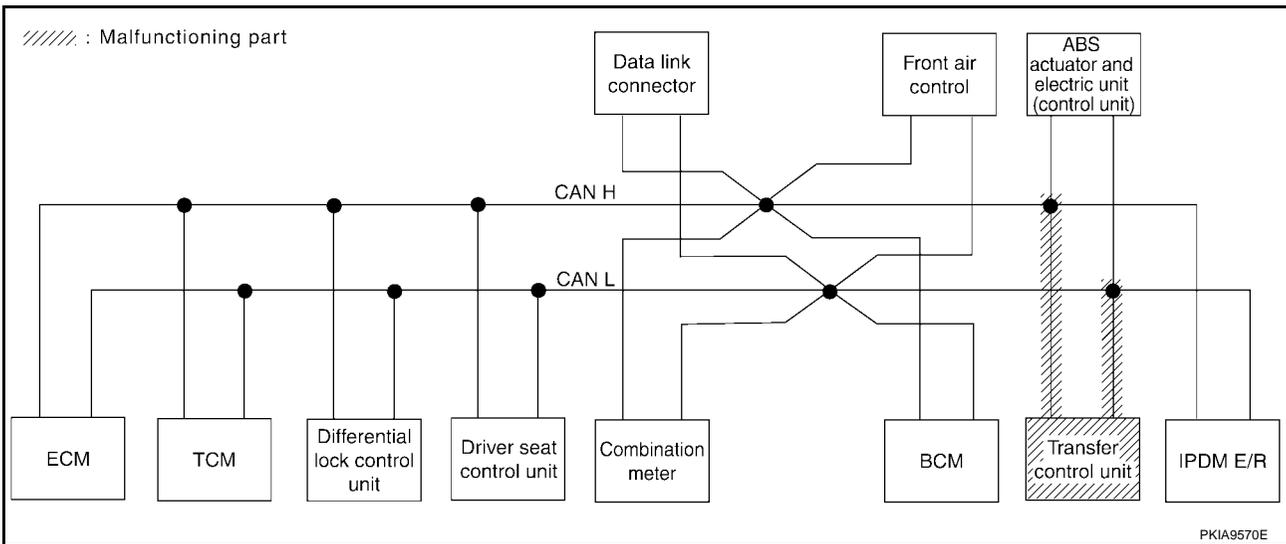


Case 12

Check transfer control unit circuit. Refer to [LAN-356, "Transfer Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	

PKIA9453E



CAN SYSTEM (TYPE 11)

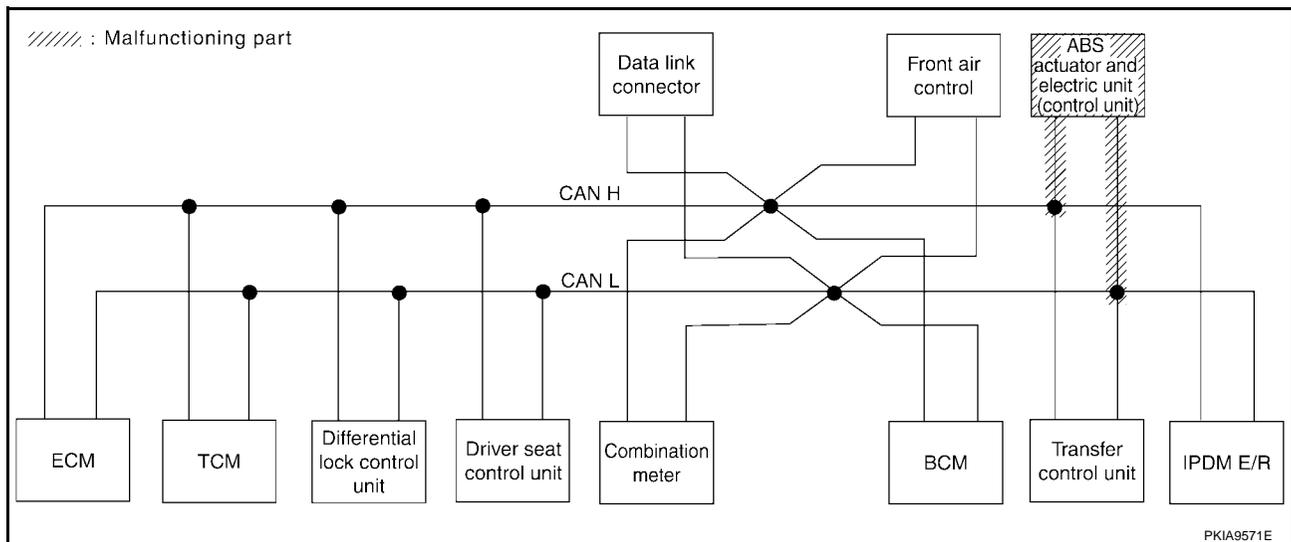
[CAN]

Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-356, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9454E



PKIA9571E

CAN SYSTEM (TYPE 11)

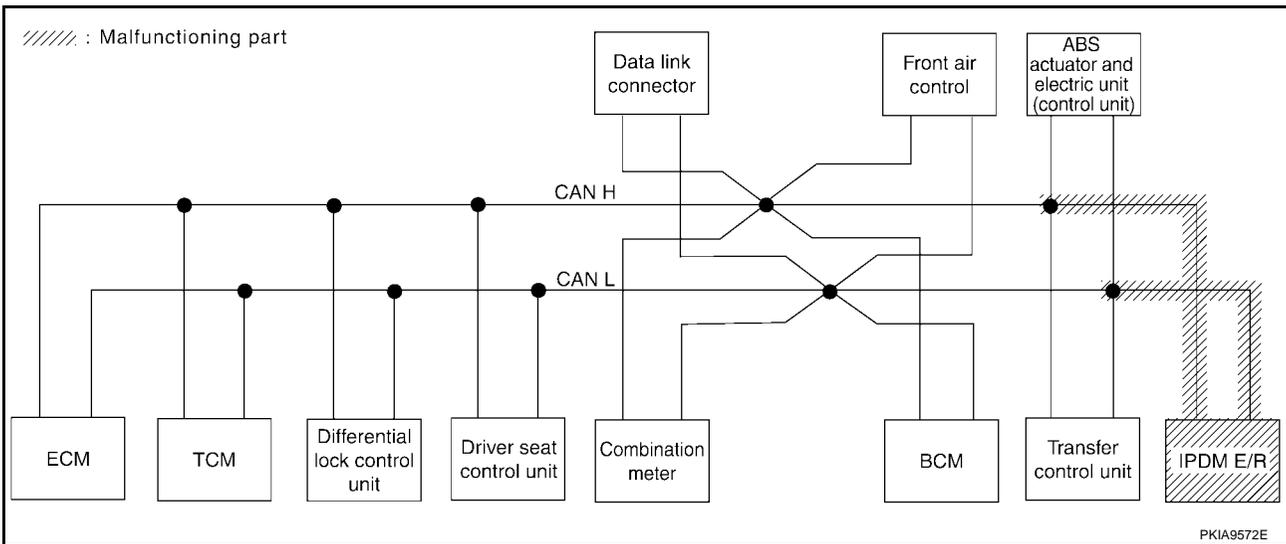
[CAN]

Case 14

Check IPDM E/R circuit. Refer to [LAN-357, "IPDM E/R Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	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	—	—	—	—

PKIA9455E



Case 15

Check CAN communication circuit. Refer to [LAN-358, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKW N	—	UNKW N	—	UNKW N					
A/T	—	NG	UNKW N	UNKW N	—	—	UNKW N	—	UNKW N	UNKW N	UNKW N	—
DIFF LOCK	—	NG	UNKW N	UNKW N	—	—	—	—	UNKW N	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication ✓	NG	UNKW N	—	UNKW N	—	UNKW N	UNKW N	—	—	—	—
BCM	No indication ✓	NG	UNKW N	UNKW N	—	—	UNKW N	—	—	—	UNKW N	—
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	UNKW N	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	—	—
IPDM E/R	No indication ✓	—	UNKW N	UNKW N	—	—	—	UNKW N	—	—	—	—

PKIA9456E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-358, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKW N	—	UNKW N	—	UNKW N					
A/T	—	NG	UNKW N	UNKW N	—	—	UNKW N	—	UNKW N	UNKW N	UNKW N	—
DIFF LOCK	—	NG	UNKW N	UNKW N	—	—	—	—	UNKW N	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	—	UNKW N	UNKW N	—	—	—	—
BCM	No indication	NG	UNKW N	UNKW N	—	—	UNKW N	—	—	—	UNKW N	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	UNKW N	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	—	UNKW N	—	—	—	—

PKIA9457E

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-358, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER/M&A	BCM/SEC	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	—
DIFF LOCK	—	NG	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	—	—
BCM	No indication	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	UNKWN	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9458E

Circuit Check Between TCM and Differential Lock Control Unit

UKS0020K

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 E50
 - Harness connector B75

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).

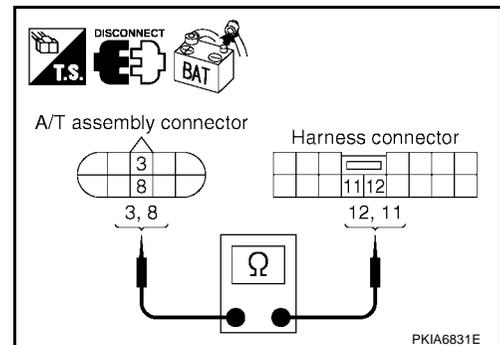
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



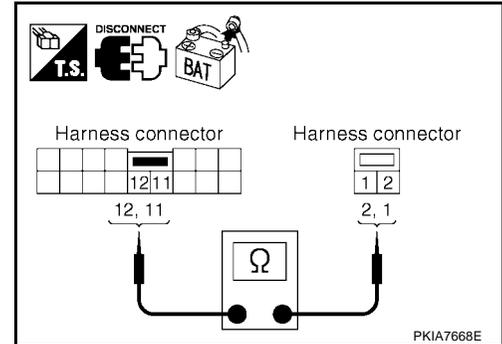
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



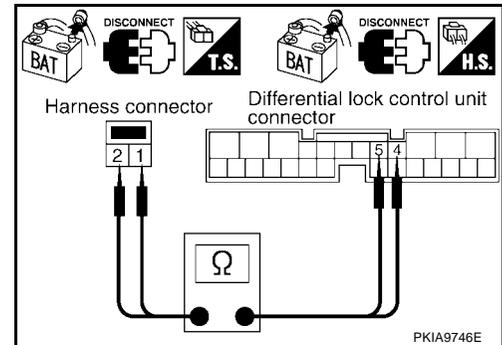
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and differential lock control unit harness connector B77 terminals 5 (W), 4 (R).

2 (W) - 5 (W) : Continuity should exist.
1 (R) - 4 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-331, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Differential Lock Control Unit and Driver Seat Control Unit

UKS00112

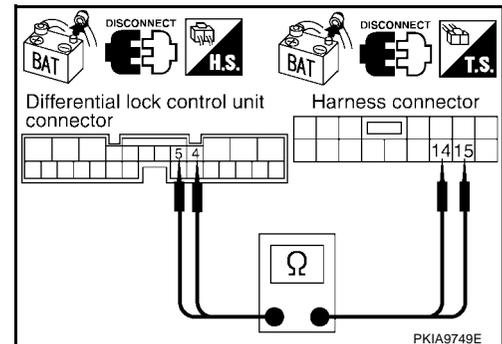
1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect differential lock control unit connector and harness connector B37.
4. Check continuity between differential lock control unit harness connector B77 terminals 5 (W), 4 (R) and harness connector B37 terminals 15 (W), 14 (R).

5 (W) - 15 (W) : Continuity should exist.
4 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-331, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector**1. CHECK CONNECTOR**

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

OK or NG

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

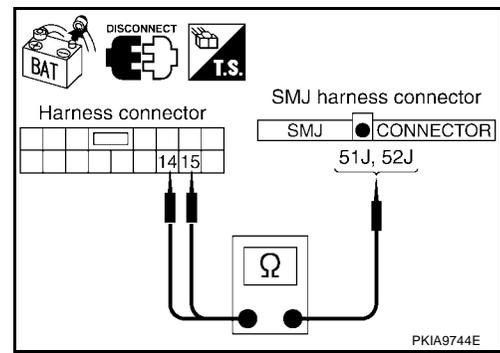
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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

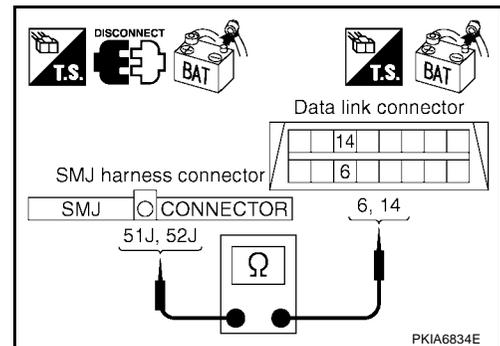
**3. CHECK HARNESS FOR OPEN CIRCUIT**

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-331, "Work Flow"](#).
 NG >> Repair harness.

**Circuit Check Between Data Link Connector and IPDM E/R****1. CHECK CONNECTOR**

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

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

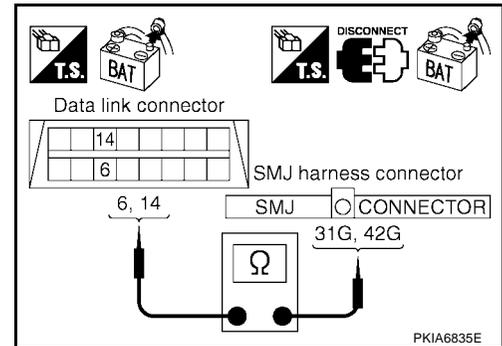
6 (W) - 31G (W) : Continuity should exist.

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).

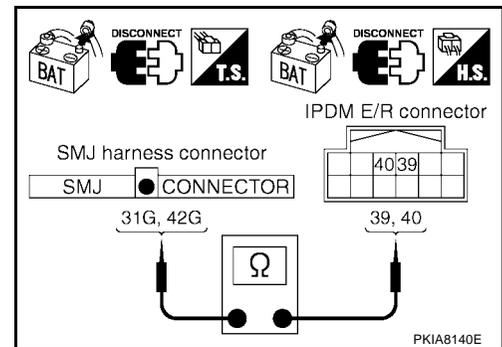
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-331, "Work Flow"](#).

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

UKS00115

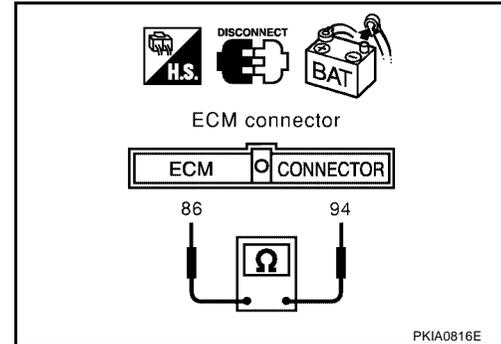
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS00116

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

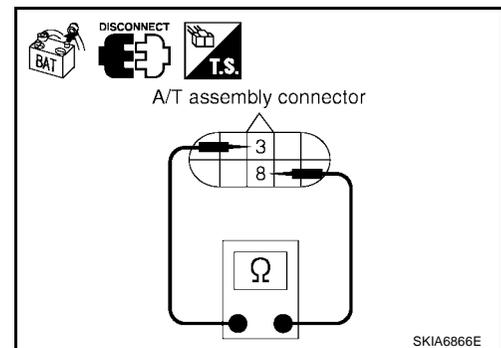
2. CHECK HARNESS FOR OPEN CIRCUIT

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



UKS0020L

Differential Lock Control Unit Circuit Check

1. CHECK CONNECTOR

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

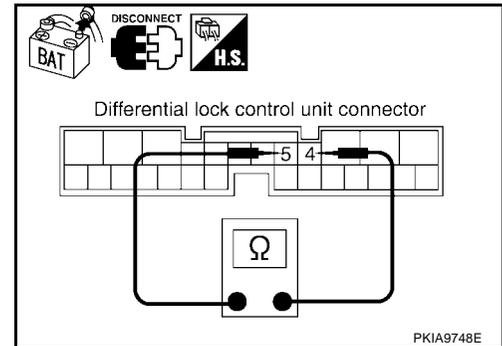
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector.
2. Check resistance between differential lock control unit harness connector B77 terminals 5 (W) and 4 (R).

5 (W) - 4 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace differential lock control unit.
 NG >> Repair harness between differential lock control unit and harness connector B75.



UKS00117

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

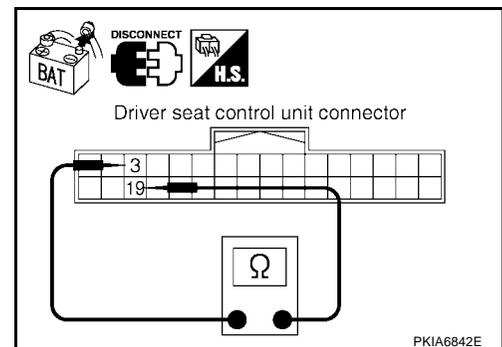
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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.



UKS00118

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

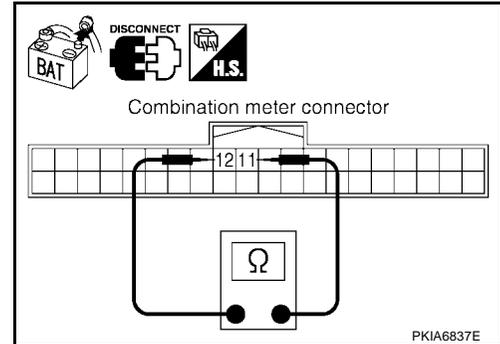
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



UKS00119

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

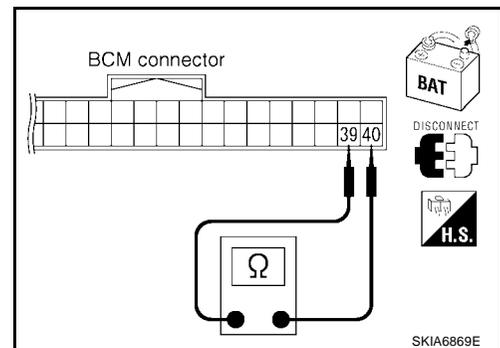
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



UKS0011A

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

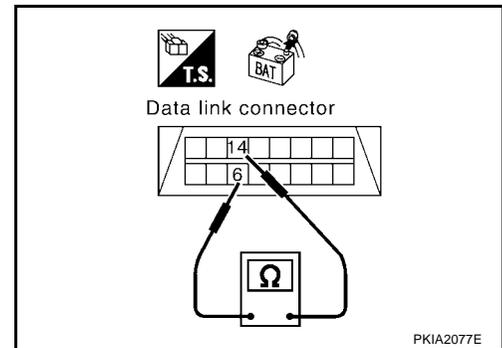
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-331, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



UKS0011C

Transfer Control Unit Circuit Check

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.

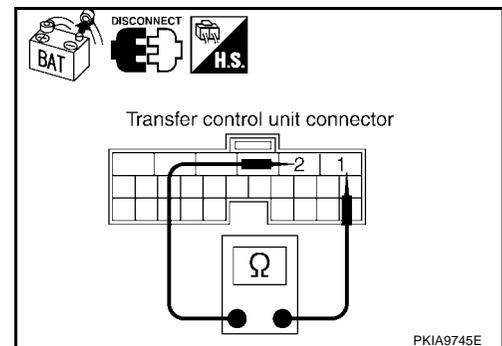
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (R) : Approx. 54 - 66Ω

OK or NG

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



UKS0011D

ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

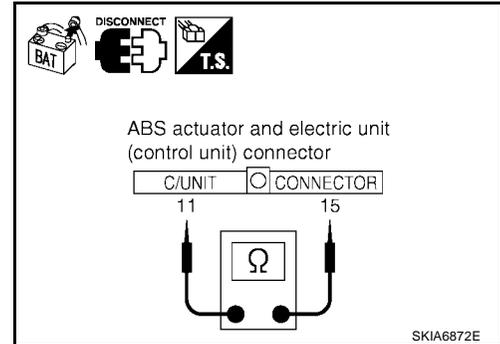
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

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.



UKS0011E

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

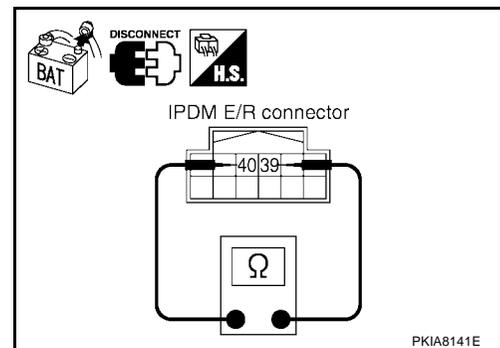
1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

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.



PKIA8141E

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Differential lock control unit
 - Driver seat control unit
 - Combination meter
 - BCM
 - 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.

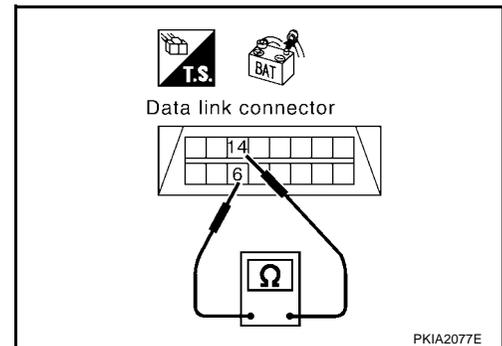
2. CHECK HARNESS FOR SHORT CIRCUIT

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

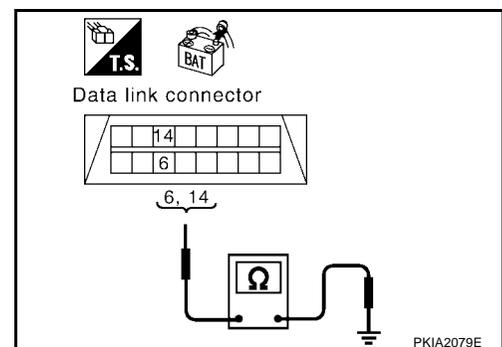
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-359, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
 NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

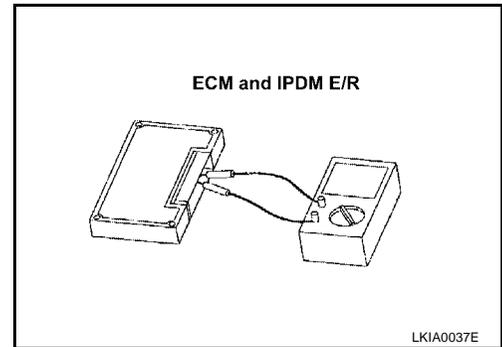
Check the following. If no malfunction is found, replace the IPDM E/R.

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

Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



A
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LAN

CAN SYSTEM (TYPE 12)

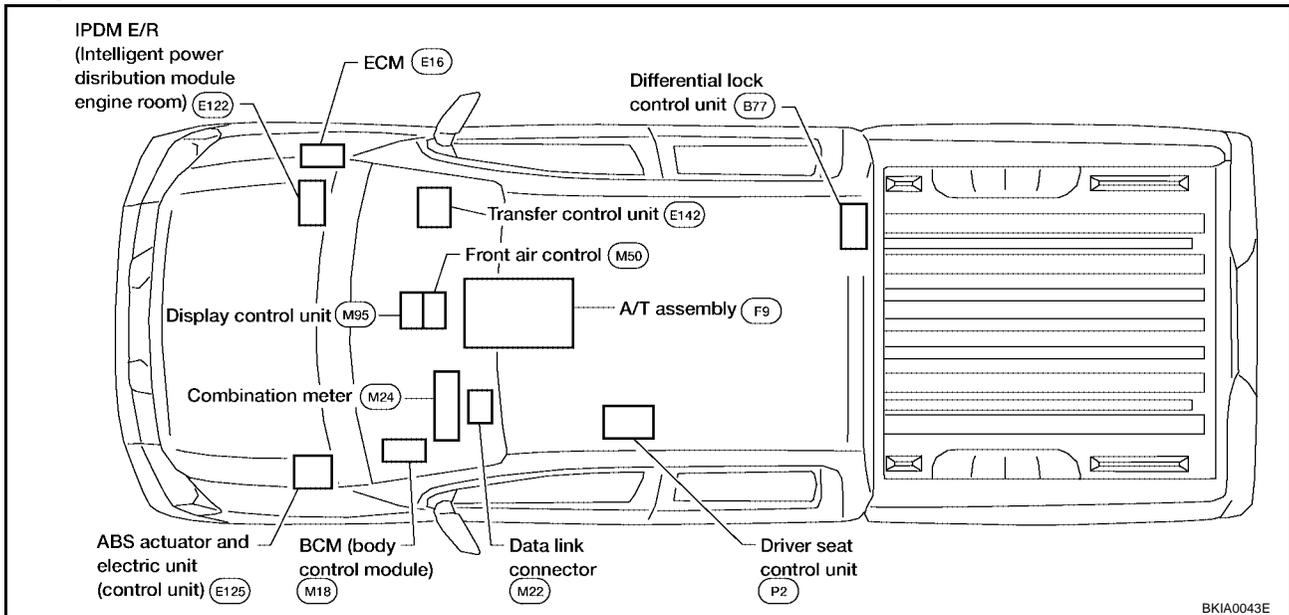
System Description

UKS001II

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

UKS001IJ

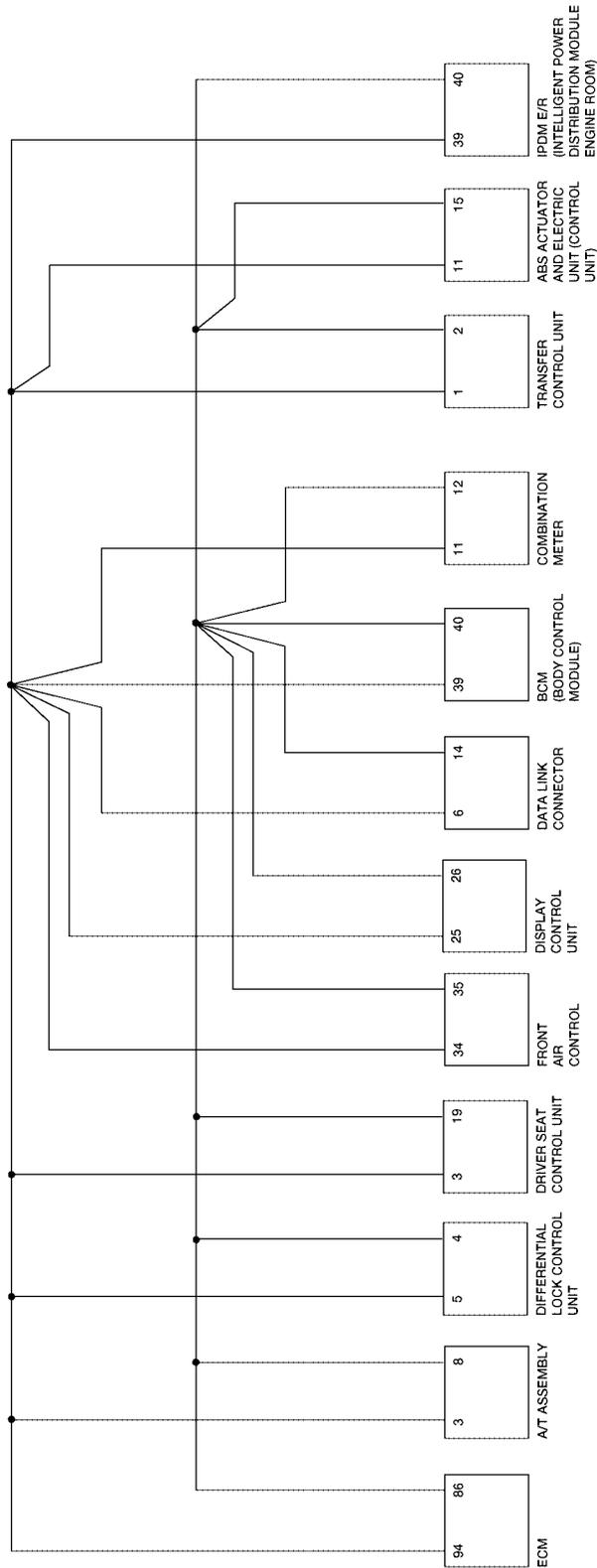


CAN SYSTEM (TYPE 12)

[CAN]

Schematic

UKS0011K



A
B
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M

BKWA0156E

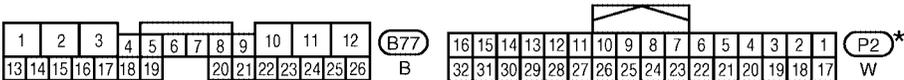
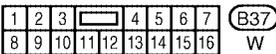
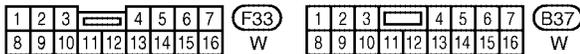
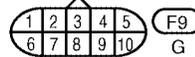
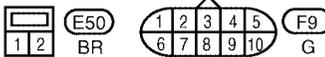
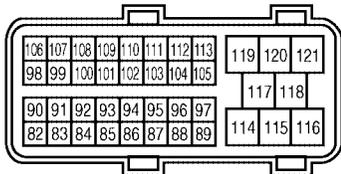
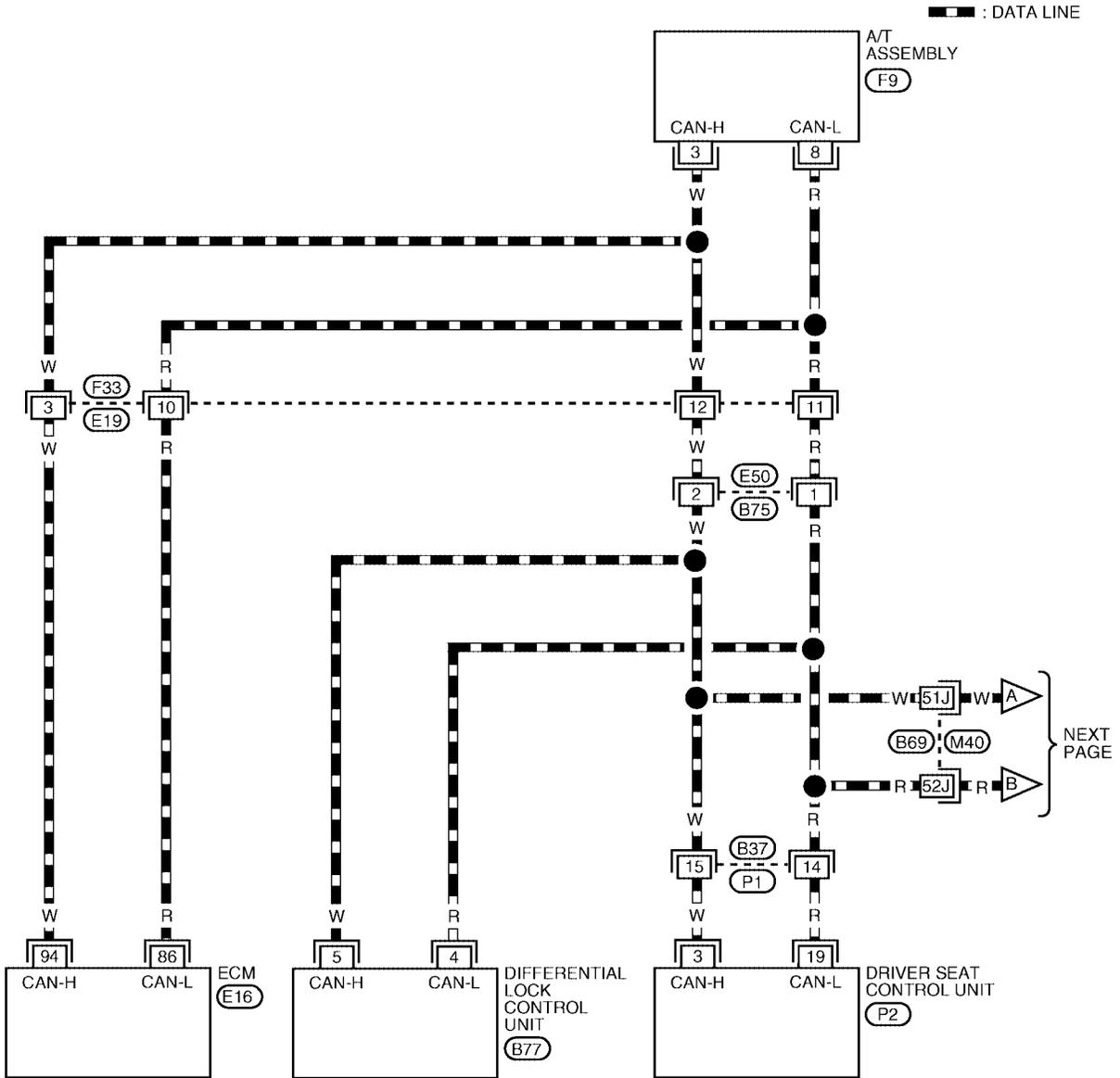
CAN SYSTEM (TYPE 12)

[CAN]

UKS0011L

Wiring Diagram - CAN -

LAN-CAN-34



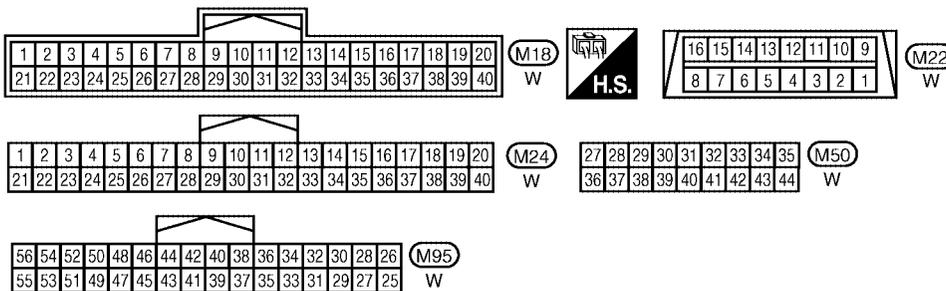
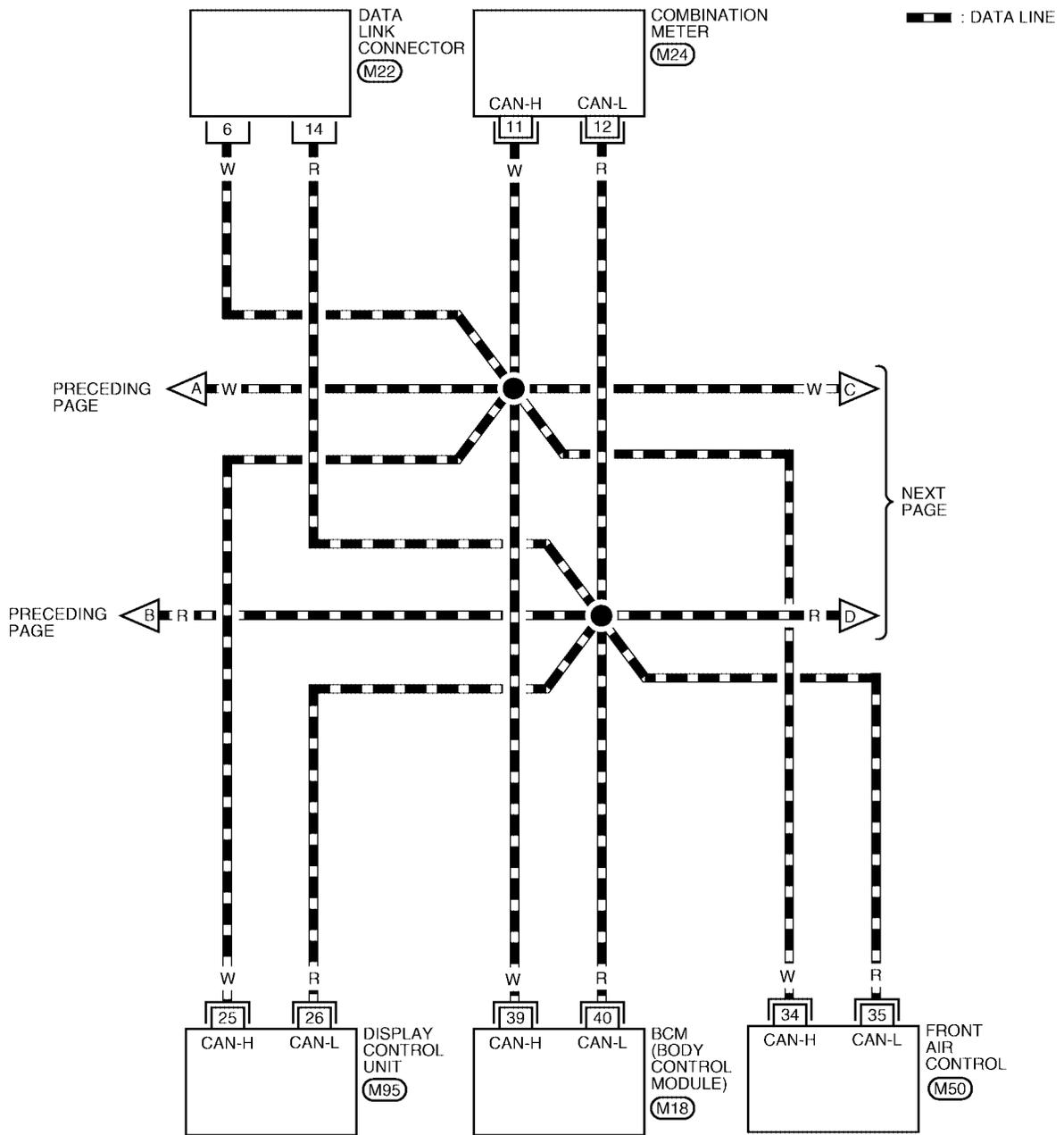
REFER TO THE FOLLOWING.

(M40) - SUPER MULTIPLE JUNCTION (SMJ)

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

BKWA0157E

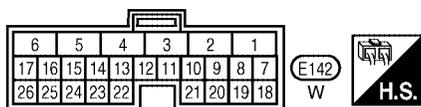
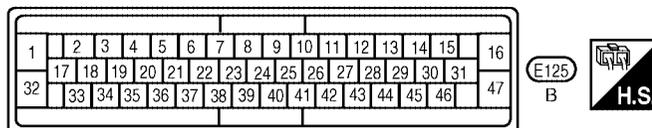
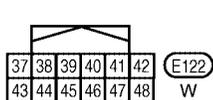
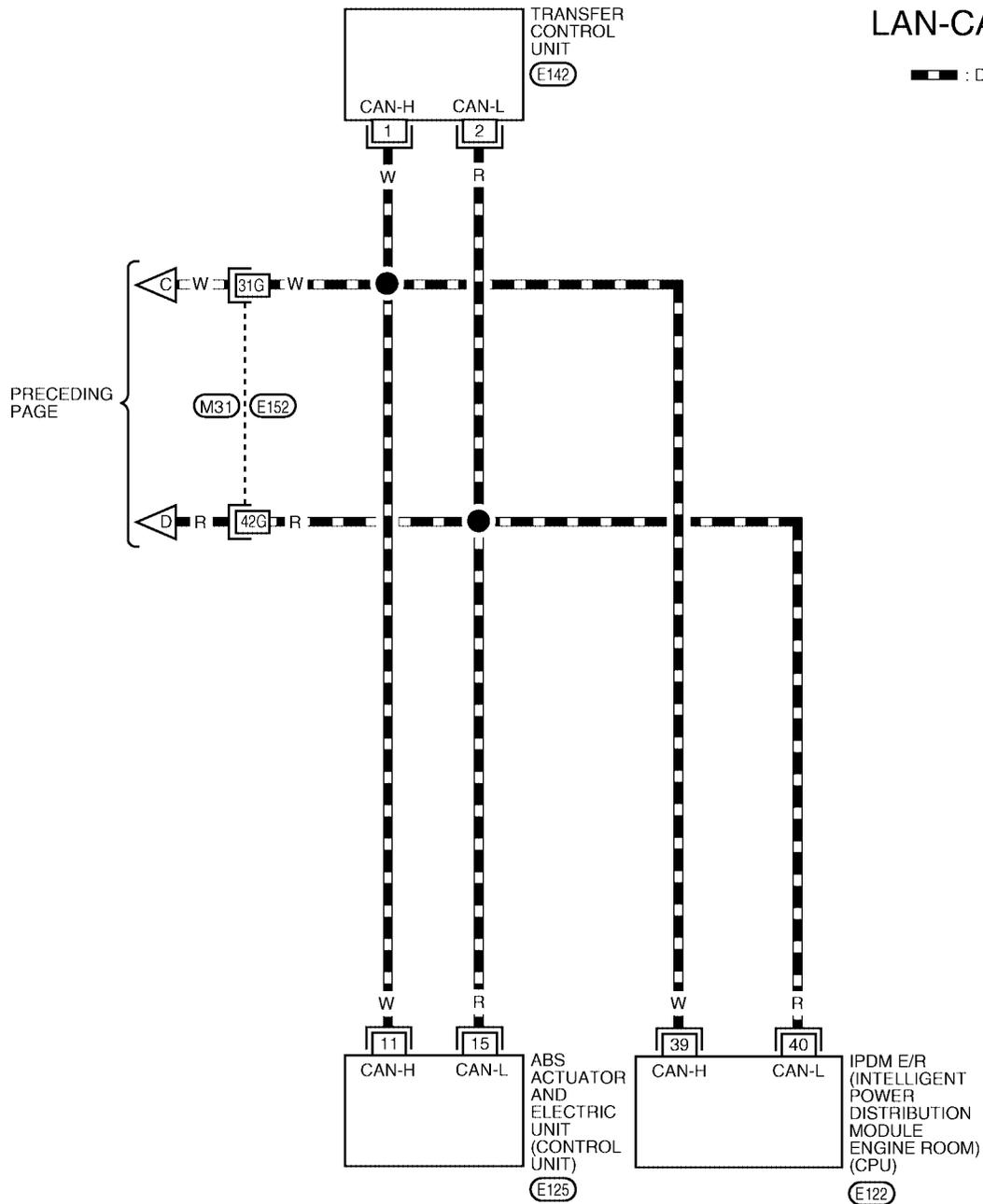
LAN-CAN-35



BKWA0158E

LAN-CAN-36

— : DATA LINE

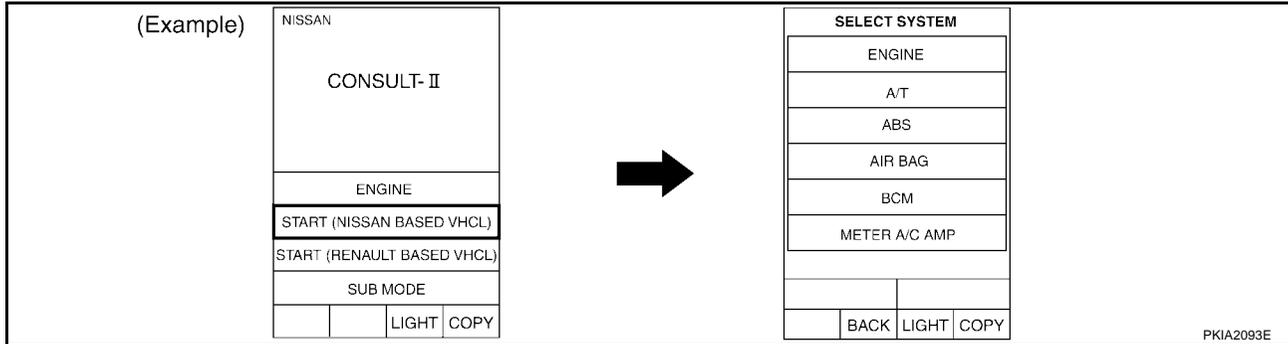


REFER TO THE FOLLOWING.
(M31) - SUPER MULTIPLE JUNCTION (SMJ)

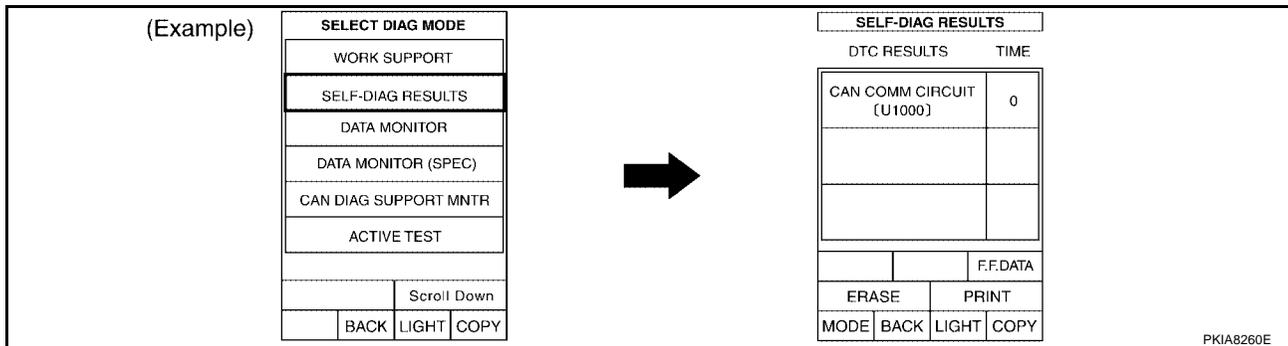
BKWA0159E

Work Flow

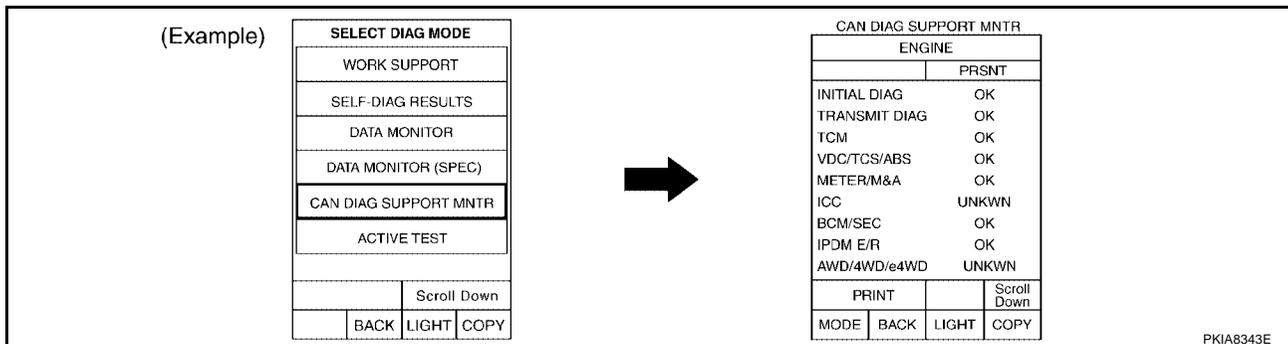
- When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-367, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-367, "CHECK SHEET"](#).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.

- Check CAN communication line of the navigation system. Refer to [AV-149, "CAN Communication Line Check"](#).
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to [LAN-367, "CHECK SHEET"](#).

A
B
C
D
E
F
G
H
I
J
L
M

LAN

CAN SYSTEM (TYPE 12)

[CAN]

-
8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to [LAN-367, "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-149, "CAN Communication Line Check"](#) .

9. According to the check sheet results (example), start inspection. Refer to [LAN-369, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 12)

[CAN]

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	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
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

A
B
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D
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M

LAN

CAN SYSTEM (TYPE 12)

[CAN]

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

PKIA9336E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

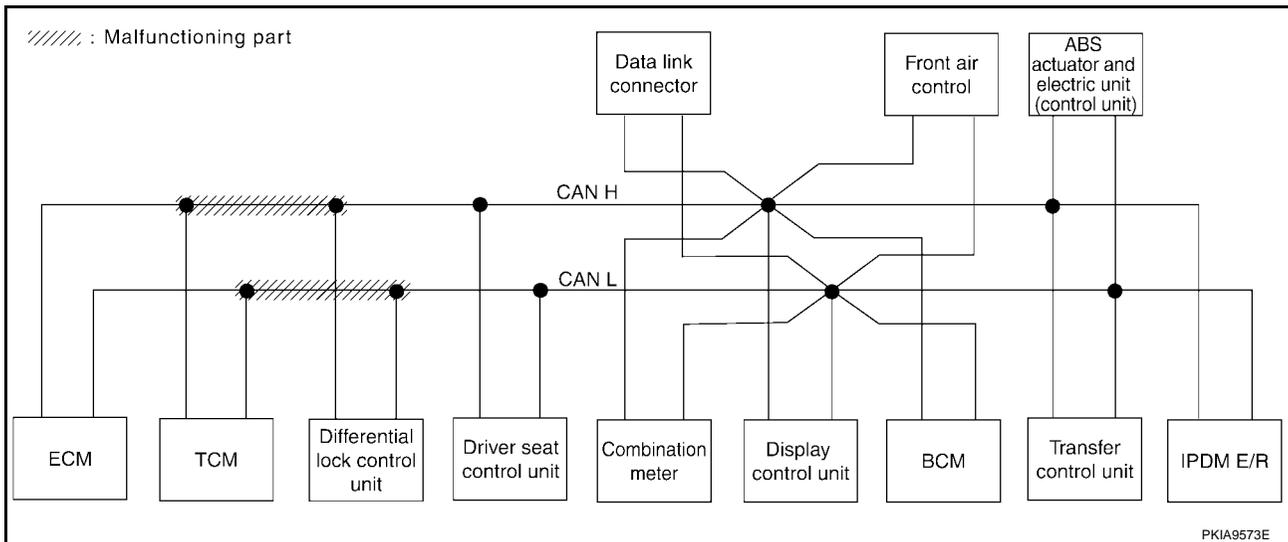
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and differential lock control unit. Refer to [LAN-386, "Circuit Check Between TCM and Differential Lock Control Unit"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	—	✓	✓	—	—	✓	✓	✓
A/T	—	NG	UNKWN	UNKWN	—	—	✓	—	—	—	✓	✓	—
DIFF LOCK	—	NG	UNKWN	✓	—	—	—	—	—	—	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	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
ALL MODE AWD/4WD	—	NG	UNKWN	✓	✓	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	✓	✓	UNKWN	—	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	✓	—	—	—	—	UNKWN	—	—	—	—

PKIA9459E



CAN SYSTEM (TYPE 12)

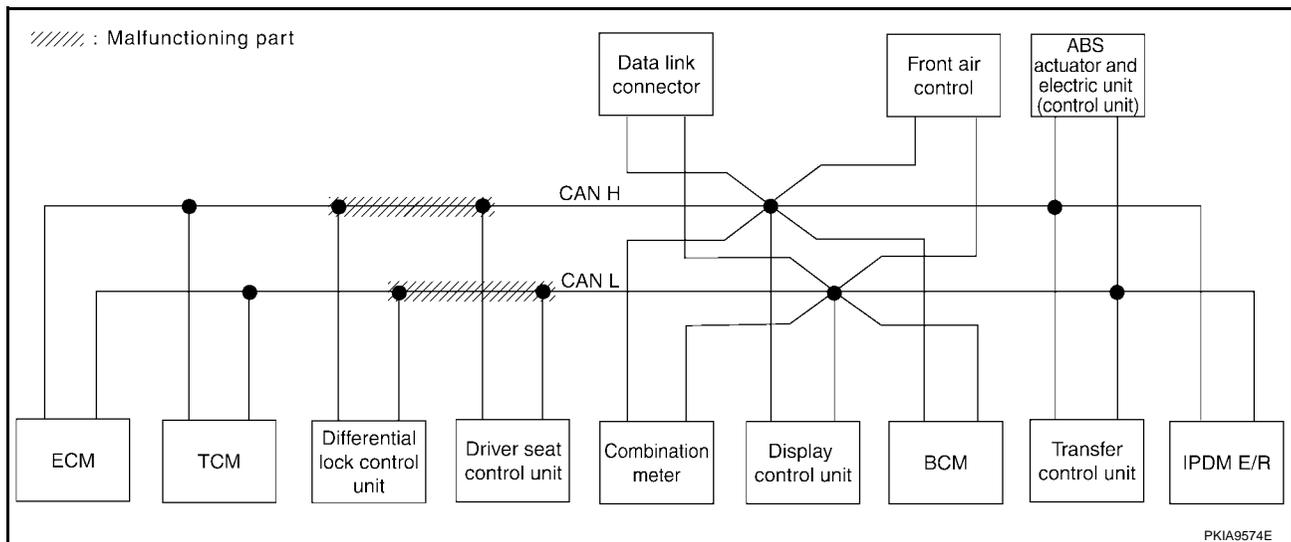
[CAN]

Case 2

Check harness between differential lock control unit and driver seat control unit. Refer to [LAN-387, "Circuit Check Between Differential Lock Control Unit and Driver Seat Control Unit"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9460E



PKIA9574E

CAN SYSTEM (TYPE 12)

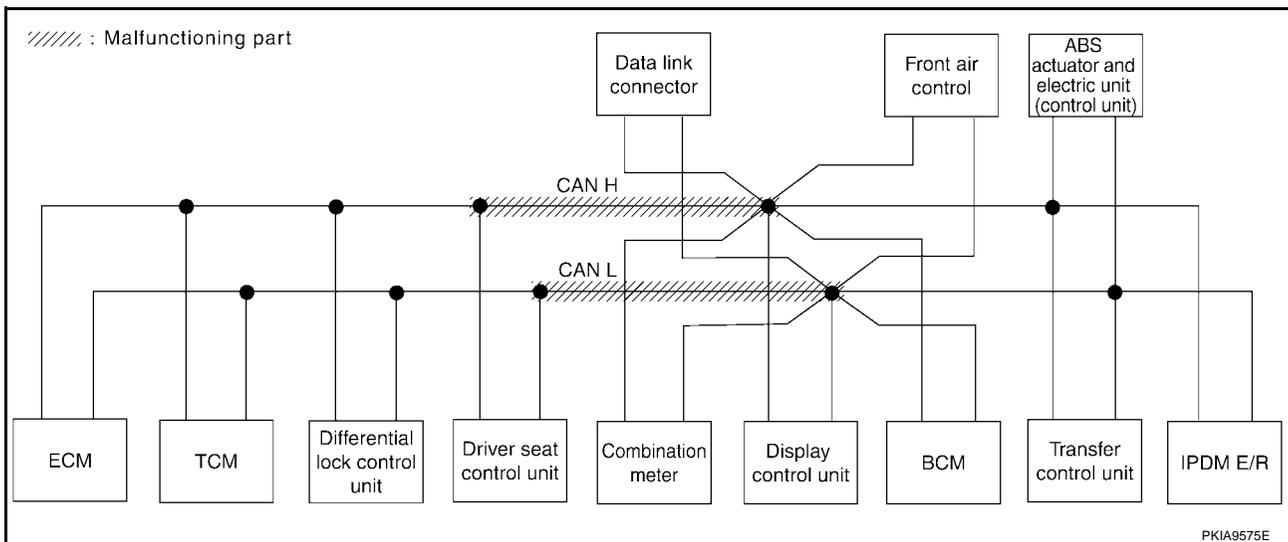
[CAN]

Case 3

Check harness between driver seat control unit and data link connector. Refer to [LAN-388, "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	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	—	✓	✓	—	—	✓	✓	✓
A/T	—	NG	UNKWN	UNKWN	—	—	✓	—	—	—	✓	✓	—
DIFF LOCK	—	NG	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
ALL MODE AWD/4WD	—	NG	UNKWN	✓	✓	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	✓	✓	✓	—	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	✓	—	—	—	UNKWN	—	—	—	—	—

PKIA9461E



PKIA9575E

CAN SYSTEM (TYPE 12)

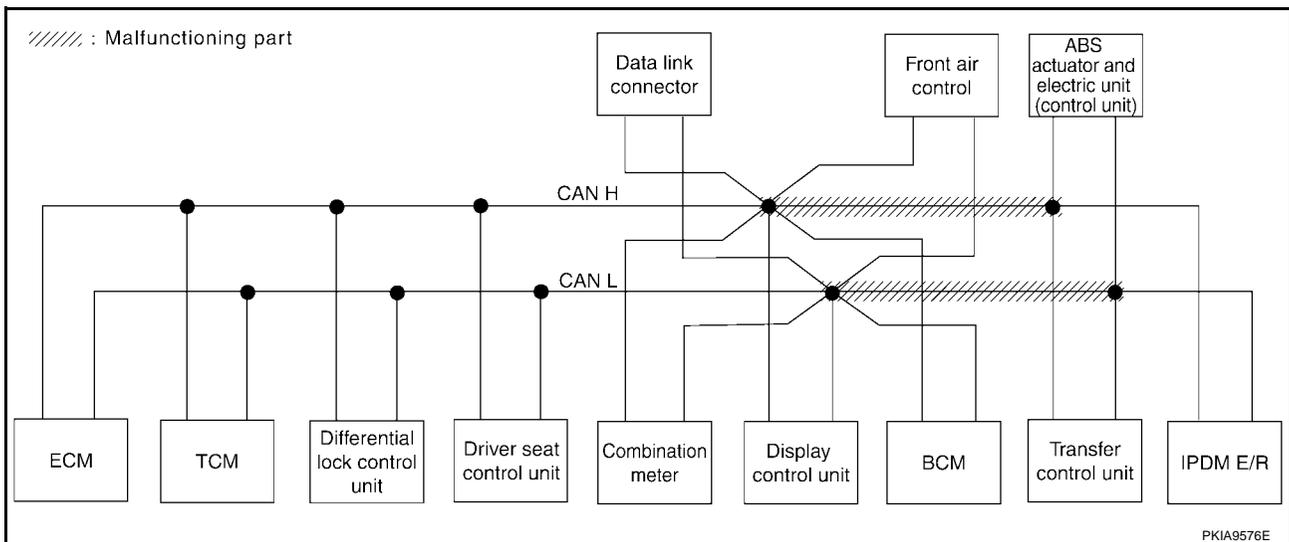
[CAN]

Case 4

Check harness between data link connector and IPDM E/R. Refer to [LAN-388, "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	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	—	✓	✓	✓
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	—	✓	✓	—
DIFF LOCK	—	NG	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	—
ABS	—	NG	UNKWN	✓	✓	✓	—	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	—

PKIA9462E



CAN SYSTEM (TYPE 12)

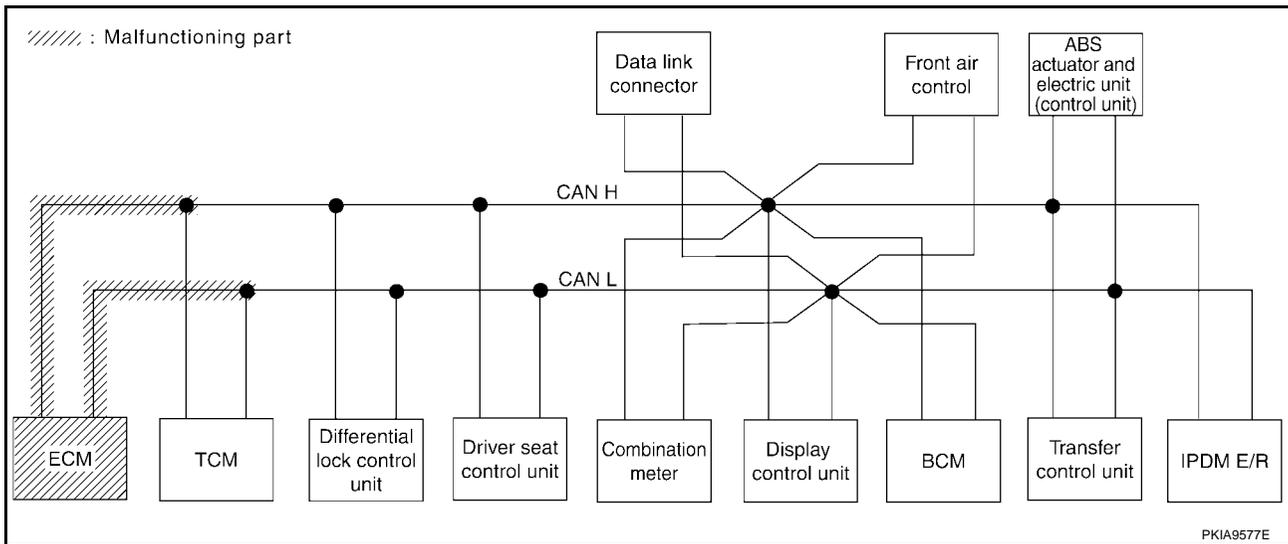
[CAN]

Case 5

Check ECM circuit. Refer to [LAN-389, "ECM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—	—	—	—

PKIA9463E



CAN SYSTEM (TYPE 12)

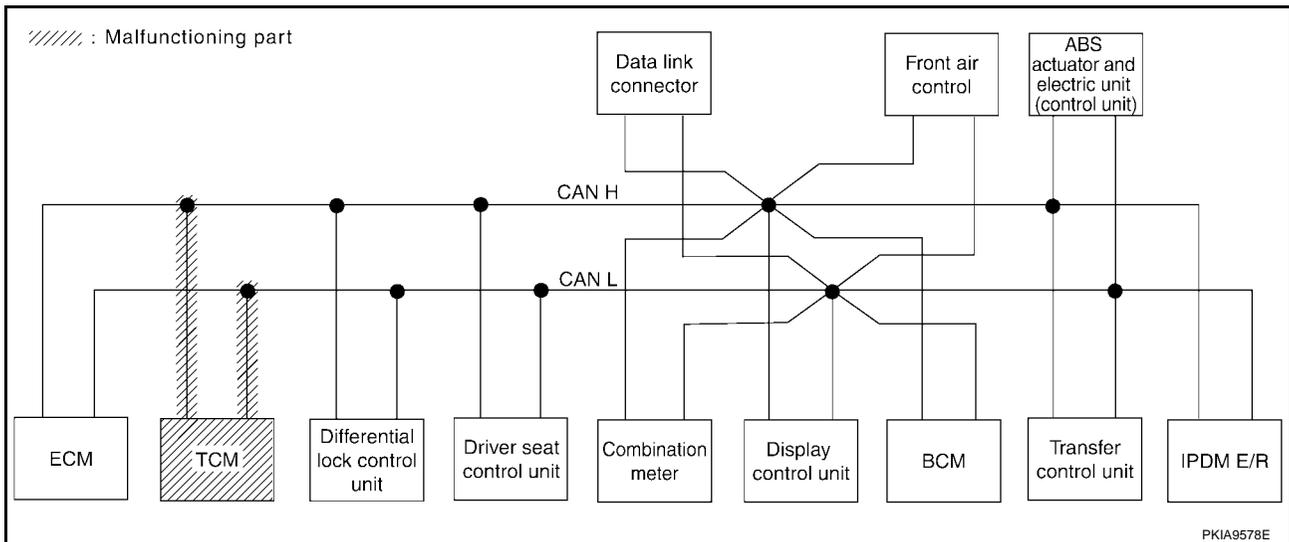
[CAN]

Case 6

Check TCM circuit. Refer to [LAN-390, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
ENGINE	—	NG	UNKWN	—	UNKWN ✓	—	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN ✓	—	—	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓	—	
DIFF LOCK	—	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	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN ✓	—	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN ✓	UNKWN	—	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	

PKIA9464E



CAN SYSTEM (TYPE 12)

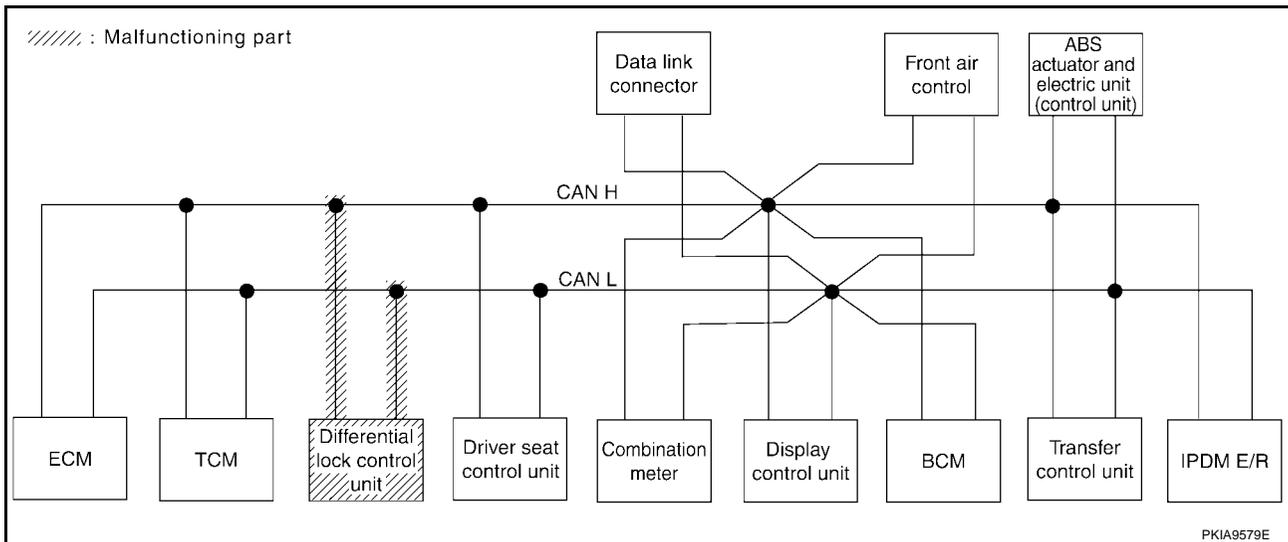
[CAN]

Case 7

Check differential lock control unit circuit. Refer to [LAN-390, "Differential Lock Control Unit Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9465E



CAN SYSTEM (TYPE 12)

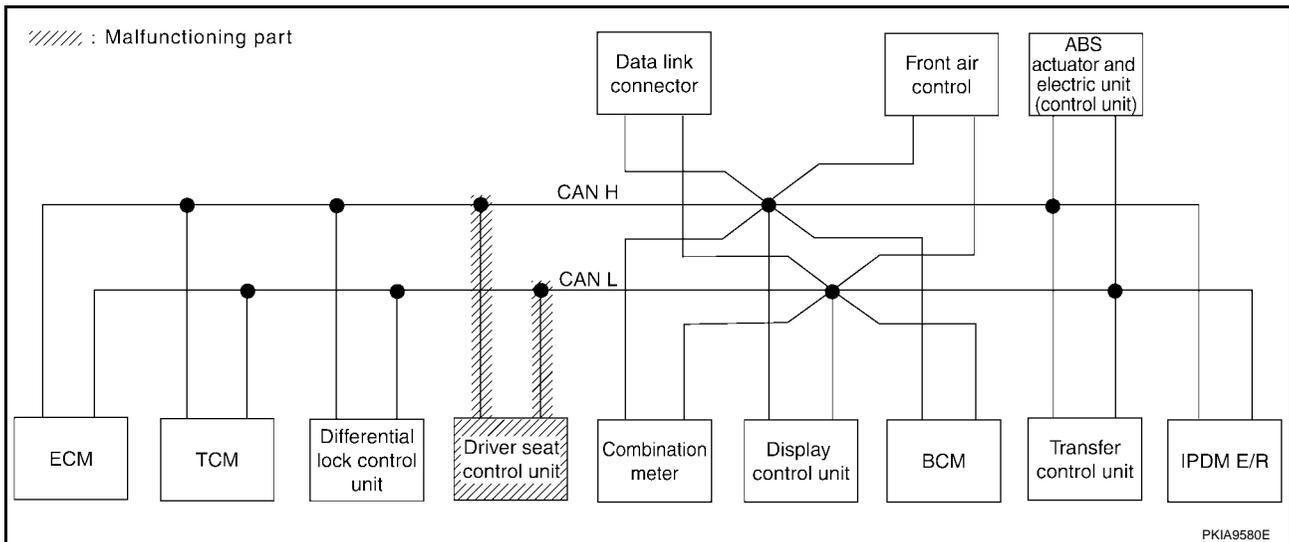
[CAN]

Case 8

Check driver seat control unit circuit. Refer to [LAN-391, "Driver Seat Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9466E



PKIA9580E

CAN SYSTEM (TYPE 12)

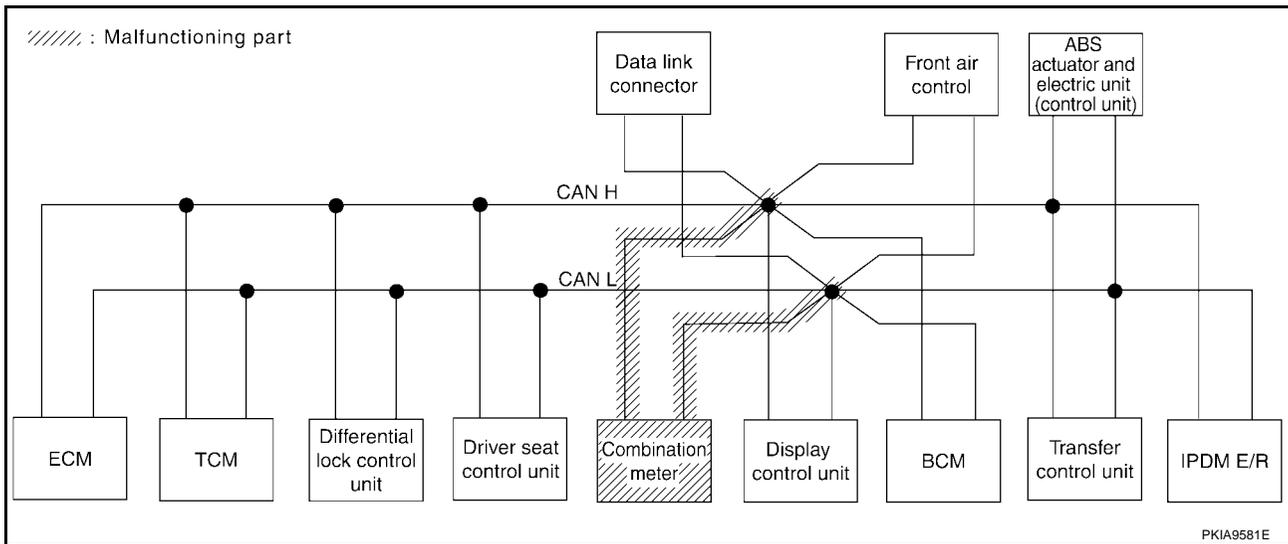
[CAN]

Case 9

Check combination meter circuit. Refer to [LAN-391, "Combination Meter Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	—	UNKWN	—	—	—	—

PKIA9467E



PKIA9581E

CAN SYSTEM (TYPE 12)

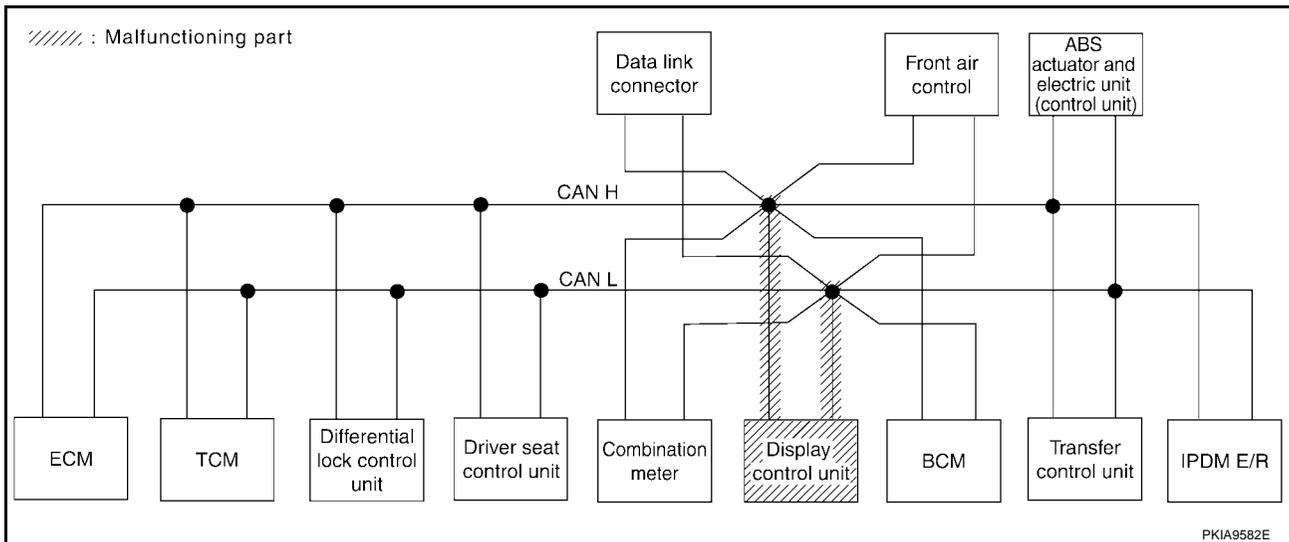
[CAN]

Case 10

Check display control unit circuit. Refer to [LAN-392, "Display Control Unit Circuit Check"](#) .

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

PKIA9468E



PKIA9582E

CAN SYSTEM (TYPE 12)

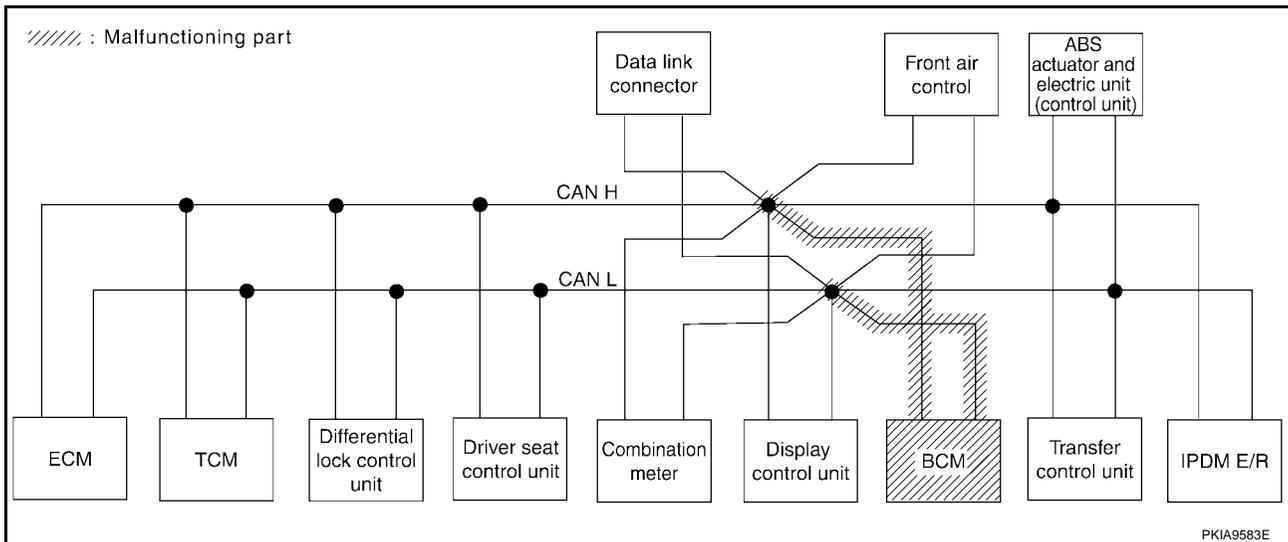
[CAN]

Case 11

Check BCM circuit. Refer to [LAN-392, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9469E



CAN SYSTEM (TYPE 12)

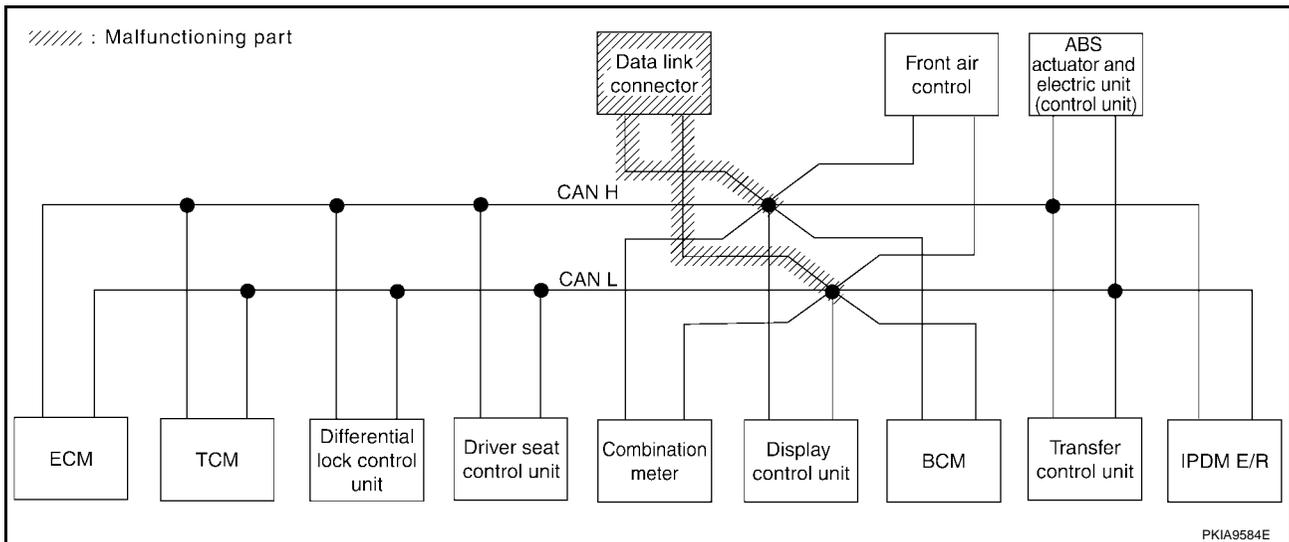
[CAN]

Case 12

Check data link connector circuit. Refer to [LAN-393, "Data Link Connector Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9470E



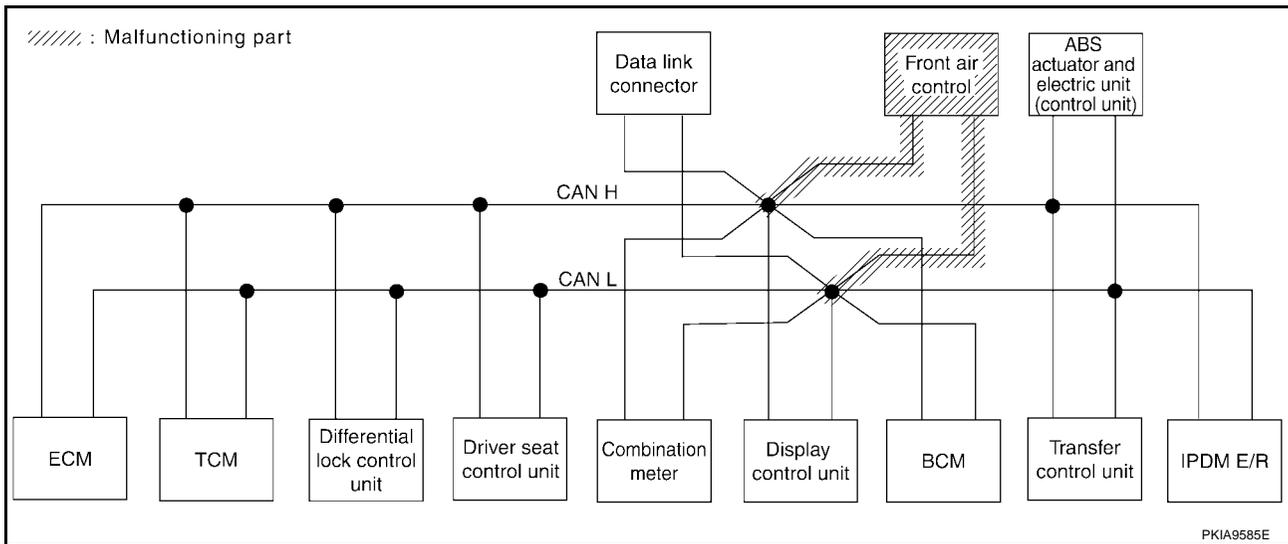
PKIA9584E

Case 13

Check front air control circuit. Refer to [LAN-393, "Front Air Control Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9471E



CAN SYSTEM (TYPE 12)

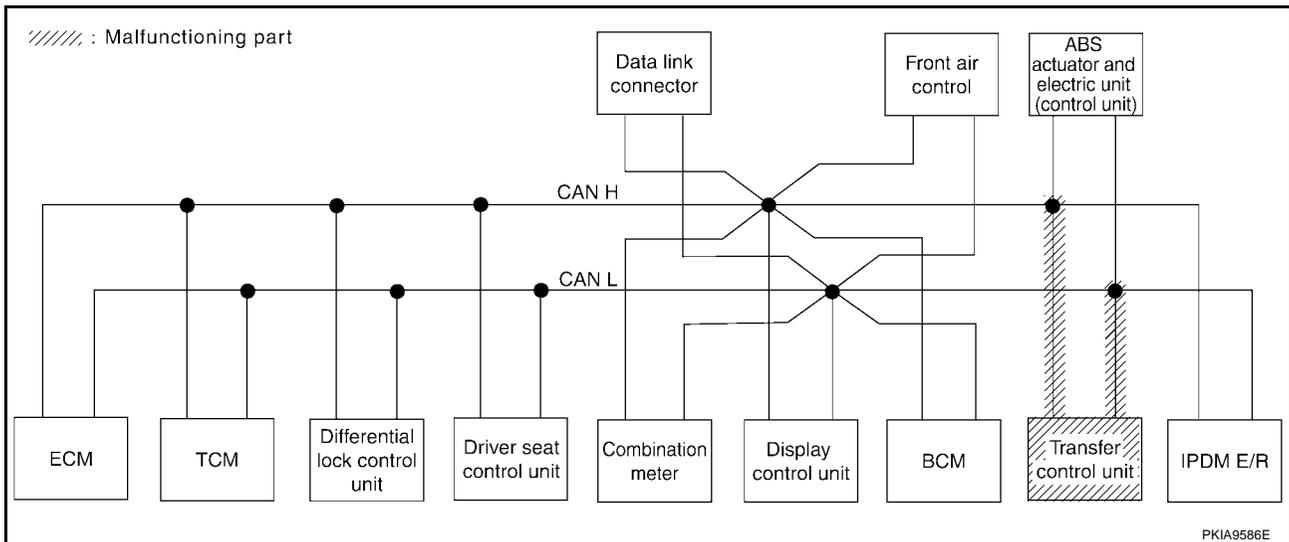
[CAN]

Case 14

Check transfer control unit circuit. Refer to [LAN-394, "Transfer Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9472E

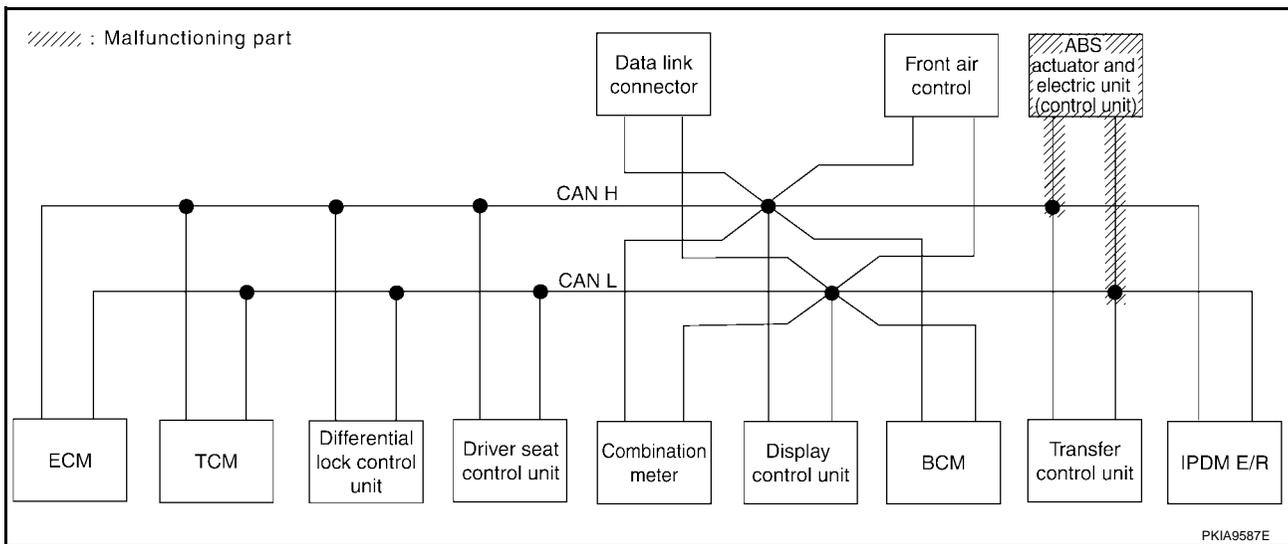


Case 15

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-394, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9473E



CAN SYSTEM (TYPE 12)

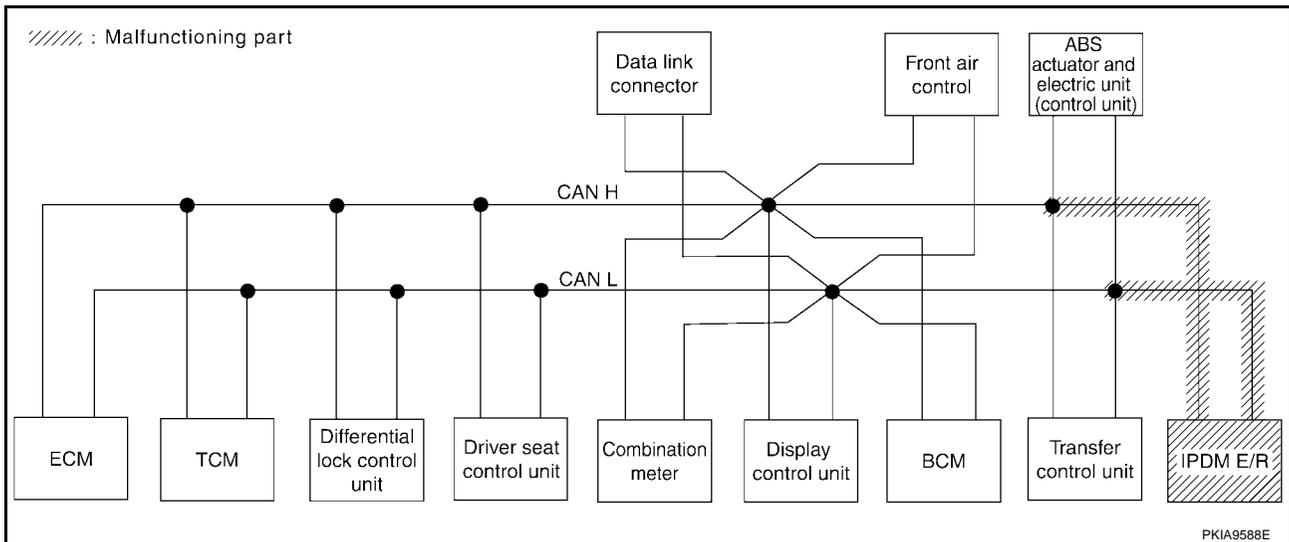
[CAN]

Case 16

Check IPDM E/R circuit. Refer to [LAN-395, "IPDM E/R Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
ENGINE	—	NG	UNKWN	—	UNKWN	—	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	
A/T	—	NG	UNKWN	UNKWN	—	—	UNKWN	—	—	UNKWN	UNKWN	—	
DIFF LOCK	—	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 ✓	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	UNKWN	—	—	—	UNKWN	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—	

PKIA9474E



PKIA9588E

CAN SYSTEM (TYPE 12)

[CAN]

Case 17

Check CAN communication circuit. Refer to [LAN-396, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	—	UNKW N	UNKW N	—	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	—	UNKW N	—	—	UNKW N	UNKW N	—
DIFF LOCK	—	NG	UNKW N	UNKW N	—	—	—	—	—	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	—	UNKW N	UNKW N	—	—	—	—
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	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	UNKW N	—	—	—	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	—	UNKW N	—	—	—	—

PKIA9475E

Case 18

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-396, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	—	UNKW N	UNKW N	—	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	—	UNKW N	—	—	UNKW N	UNKW N	—
DIFF LOCK	—	NG	UNKW N	UNKW N	—	—	—	—	—	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	—	UNKW N	UNKW N	—	—	—	—
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	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	UNKW N	—	—	—	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	—	UNKW N	—	—	—	—

PKIA9476E

Case 19

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-396, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	DIFF LOCK	METER /M&A	BCM /SEC	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	—
DIFF LOCK	—	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
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	UNKWN ✓	—	—	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	—	UNKWN	—	—	—	—

PKIA9477E

Circuit Check Between TCM and Differential Lock Control Unit

UKS0020F

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 E50
 - Harness connector B75

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).

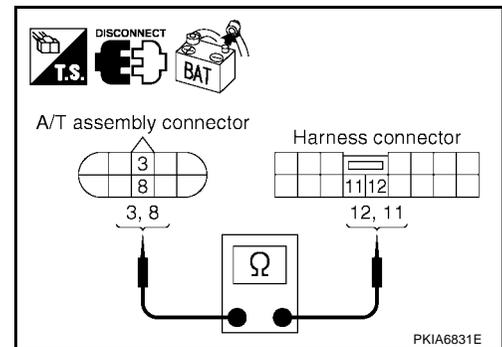
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



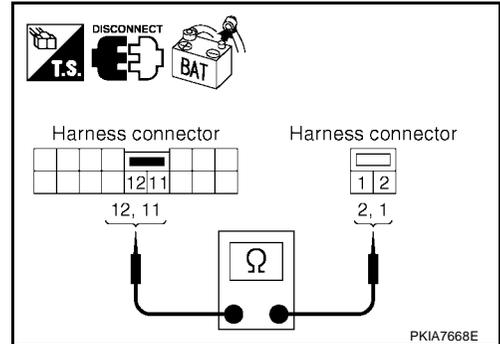
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



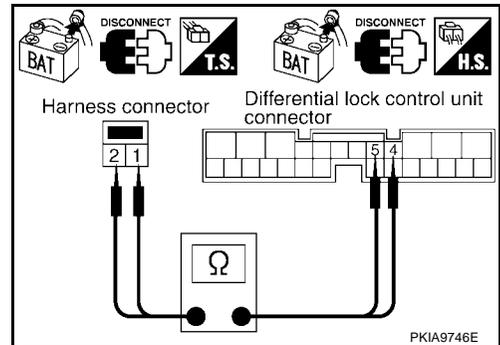
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and differential lock control unit harness connector B77 terminals 5 (W), 4 (R).

2 (W) - 5 (W) : Continuity should exist.
1 (R) - 4 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-365, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Differential Lock Control Unit and Driver Seat Control Unit

UKS001IN

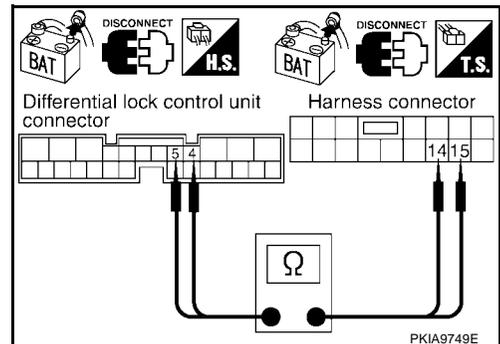
1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect differential lock control unit connector and harness connector B37.
4. Check continuity between differential lock control unit harness connector B77 terminals 5 (W), 4 (R) and harness connector B37 terminals 15 (W), 14 (R).

5 (W) - 15 (W) : Continuity should exist.
4 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-365, "Work Flow"](#).
 NG >> Repair harness.



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Circuit Check Between Driver Seat Control Unit and Data Link Connector**1. CHECK CONNECTOR**

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

OK or NG

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

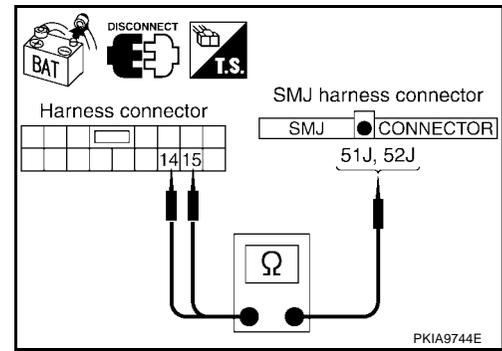
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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

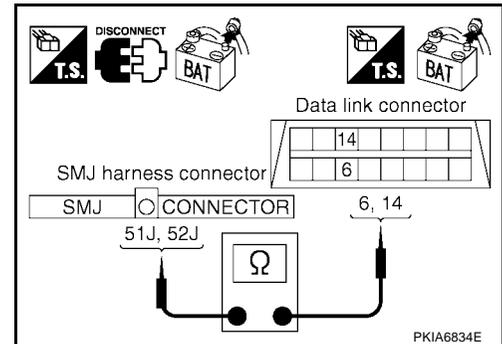
**3. CHECK HARNESS FOR OPEN CIRCUIT**

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-365, "Work Flow"](#).
 NG >> Repair harness.

**Circuit Check Between Data Link Connector and IPDM E/R****1. CHECK CONNECTOR**

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

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

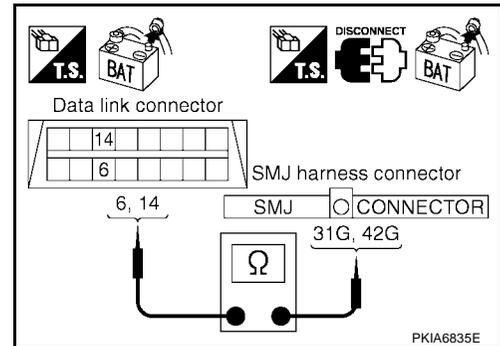
6 (W) - 31G (W) : Continuity should exist.

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).

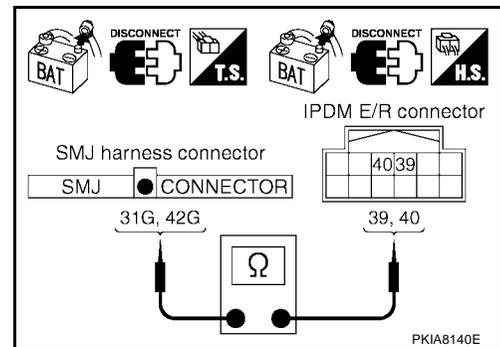
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-365, "Work Flow"](#).

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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LAN

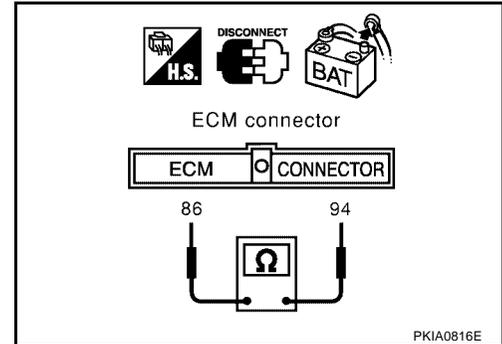
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS0011R

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

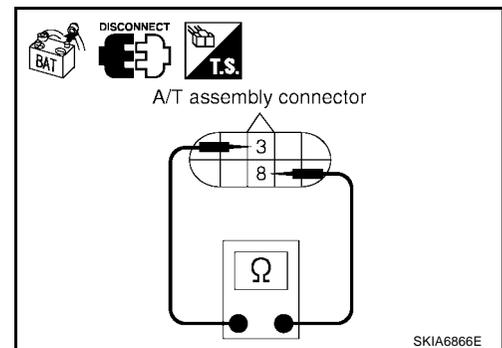
2. CHECK HARNESS FOR OPEN CIRCUIT

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



UKS0020G

Differential Lock Control Unit Circuit Check

1. CHECK CONNECTOR

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

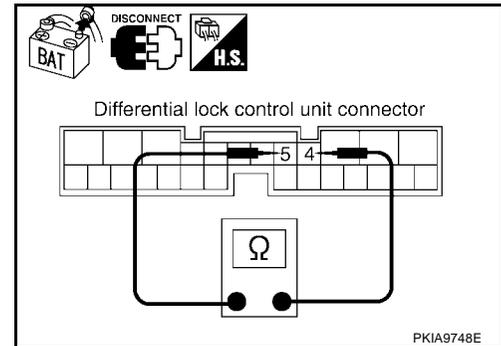
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect differential lock control unit connector.
2. Check resistance between differential lock control unit harness connector B77 terminals 5 (W) and 4 (R).

5 (W) - 4 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace differential lock control unit.
 NG >> Repair harness between differential lock control unit and harness connector B75.



UKS001S

Driver Seat Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

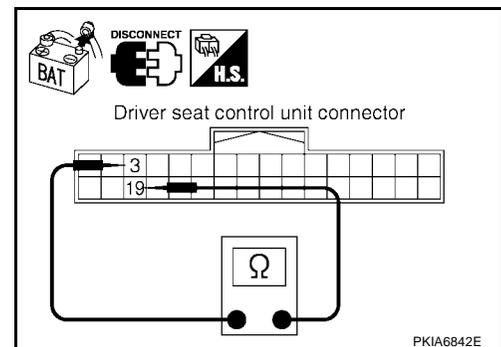
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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.



UKS001T

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

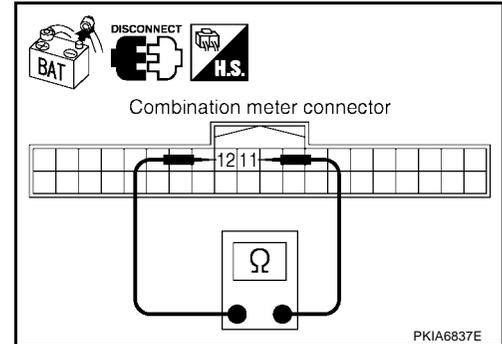
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



UKS001IU

Display Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

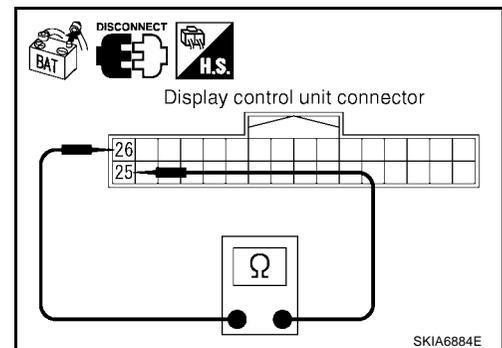
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect display control unit connector.
2. Check resistance between display control unit harness connector 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.



UKS001IV

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

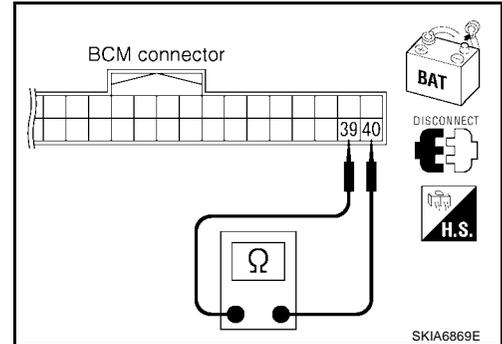
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#).
- NG >> Repair harness between BCM and data link connector.



UKS001IW

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

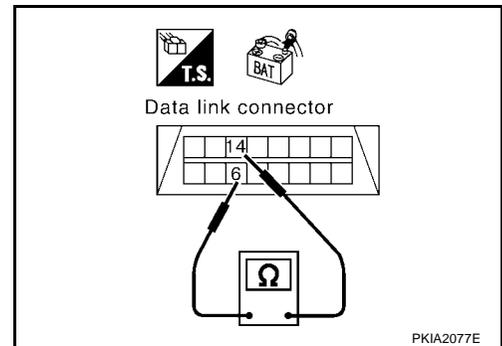
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-365, "Work Flow"](#).
- NG >> Repair harness between data link connector and combination meter.



UKS0020H

Front Air Control Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

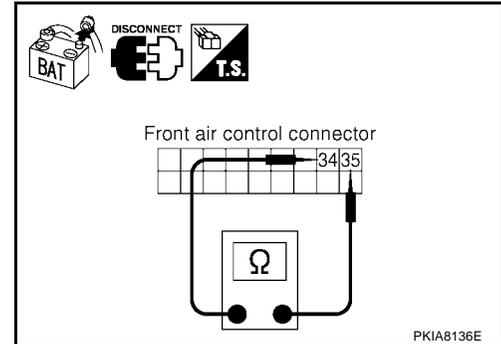
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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.



UKS0011Z

Transfer Control Unit Circuit Check

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.

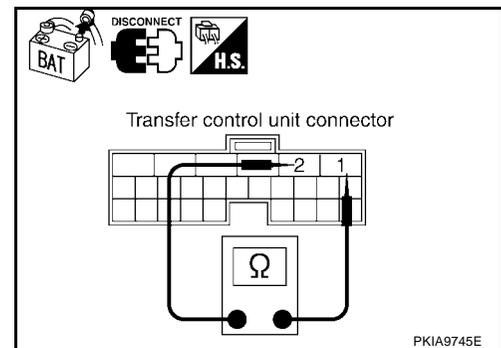
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (R) : Approx. 54 - 66Ω

OK or NG

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



UKS00110

ABS Actuator and Electric Unit (Control Unit) Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

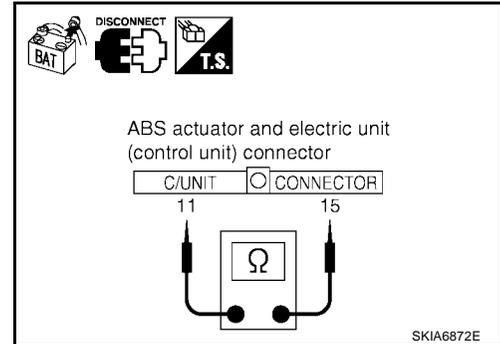
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 11 (W) and 15 (R).

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.



UKS001J1

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

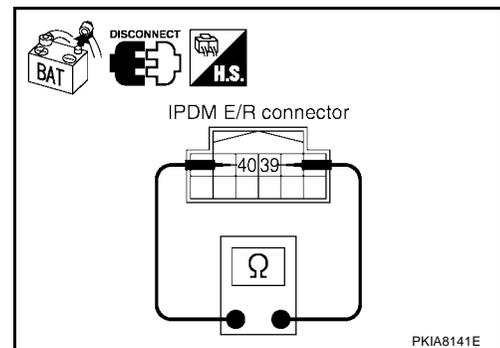
1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E122 terminals 39 (W) and 40 (R).

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.



PKIA8141E

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
 - ECM
 - A/T assembly
 - Differential lock control unit
 - Driver seat control unit
 - Combination meter
 - Display control unit
 - BCM
 - 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.

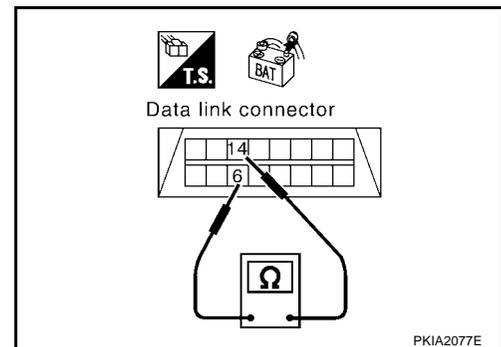
2. CHECK HARNESS FOR SHORT CIRCUIT

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

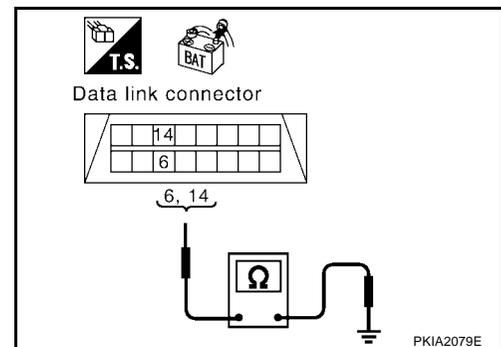
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-397, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#) .
 NG >> Repair harness.



IPDM E/R Ignition Relay Circuit Check

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

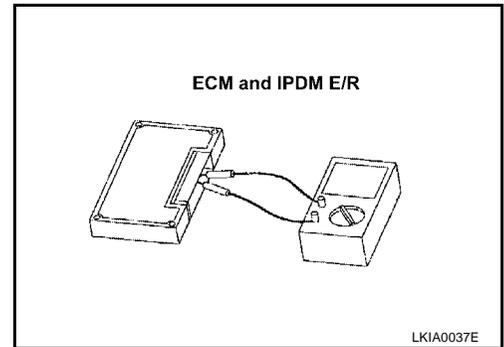
- IPDM E/R power supply circuit. Refer to [PG-26, "IPDM E/R Power/Ground Circuit Inspection"](#) .
- Ignition power supply circuit. Refer to [PG-13, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START"](#) .

Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

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



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CAN SYSTEM (TYPE 13)

PFP:23710

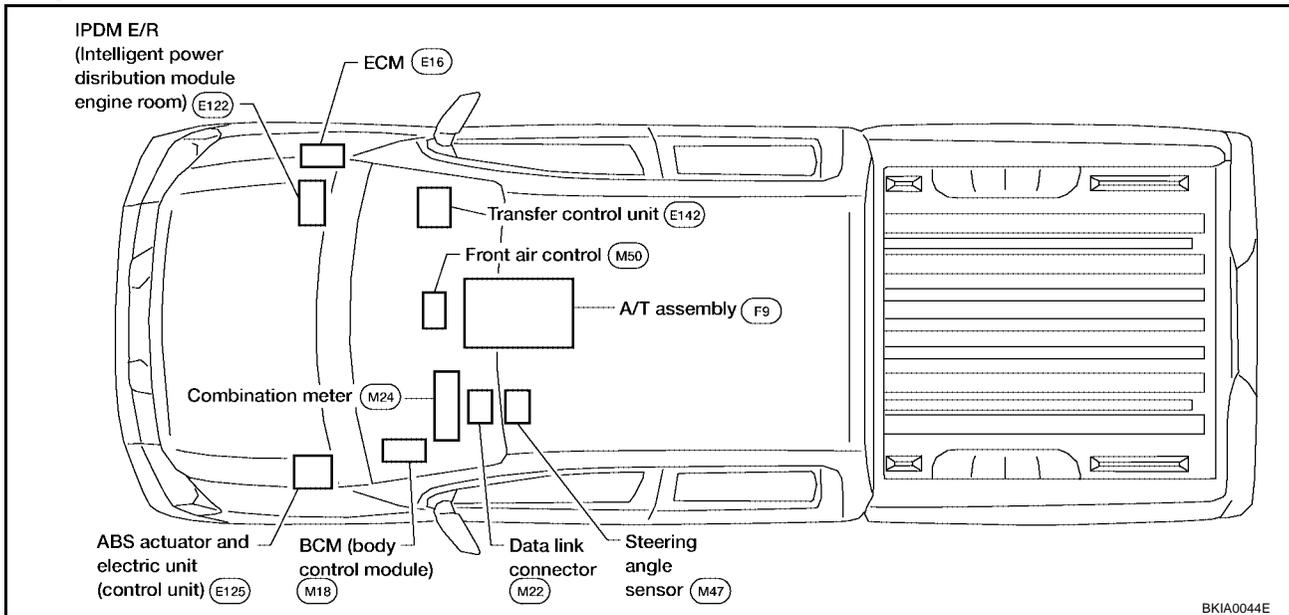
System Description

UKS001W0

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

UKS001W1

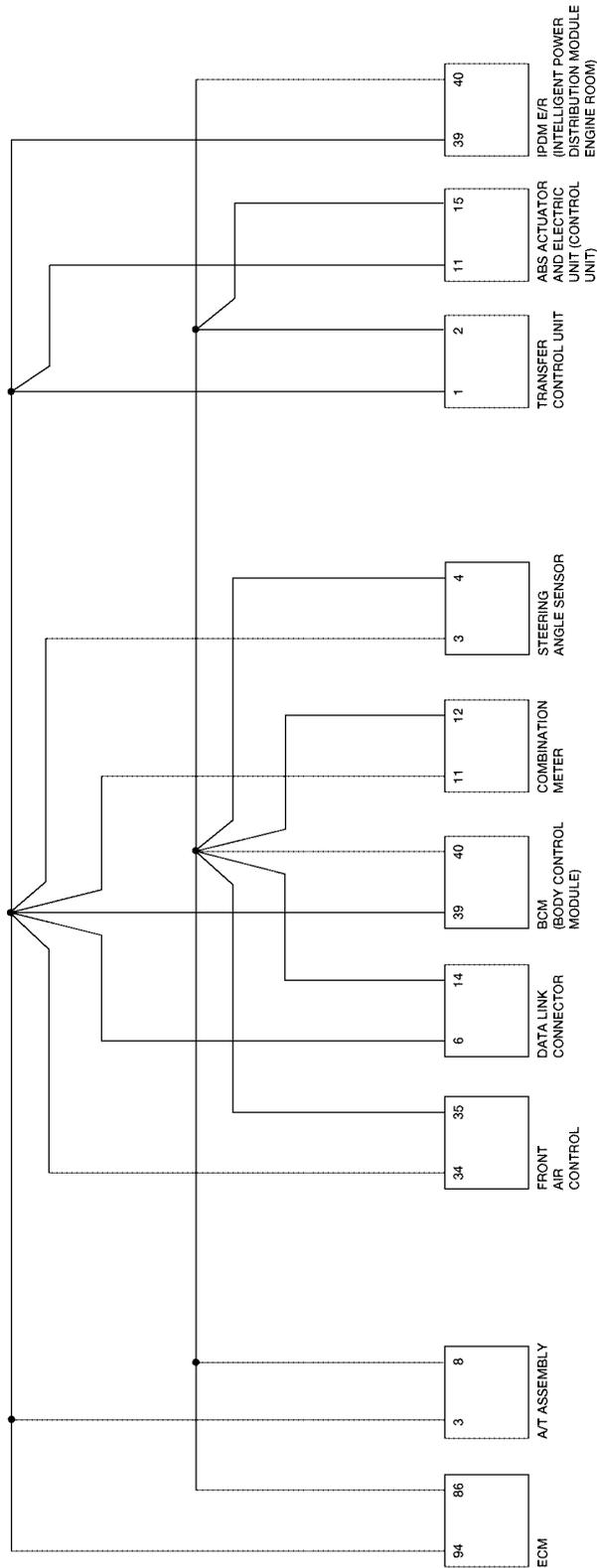


CAN SYSTEM (TYPE 13)

[CAN]

Schematic

UKS001W2



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BKWA0160E

CAN SYSTEM (TYPE 13)

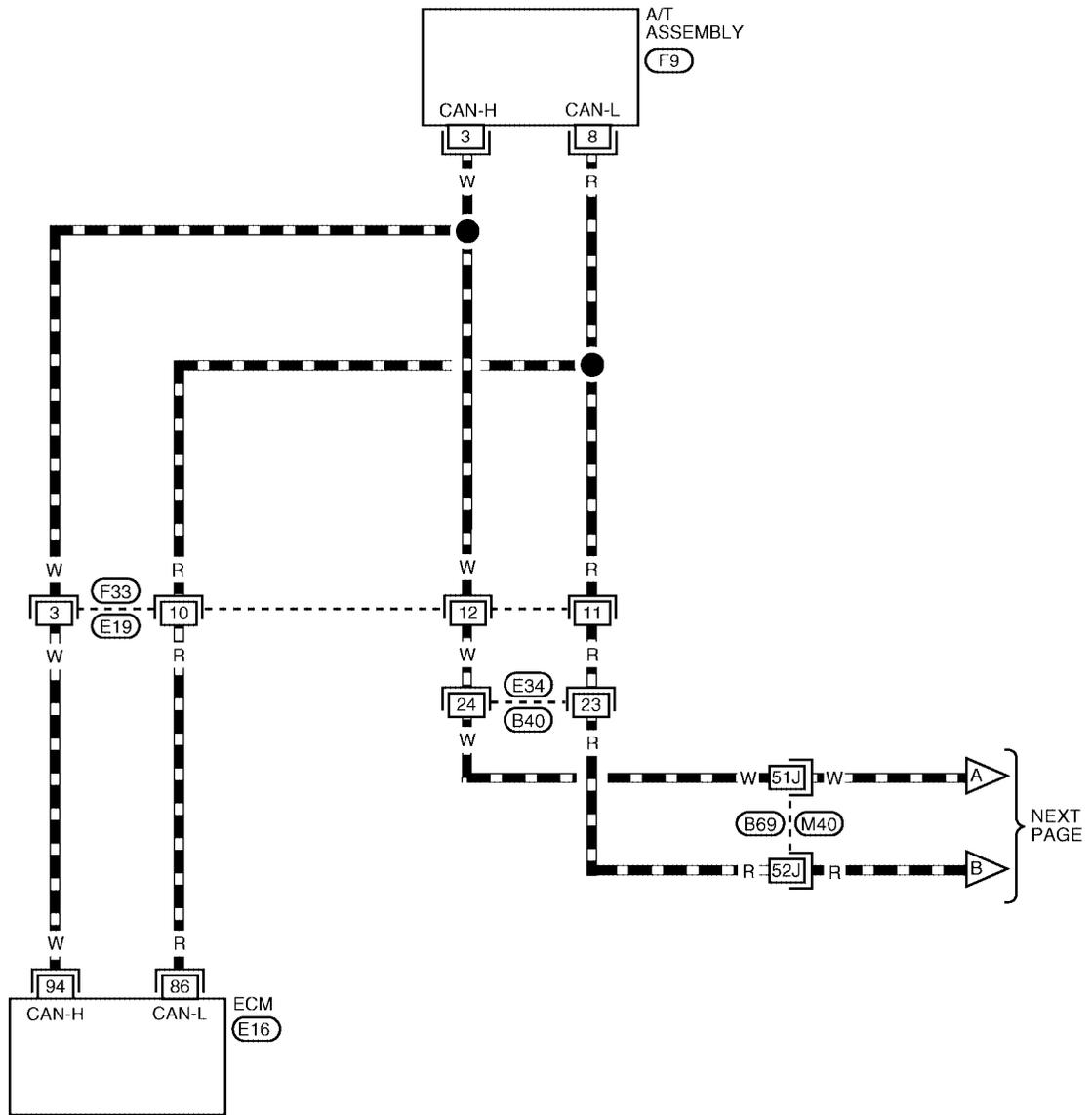
[CAN]

Wiring Diagram - CAN -

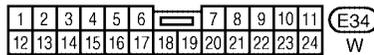
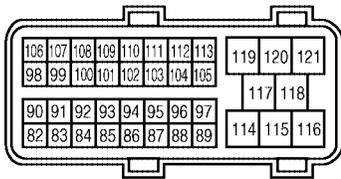
UKS001W3

LAN-CAN-37

— : DATA LINE



NEXT PAGE



REFER TO THE FOLLOWING.

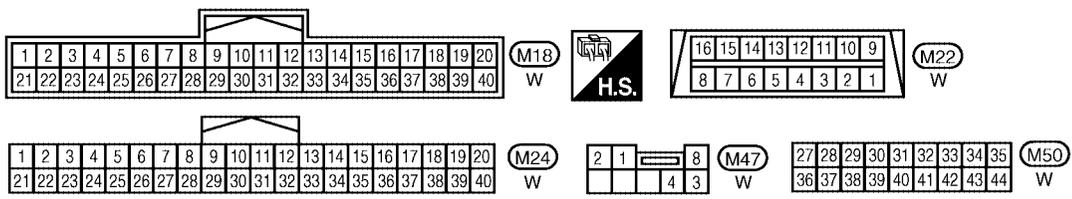
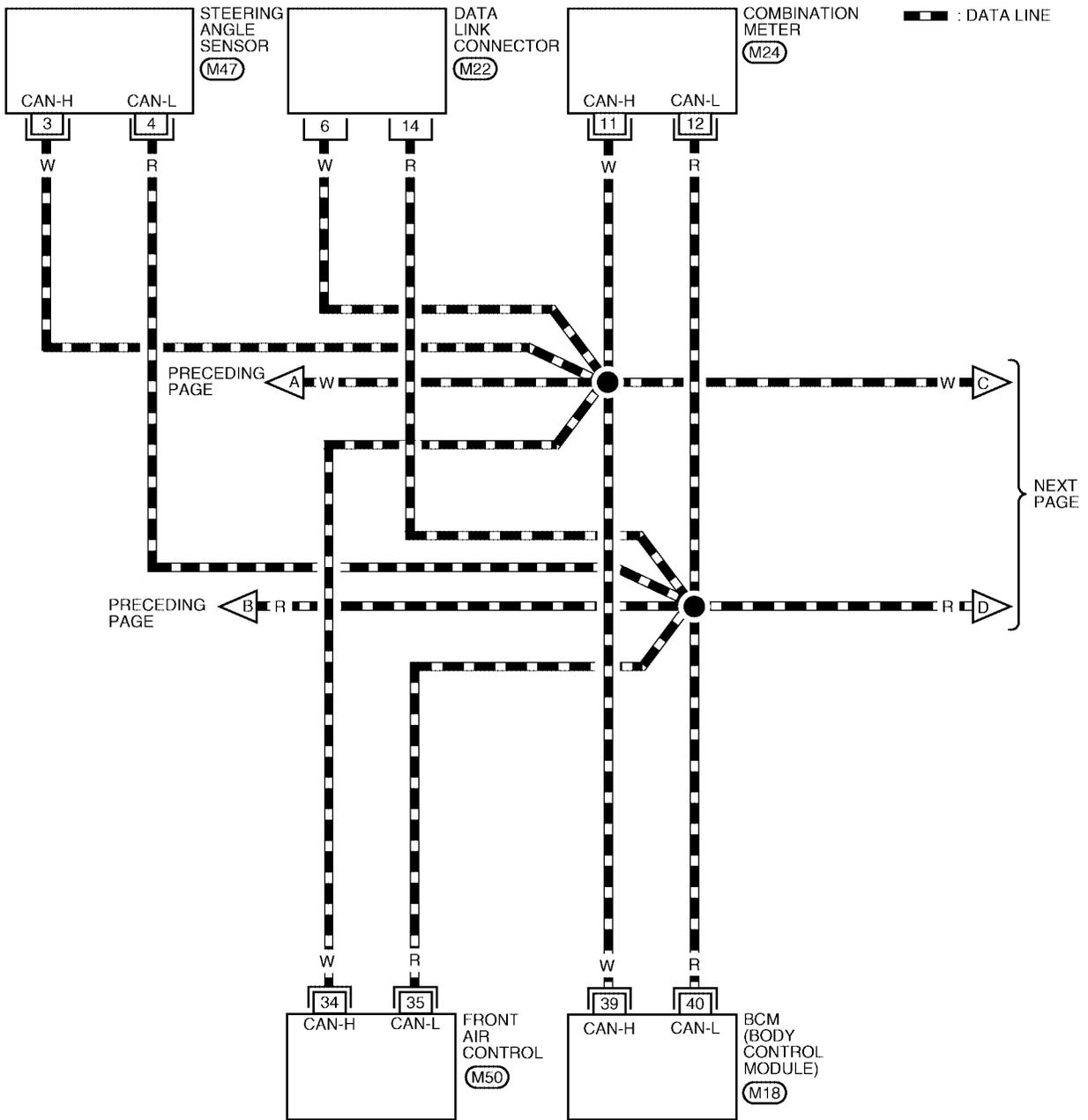
(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0161E

CAN SYSTEM (TYPE 13)

[CAN]

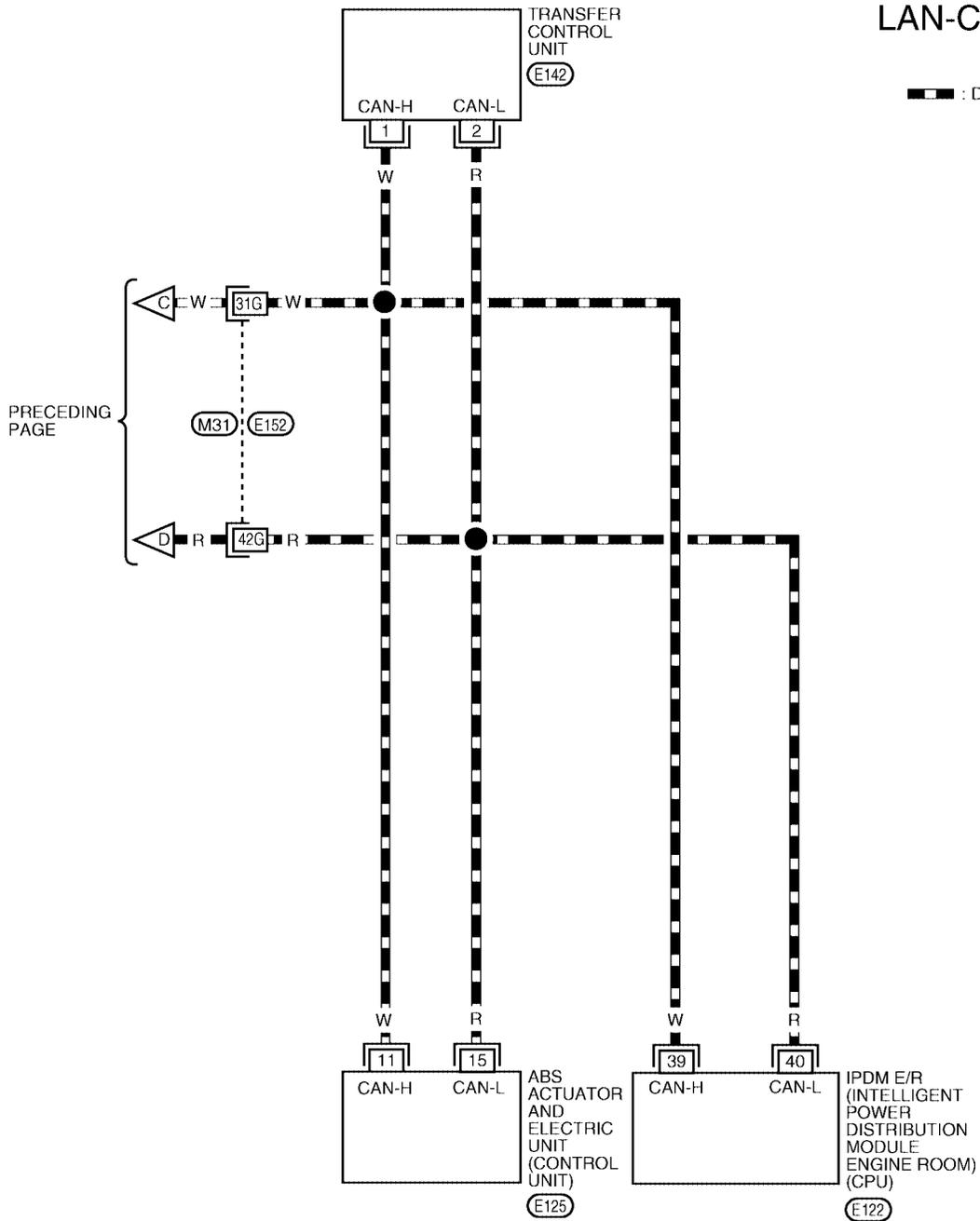
LAN-CAN-38



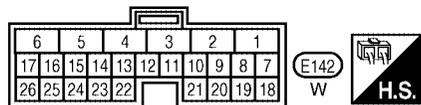
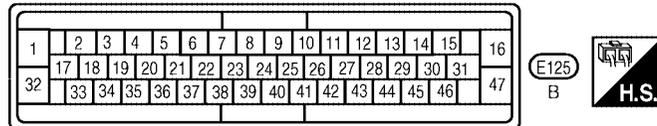
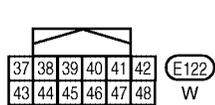
BKWA0162E

LAN-CAN-39

— : DATA LINE



PRECEDING PAGE



REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0163E

Work Flow

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

(Example)

NISSAN CONSULT-II ENGINE START (NISSAN BASED VHCL) START (RENAULT BASED VHCL) SUB MODE LIGHT COPY		SELECT SYSTEM ENGINE A/T ABS AIR BAG BCM METER A/C AMP BACK LIGHT COPY
-----------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------

PKIA2093E

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

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		SELF-DIAG RESULTS DTC RESULTS TIME <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">CAN COMM CIRCUIT (U1000)</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> F.F.DATA ERASE PRINT MODE BACK LIGHT COPY	CAN COMM CIRCUIT (U1000)	0				
CAN COMM CIRCUIT (U1000)	0							

PKIA8260E

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

(Example)

SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Scroll Down BACK LIGHT COPY		CAN DIAG SUPPORT MNTR ENGINE <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">PRSRNT</td> <td style="width: 40%;"> </td> </tr> <tr> <td>INITIAL DIAG</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>TRANSMIT DIAG</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>TCM</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>VDC/TCS/ABS</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>METER/M&A</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>ICC</td> <td style="text-align: center;">UNKWN</td> </tr> <tr> <td>BCM/SEC</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>IPDM E/R</td> <td style="text-align: center;">OK</td> </tr> <tr> <td>AWD/4WD/e4WD</td> <td style="text-align: center;">UNKWN</td> </tr> <tr> <td>PRINT</td> <td style="text-align: center;">Scroll Down</td> </tr> <tr> <td>MODE BACK LIGHT COPY</td> <td> </td> </tr> </table>	PRSRNT		INITIAL DIAG	OK	TRANSMIT DIAG	OK	TCM	OK	VDC/TCS/ABS	OK	METER/M&A	OK	ICC	UNKWN	BCM/SEC	OK	IPDM E/R	OK	AWD/4WD/e4WD	UNKWN	PRINT	Scroll Down	MODE BACK LIGHT COPY	
PRSRNT																										
INITIAL DIAG	OK																									
TRANSMIT DIAG	OK																									
TCM	OK																									
VDC/TCS/ABS	OK																									
METER/M&A	OK																									
ICC	UNKWN																									
BCM/SEC	OK																									
IPDM E/R	OK																									
AWD/4WD/e4WD	UNKWN																									
PRINT	Scroll Down																									
MODE BACK LIGHT COPY																										

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-404, "CHECK SHEET"](#).

- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-404, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-406, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

CAN SYSTEM (TYPE 13)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

CAN SYSTEM (TYPE 13)

[CAN]

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Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
ALL MODE AWD/4WD
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
A/T
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

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

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

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IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA9141E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

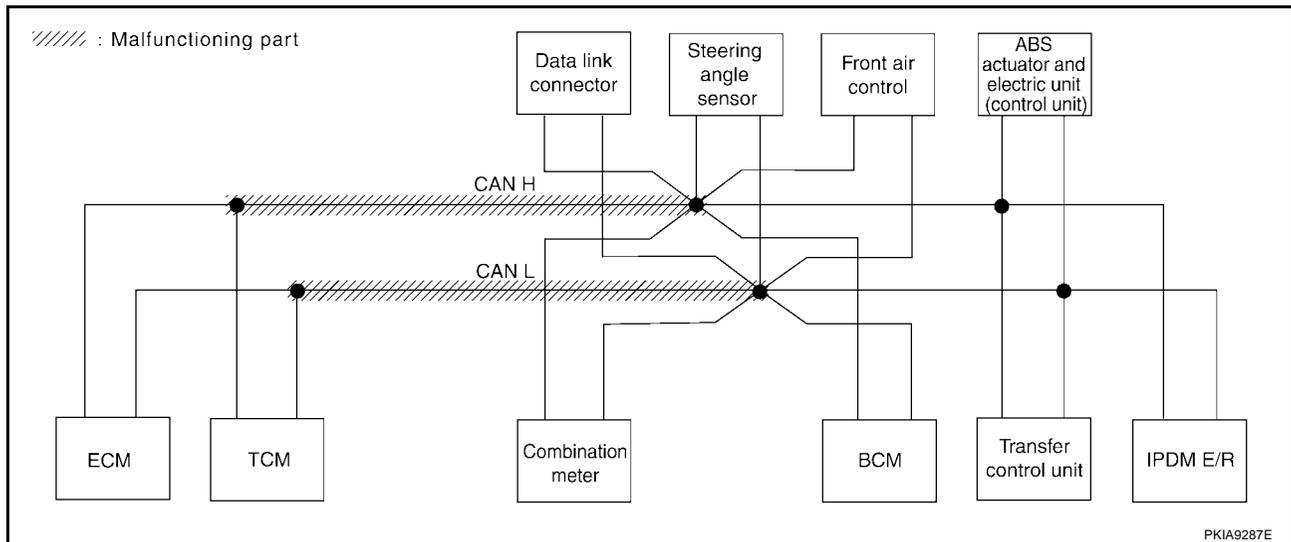
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to [LAN-418, "Circuit Check Between TCM 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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	—	UNKWN ✓	UNKWN ✓	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—	—

PKIA9191E



CAN SYSTEM (TYPE 13)

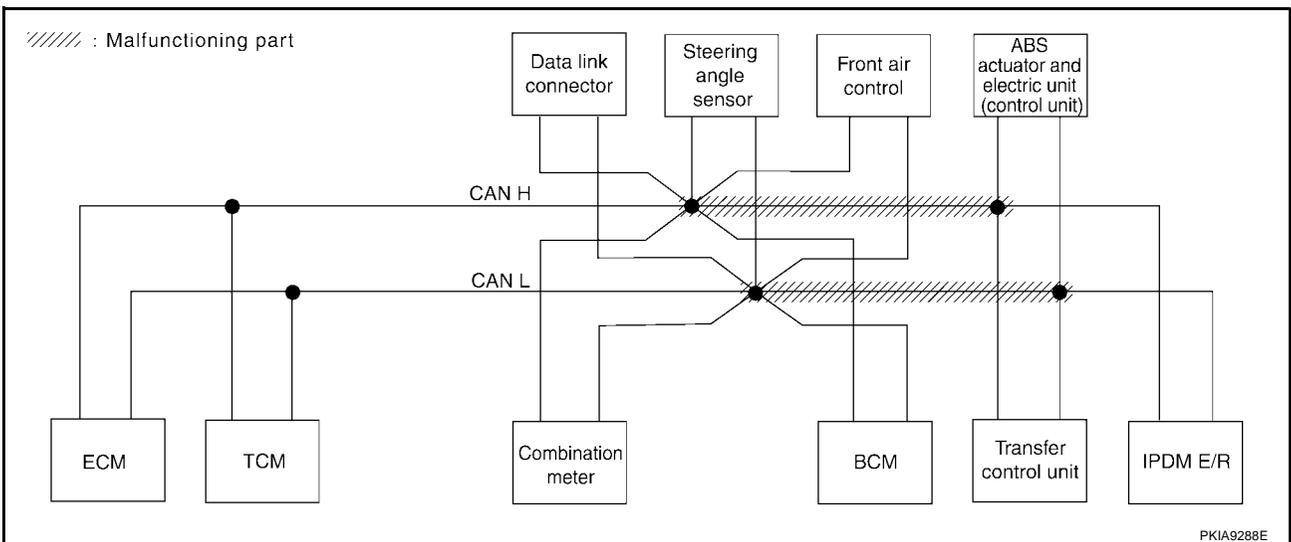
[CAN]

Case 2

Check harness between data link connector and IPDM E/R. Refer to [LAN-419, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9192E



CAN SYSTEM (TYPE 13)

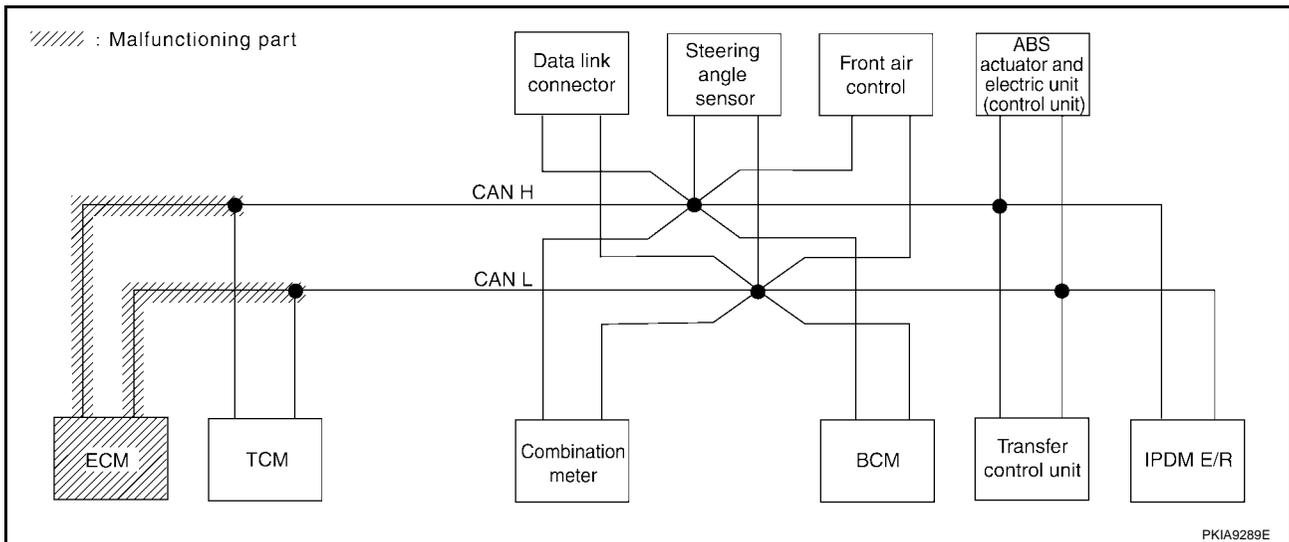
[CAN]

Case 3

Check ECM circuit. Refer to [LAN-420, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	UNKWN	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—	—

PKIA9193E



PKIA9289E

CAN SYSTEM (TYPE 13)

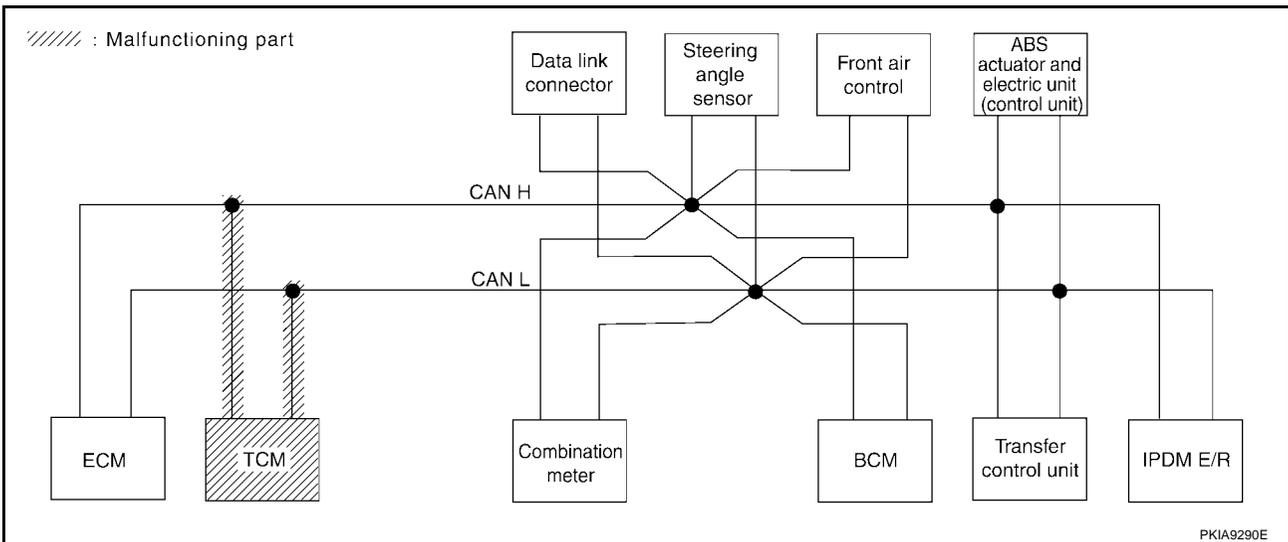
[CAN]

Case 4

Check TCM circuit. Refer to [LAN-421, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9194E



A
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CAN SYSTEM (TYPE 13)

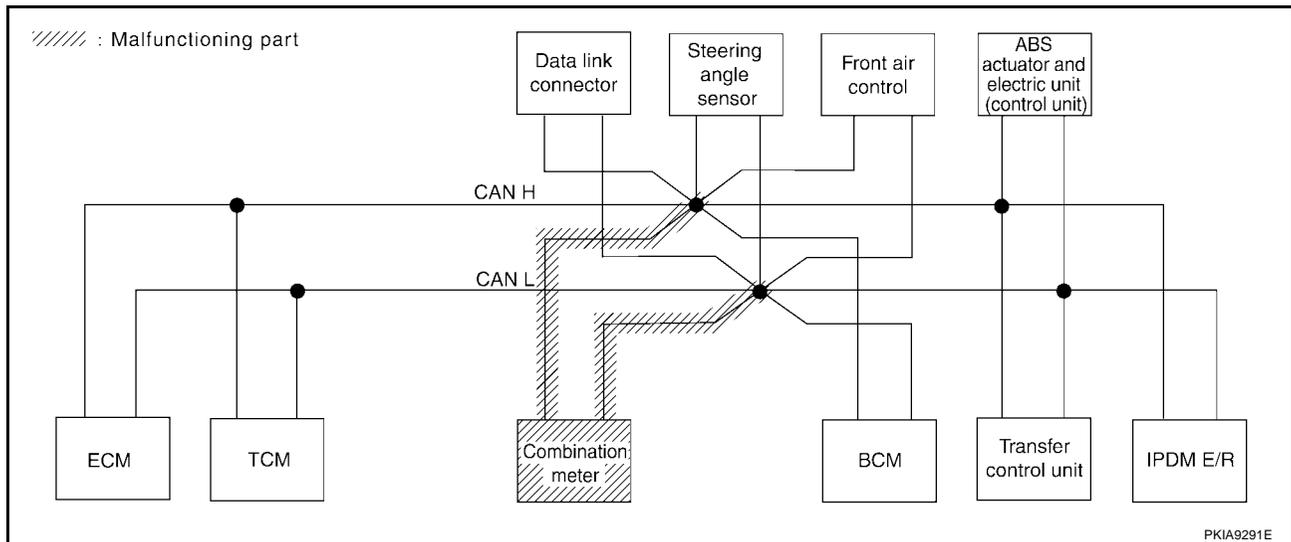
[CAN]

Case 5

Check combination meter circuit. Refer to [LAN-421, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	--	NG	UNKWN	--	UNKWN	UNKWN ✓	UNKWN	--	UNKWN	UNKWN	UNKWN	
A/T	--	NG	UNKWN	UNKWN	--	UNKWN ✓	--	--	UNKWN	UNKWN	--	
BCM	No indication	NG	UNKWN	UNKWN	--	UNKWN ✓	--	--	--	--	UNKWN	
ALL MODE AWD/4WD	--	NG	UNKWN	UNKWN	UNKWN	--	--	--	--	UNKWN	--	
ABS	--	NG	UNKWN	UNKWN	UNKWN	--	--	UNKWN	UNKWN	--	--	
IPDM E/R	No indication	--	UNKWN	UNKWN	--	--	UNKWN	--	--	--	--	

PKIA9195E



PKIA9291E

CAN SYSTEM (TYPE 13)

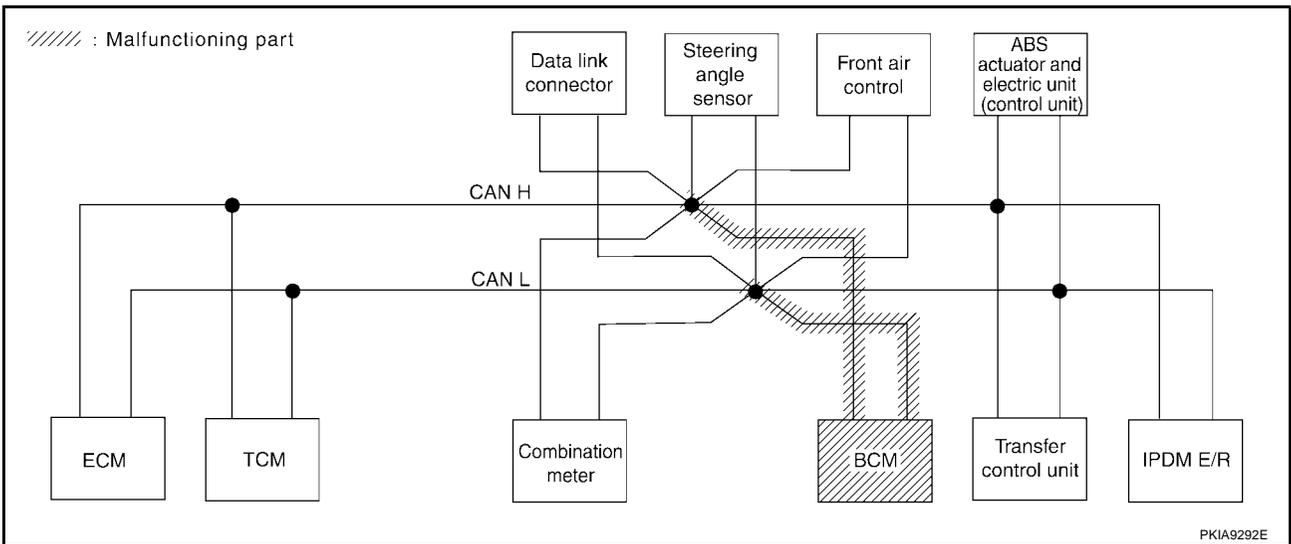
[CAN]

Case 6

Check BCM circuit. Refer to [LAN-422, "BCM Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9196E



CAN SYSTEM (TYPE 13)

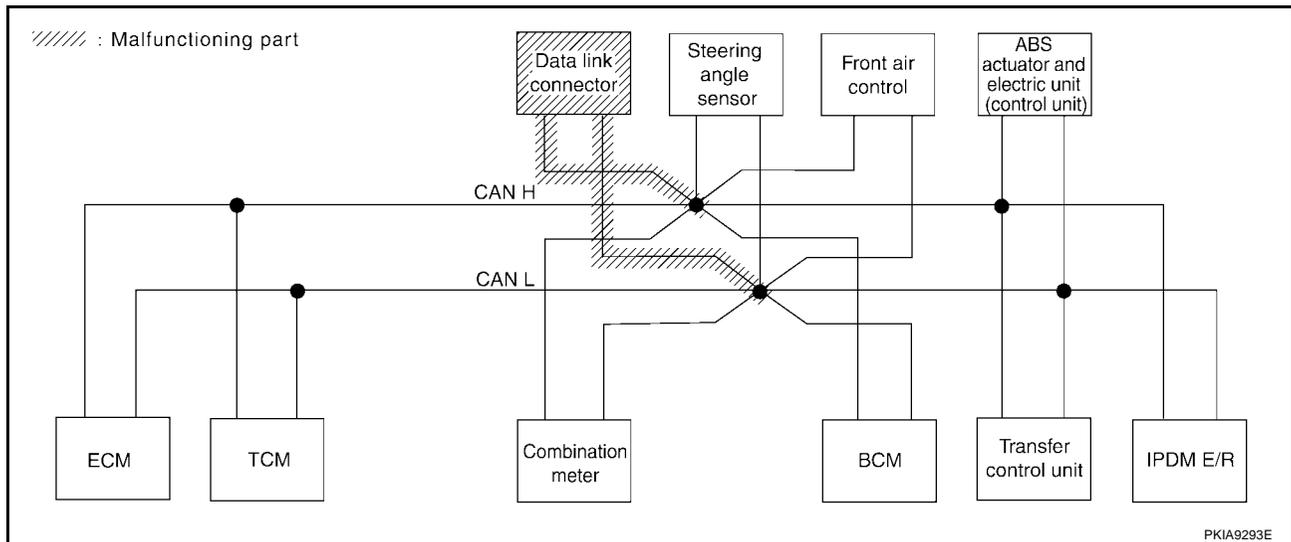
[CAN]

Case 7

Check data link connector circuit. Refer to [LAN-422, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9197E



PKIA9293E

CAN SYSTEM (TYPE 13)

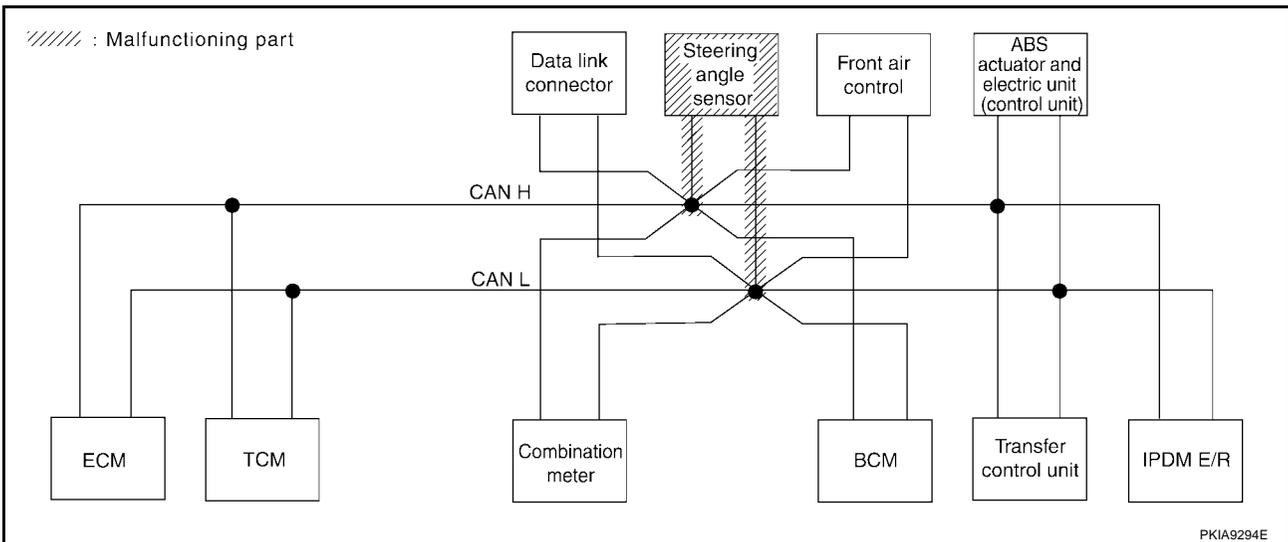
[CAN]

Case 8

Check steering angle sensor circuit. Refer to [LAN-423, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9198E



CAN SYSTEM (TYPE 13)

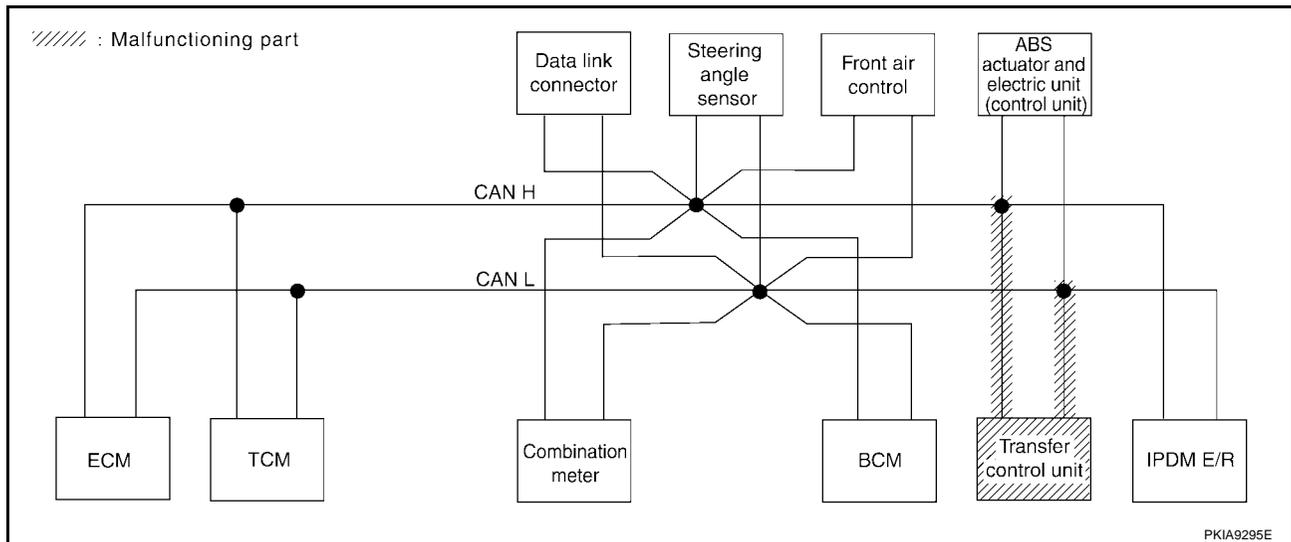
[CAN]

Case 9

Check transfer control unit circuit. Refer to [LAN-423, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9199E



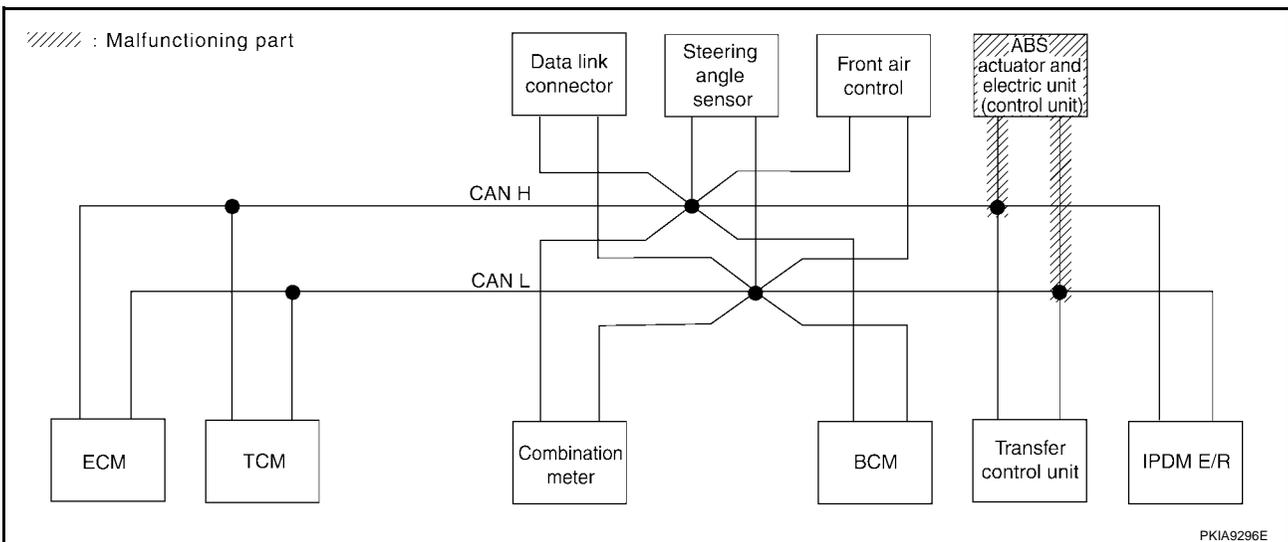
PKIA9295E

Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-424, "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	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9200E



CAN SYSTEM (TYPE 13)

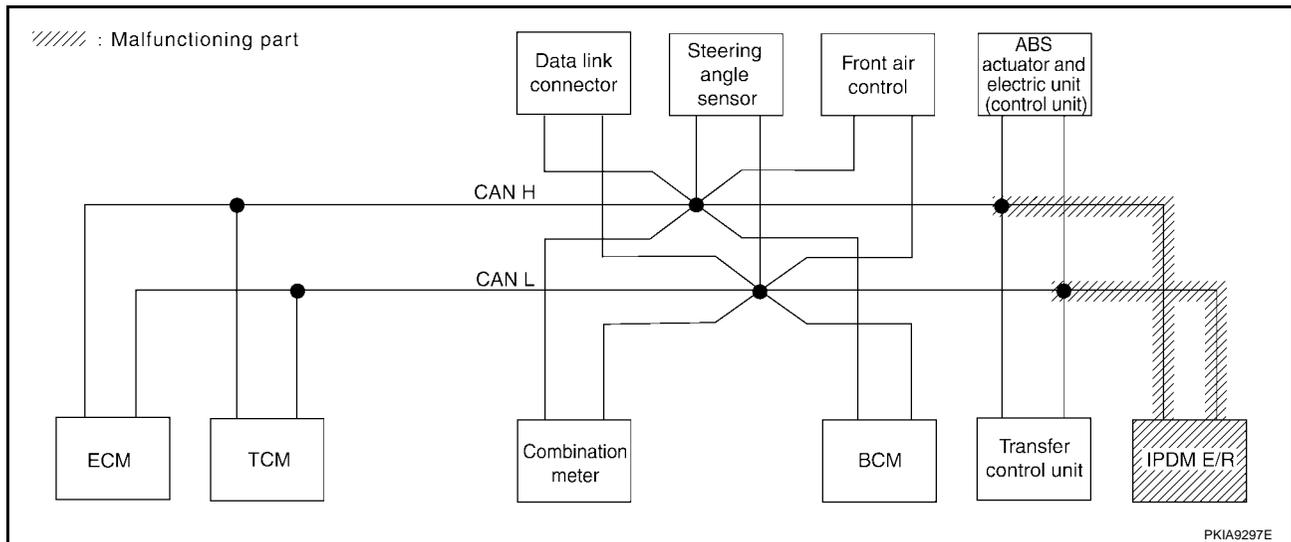
[CAN]

Case 11

Check IPDM E/R circuit. Refer to [LAN-424, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN ✓
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—

PKIA9201E



PKIA9297E

CAN SYSTEM (TYPE 13)

[CAN]

Case 12

Check CAN communication circuit. Refer to [LAN-425, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N	UNKW N	
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	UNKW N	—	
BCM	No indication ✓	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	—	UNKW N	
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	UNKW N	—	
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	UNKW N	—	—	
IPDM E/R	No indication ✓	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—	

PKIA9202E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-426, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N	UNKW N	
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	UNKW N	—	
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	—	UNKW N	
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	UNKW N	—	
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	UNKW N	—	—	
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—	

PKIA9203E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-426, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	UNKWN	
A/T	—	NG	UNKWN	✓	—	✓	—	—	✓	UNKWN	—	
BCM	No indication	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN	
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—	
ABS	—	NG	UNKWN	✓	UNKWN	—	—	✓	✓	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN	—	—	—	—	

PKIA9204E

Circuit Check Between TCM and Data Link Connector

UKS00229

1. CHECK CONNECTOR

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

OK or NG

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

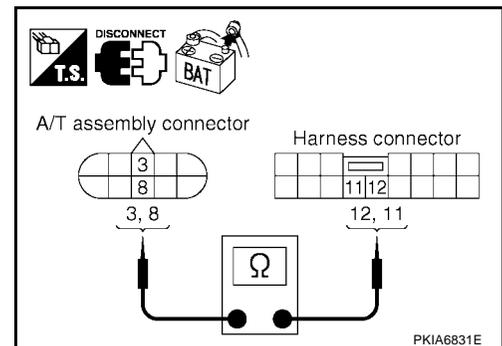
2. CHECK HARNESS FOR OPEN CIRCUIT

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



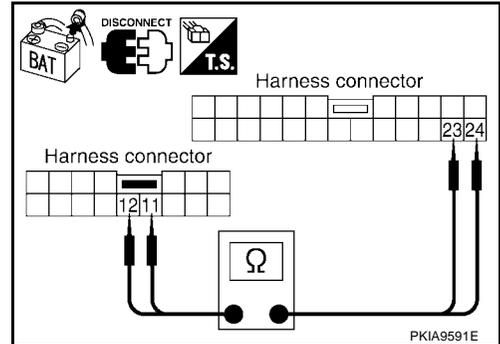
3. CHECK HARNESS FOR OPEN CIRCUIT

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.



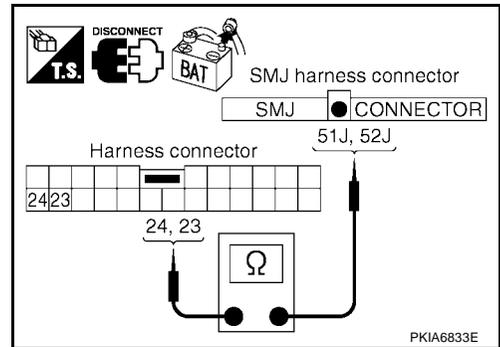
4. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

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



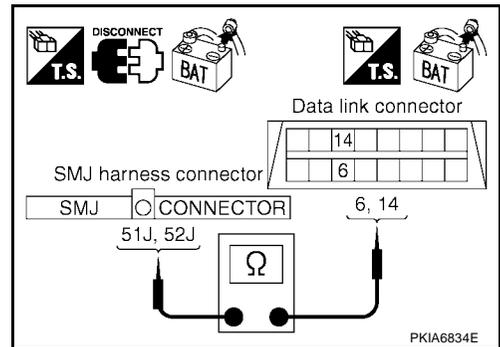
5. CHECK HARNESS FOR OPEN CIRCUIT

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

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

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-403, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0022A

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).

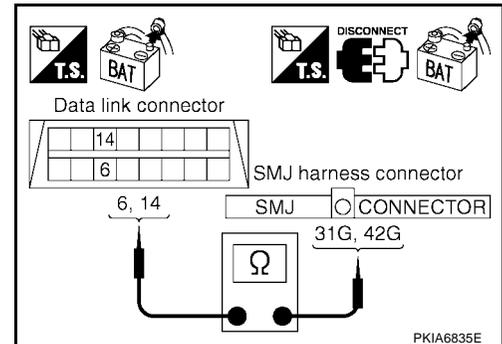
6 (W) - 31G (W) : Continuity should exist.

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).

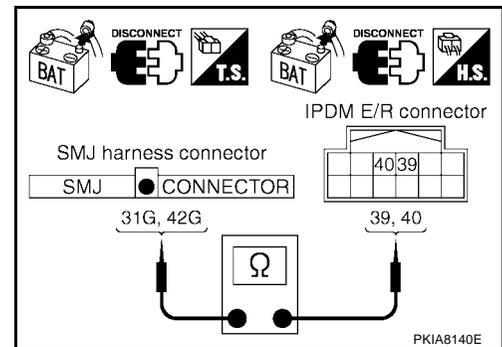
31G (W) - 39 (W) : Continuity should exist.

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

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-403, "Work Flow"](#).

NG >> Repair harness.



UKS0022B

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

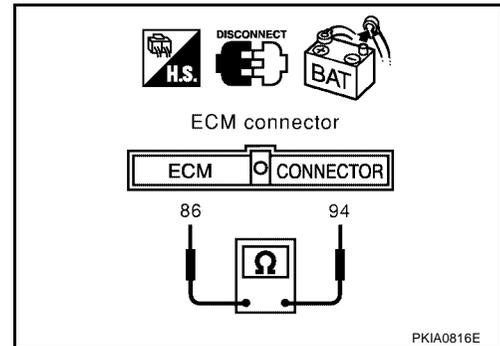
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS0022C

TCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

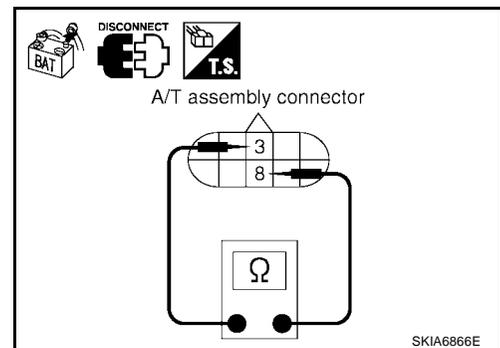
2. CHECK HARNESS FOR OPEN CIRCUIT

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



UKS0022D

Combination Meter Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

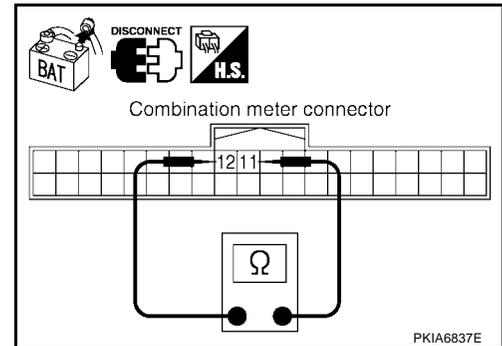
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
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.



UKS0022E

BCM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

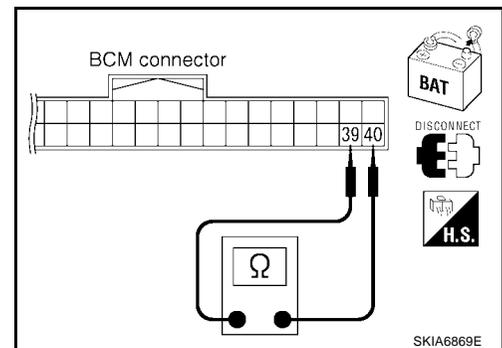
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.



UKS0022F

Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

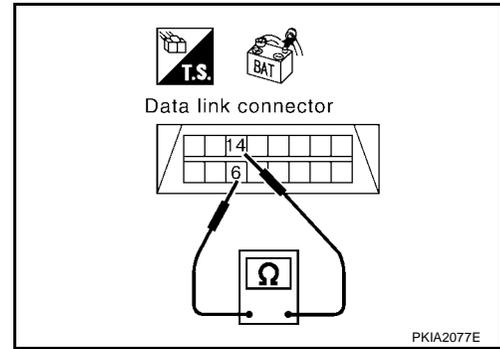
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-403, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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

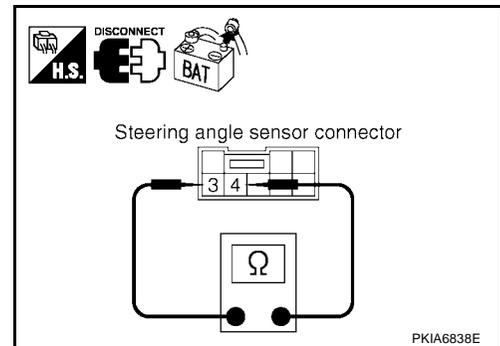
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



Transfer Control Unit Circuit Check

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.

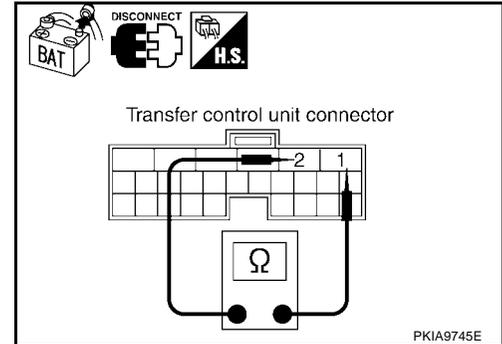
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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

UKS0022I

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.

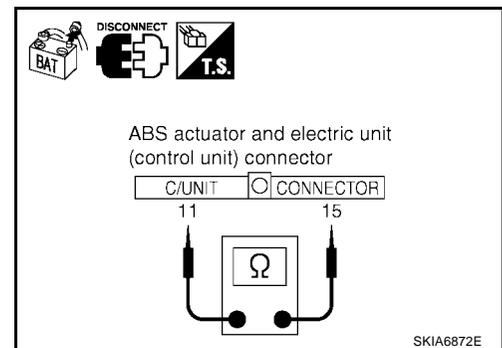
2. CHECK HARNESS FOR OPEN CIRCUIT

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

UKS0022J

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.

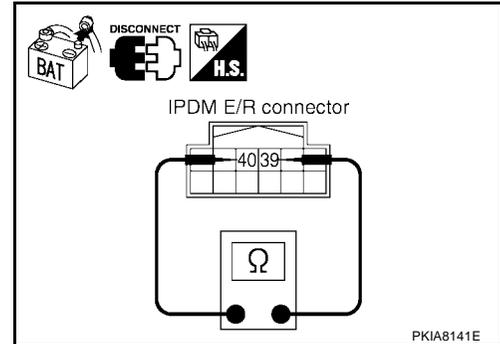
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



UKS0022K

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

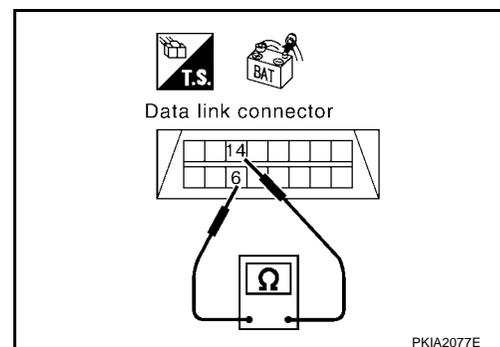
2. CHECK HARNESS FOR SHORT CIRCUIT

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

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.

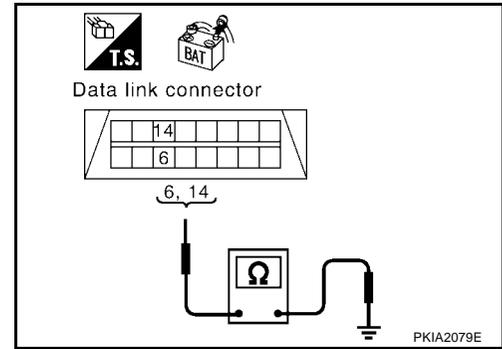
6 (W) - Ground : Continuity should not exist.

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

OK or NG

OK >> Check ECM and IPDM E/R. Refer to [LAN-426, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

NG >> Repair harness.



UKS0022L

IPDM E/R Ignition Relay Circuit Check

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

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

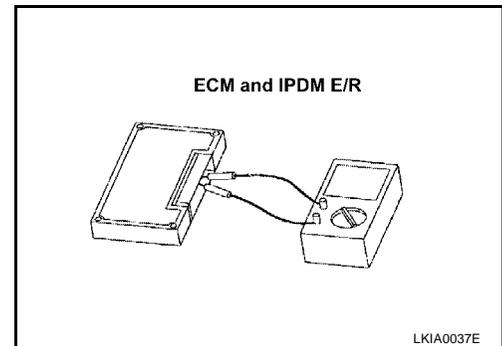
Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

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

UKS0022M

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



CAN SYSTEM (TYPE 14)

PFP:23710

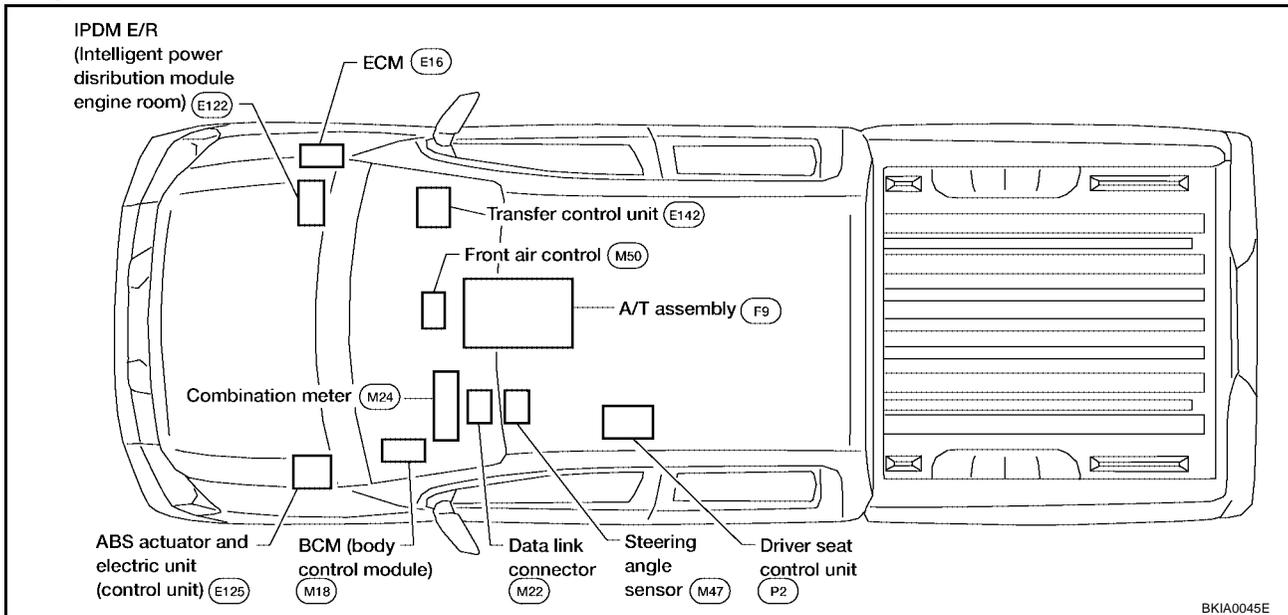
System Description

UKS001WJ

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

UKS001WK



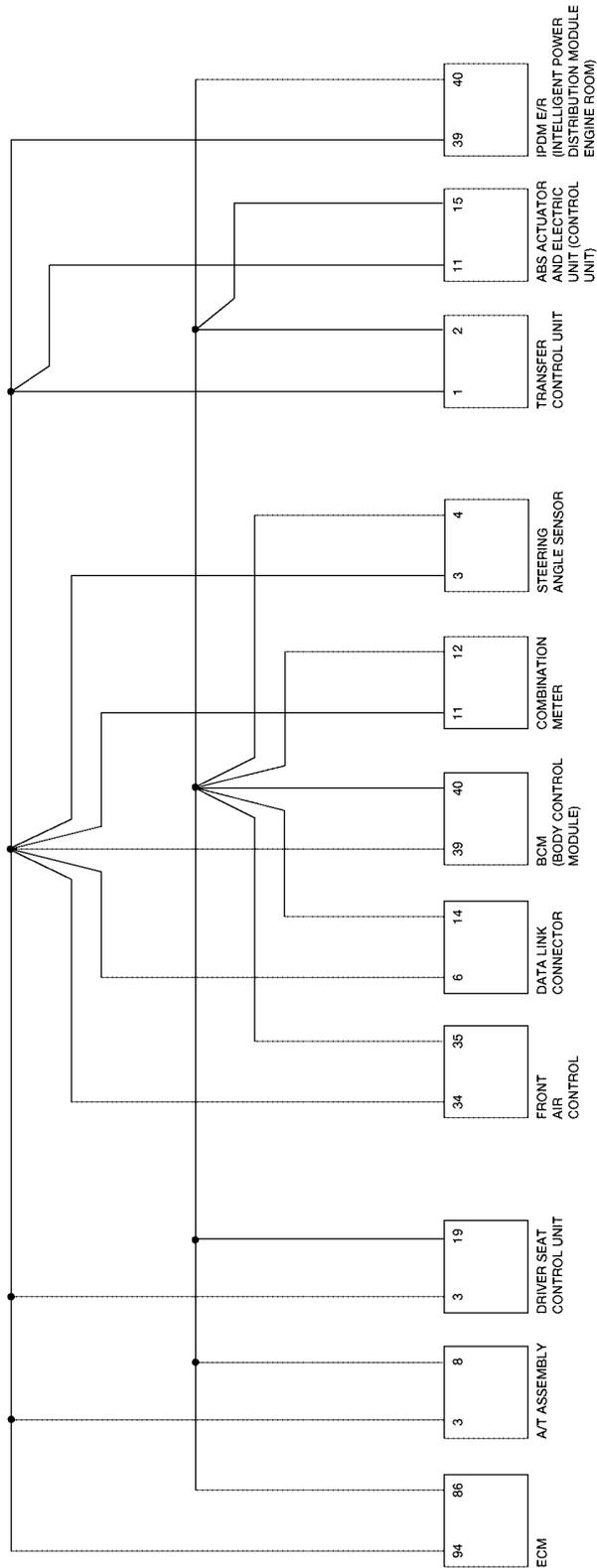
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CAN SYSTEM (TYPE 14)

[CAN]

Schematic

UKS001WL



BKWA0164E

CAN SYSTEM (TYPE 14)

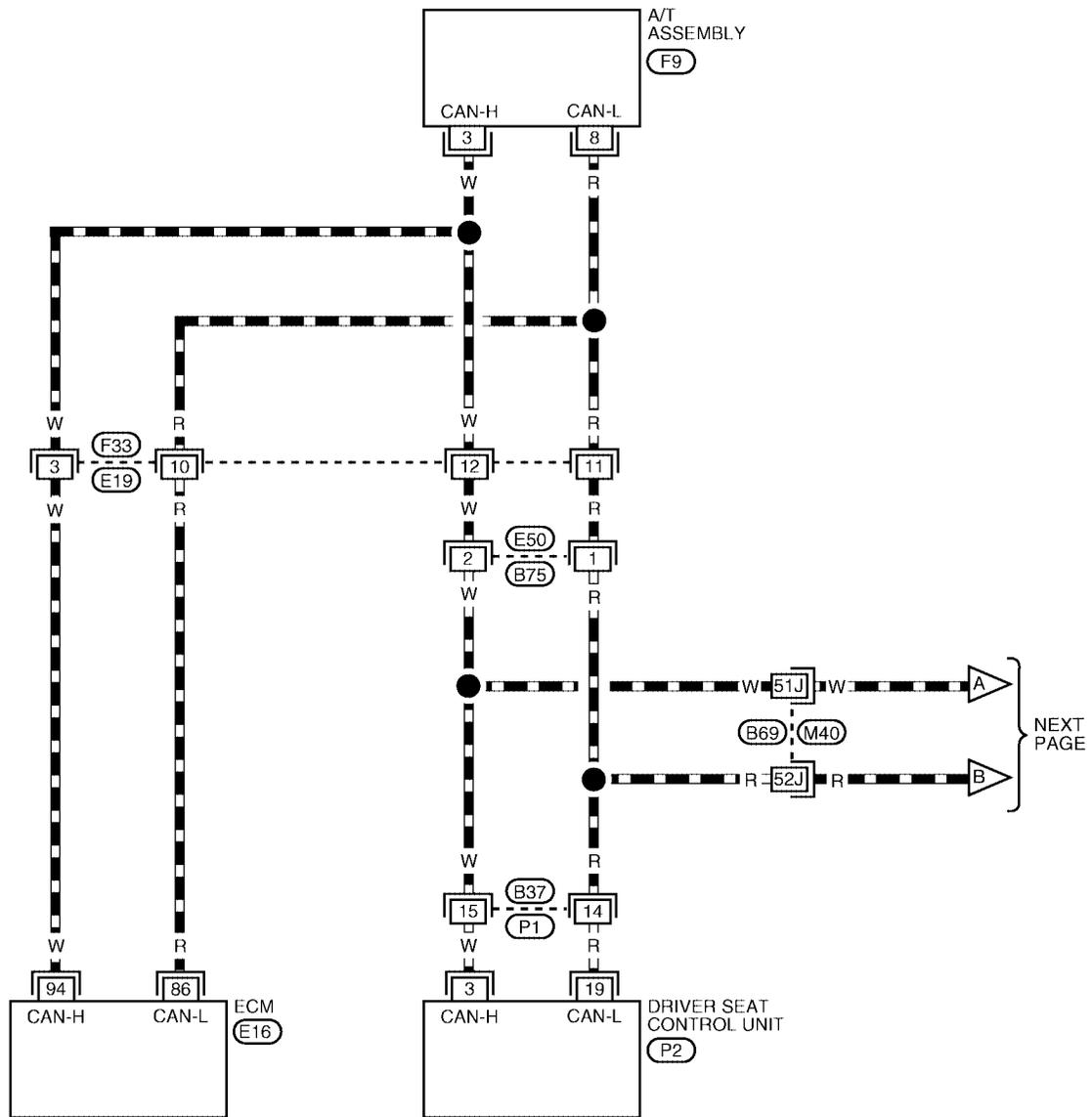
[CAN]

Wiring Diagram - CAN -

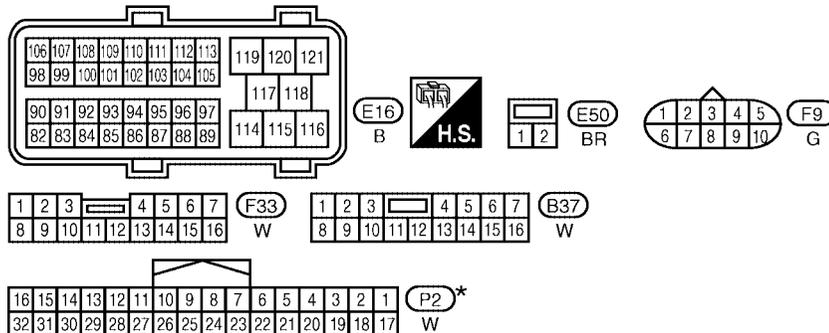
UKS001WM

LAN-CAN-40

— : DATA LINE



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

REFER TO THE FOLLOWING.

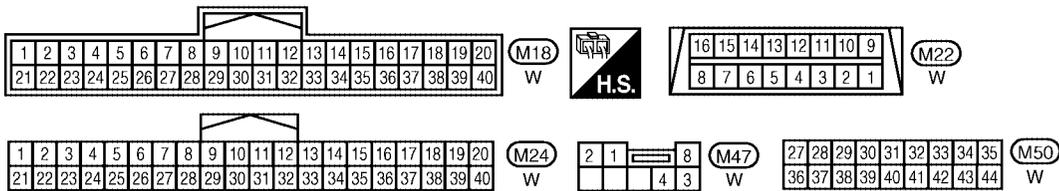
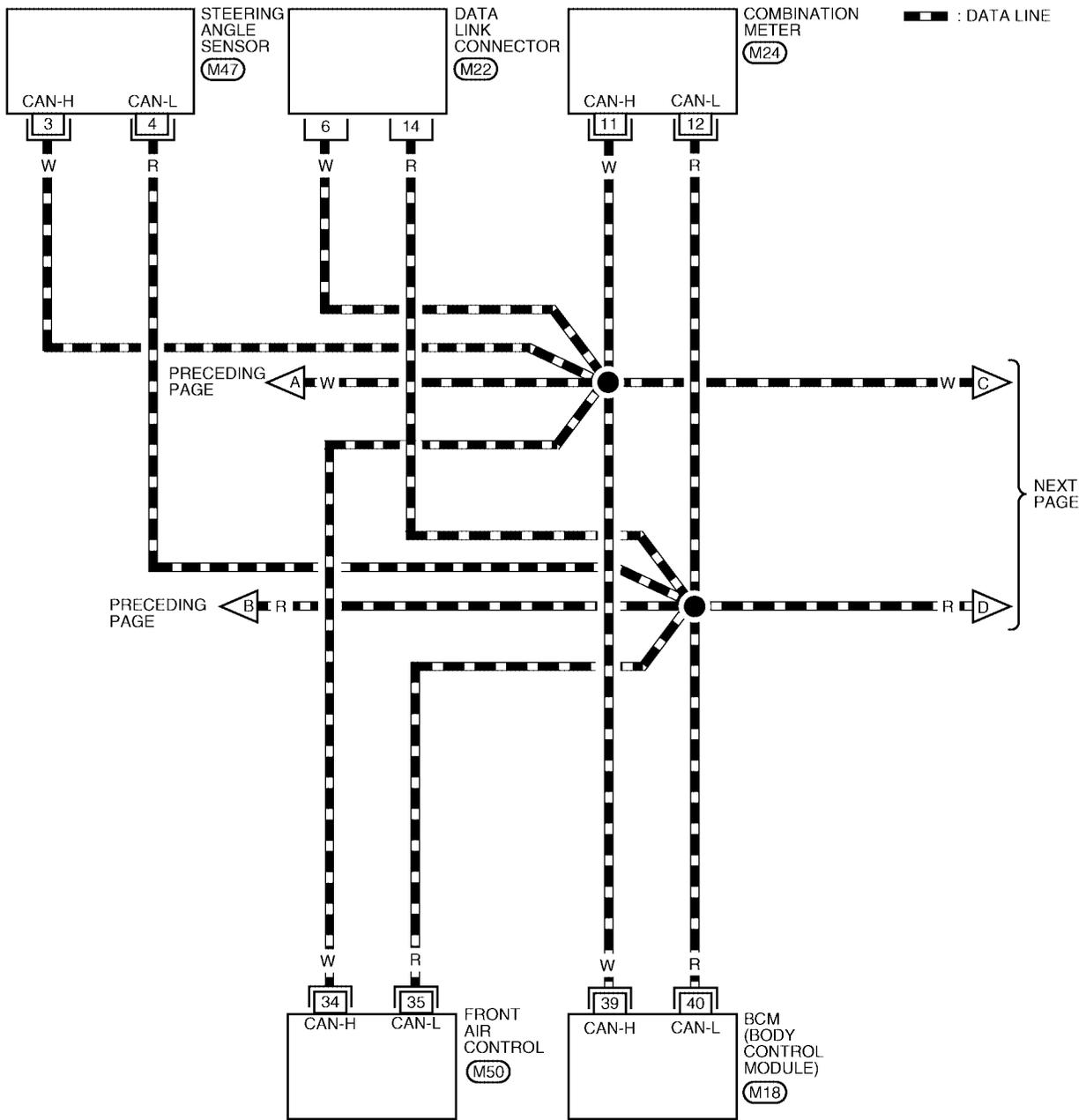
M40 - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0165E

CAN SYSTEM (TYPE 14)

[CAN]

LAN-CAN-41

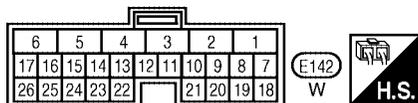
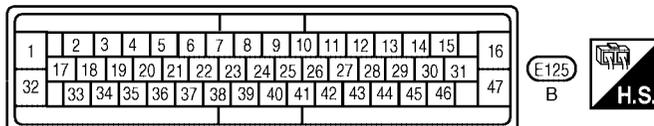
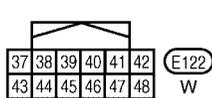
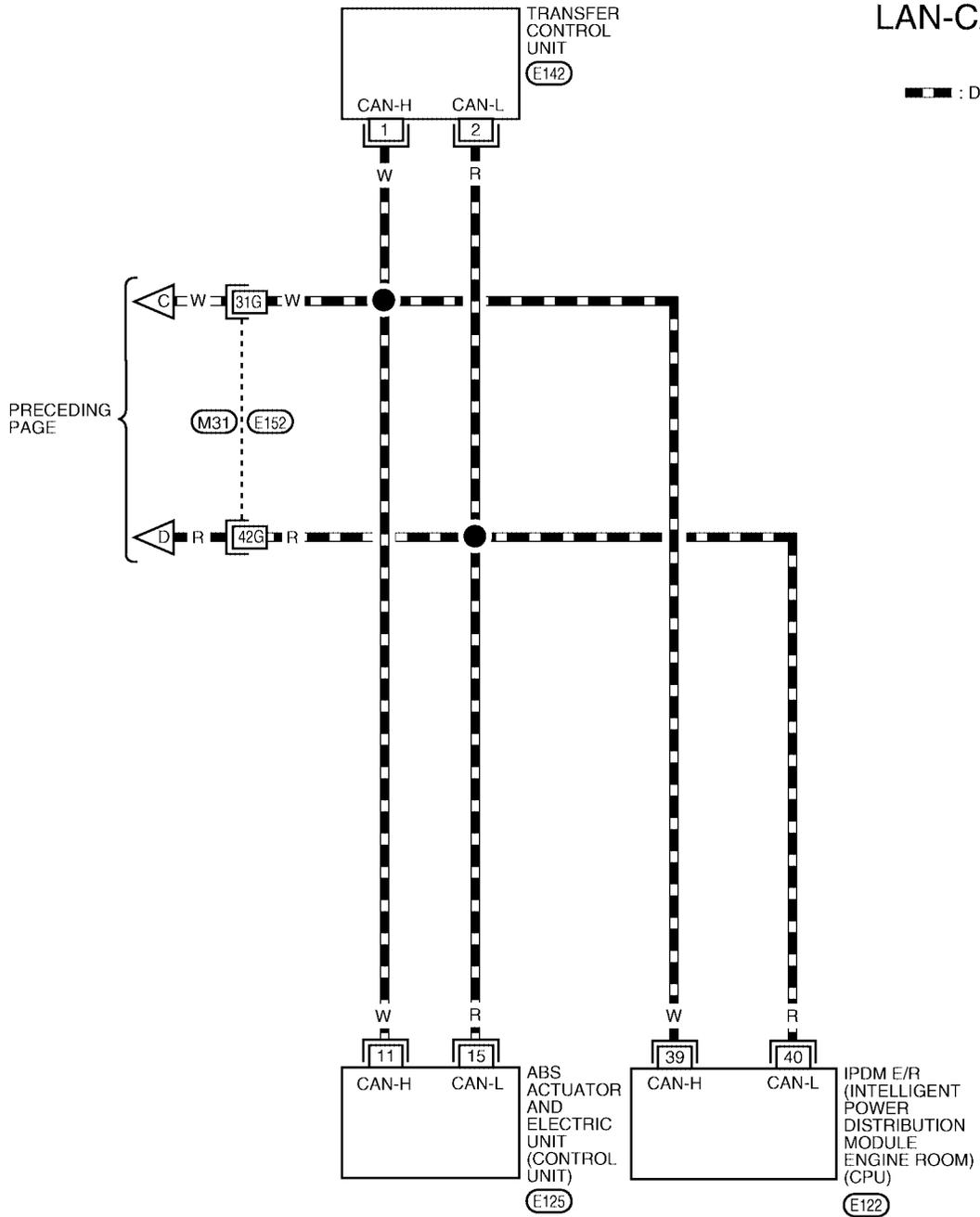


BKWA0166E

CAN SYSTEM (TYPE 14)

[CAN]

LAN-CAN-42



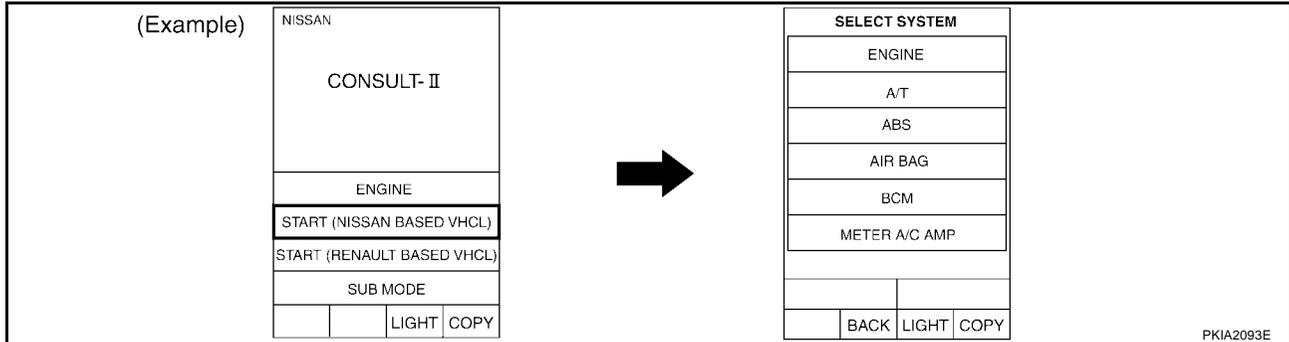
REFER TO THE FOLLOWING.

(M31) - SUPER MULTIPLE JUNCTION (SMJ)

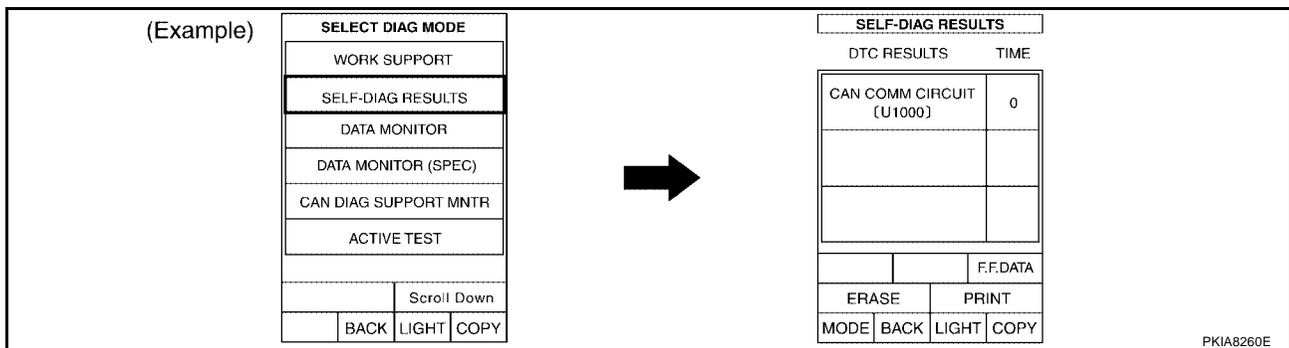
BKWA0167E

Work Flow

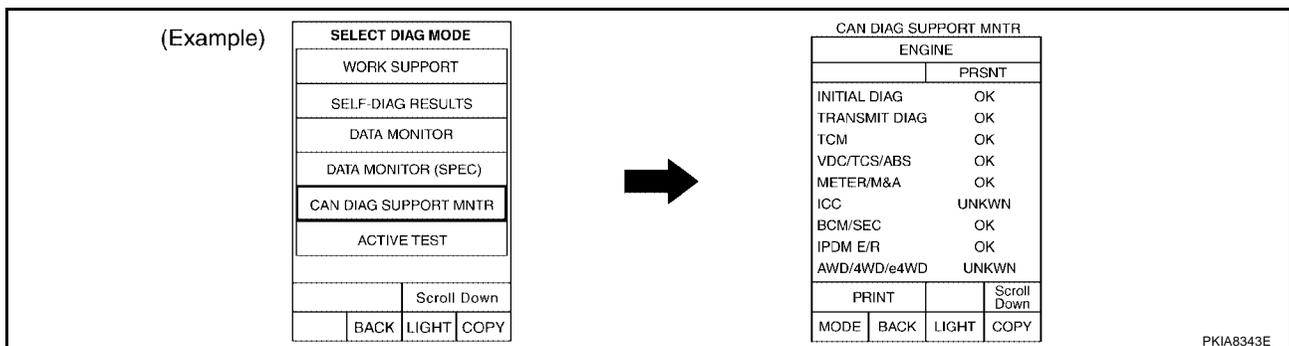
- When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-433, "CHECK SHEET"](#) .
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. Refer to [LAN-433, "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.

- According to the check sheet results (example), start inspection. Refer to [LAN-435, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 14)

[CAN]

CHECK SHEET

NOTE:

If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" 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	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	—	—	—	—	
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

PKIA9142E

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CAN SYSTEM (TYPE 14)

[CAN]

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

PKIA9143E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

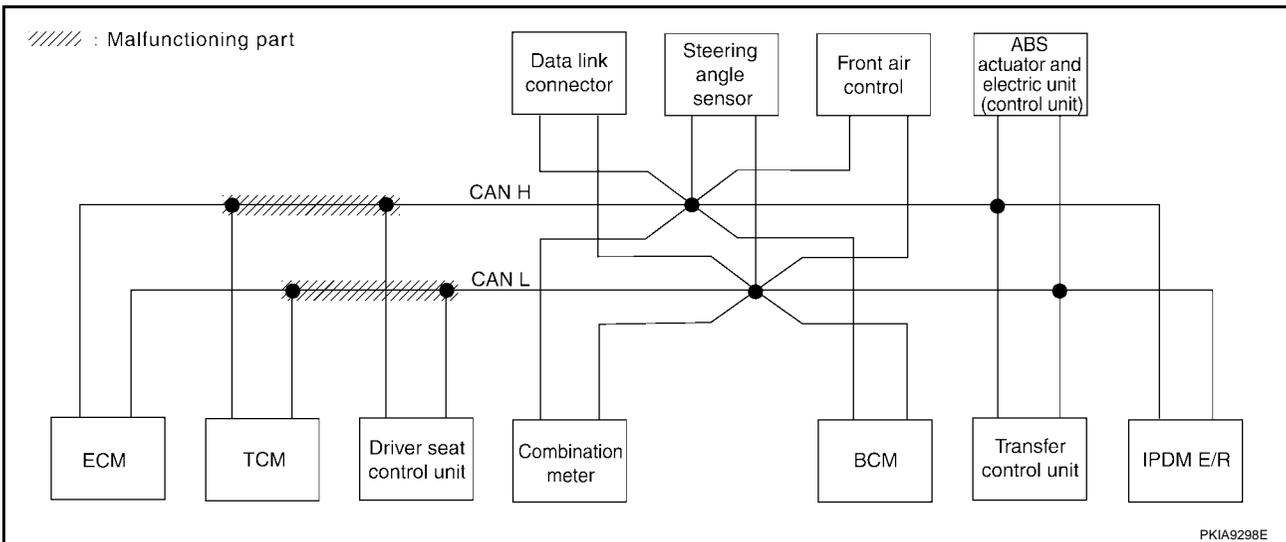
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-449, "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	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	—	—	—	—	
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	—	—	—	—	

PKIA9205E

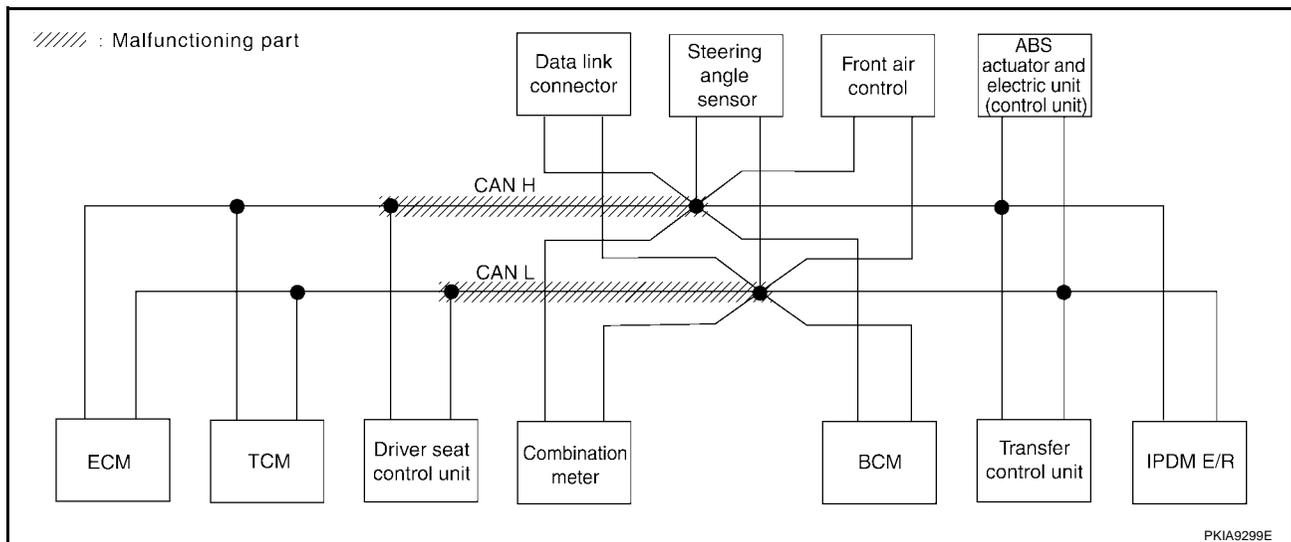


Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-450, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKW	—	UNKW	✓	✓	—	✓	✓	✓	
A/T	—	NG	UNKW	UNKW	—	✓	—	—	✓	✓	—	
AUTO DRIVE POS.	No indication ✓	NG	UNKW	—	UNKW	UNKW	UNKW	—	—	—	—	
BCM	No indication	NG	UNKW	✓	—	UNKW	—	—	—	—	UNKW	
ALL MODE AWD/4WD	—	NG	UNKW	✓	✓	—	—	—	—	UNKW	—	
ABS	—	NG	UNKW	✓	✓	—	—	UNKW	UNKW	—	—	
IPDM E/R	No indication	—	UNKW	✓	—	—	UNKW	—	—	—	—	

PKIA9206E



CAN SYSTEM (TYPE 14)

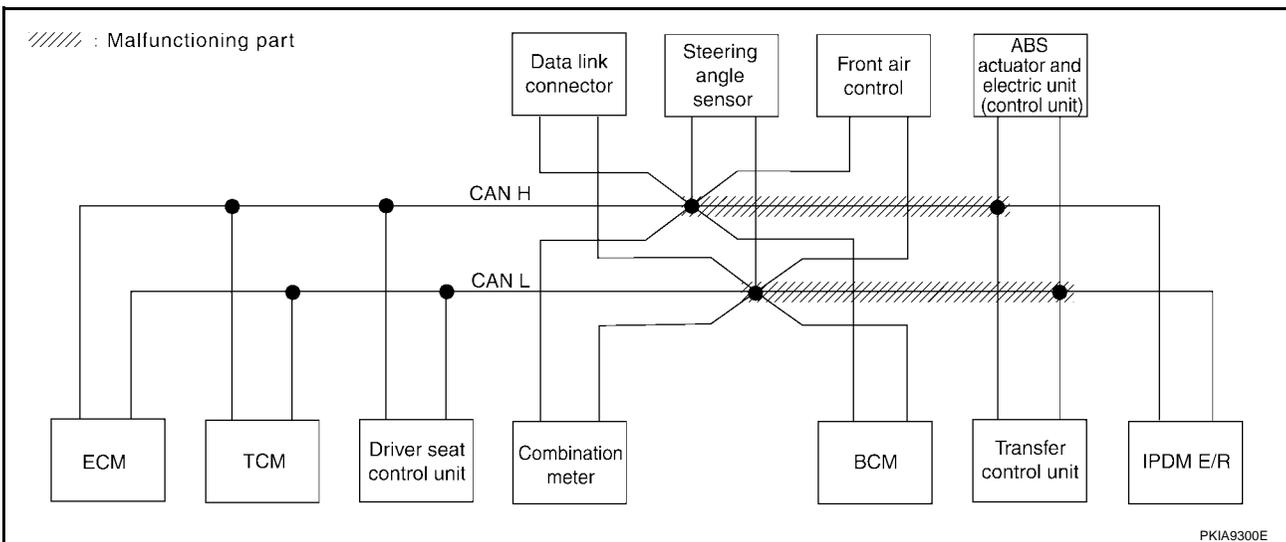
[CAN]

Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-451, "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	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	—	—	—	—
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	—	—	—	—

PKIA9207E



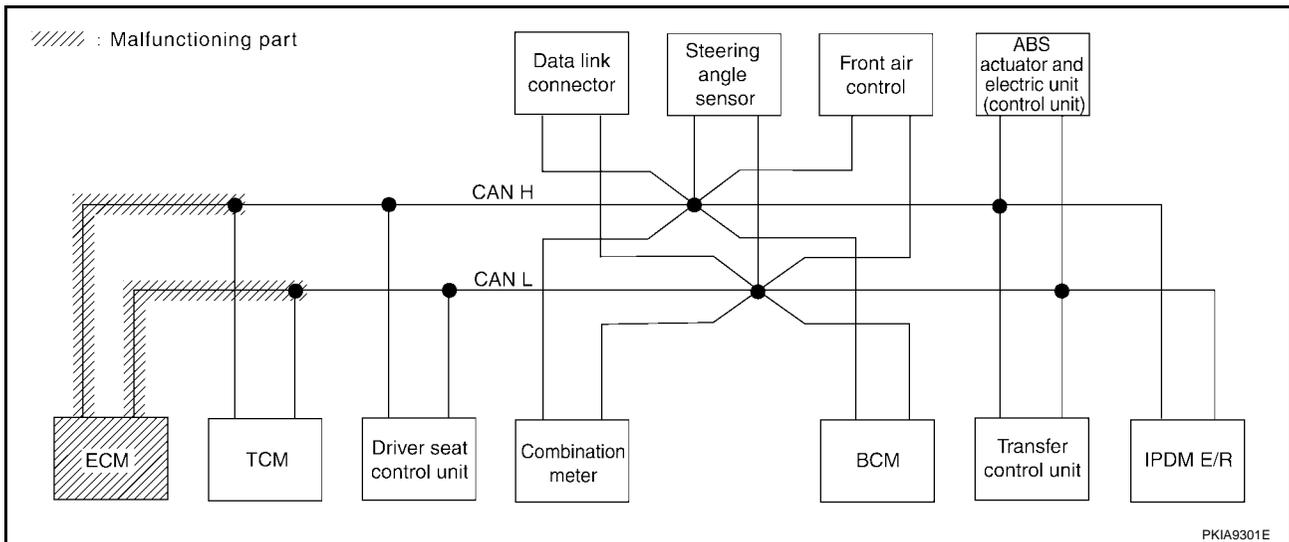
PKIA9300E

Case 4

Check ECM circuit. Refer to [LAN-452. "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R	
ENGINE	—	NG	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	
A/T	—	NG	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N	—	—	UNKW [✓] N	UNKW [✓] N	—	
AUTO DRIVE POS.	No indication	NG	UNKW [✓] N	—	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	—	—	
BCM	No indication	NG	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N	—	—	—	—	UNKW [✓] N	
ALL MODE AWD/4WD	—	NG	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	—	—	UNKW [✓] N	—	
ABS	—	NG	UNKW [✓] N	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	UNKW [✓] N	—	—	
IPDM E/R	No indication	—	UNKW [✓] N	UNKW [✓] N	—	—	UNKW [✓] N	—	—	—	—	

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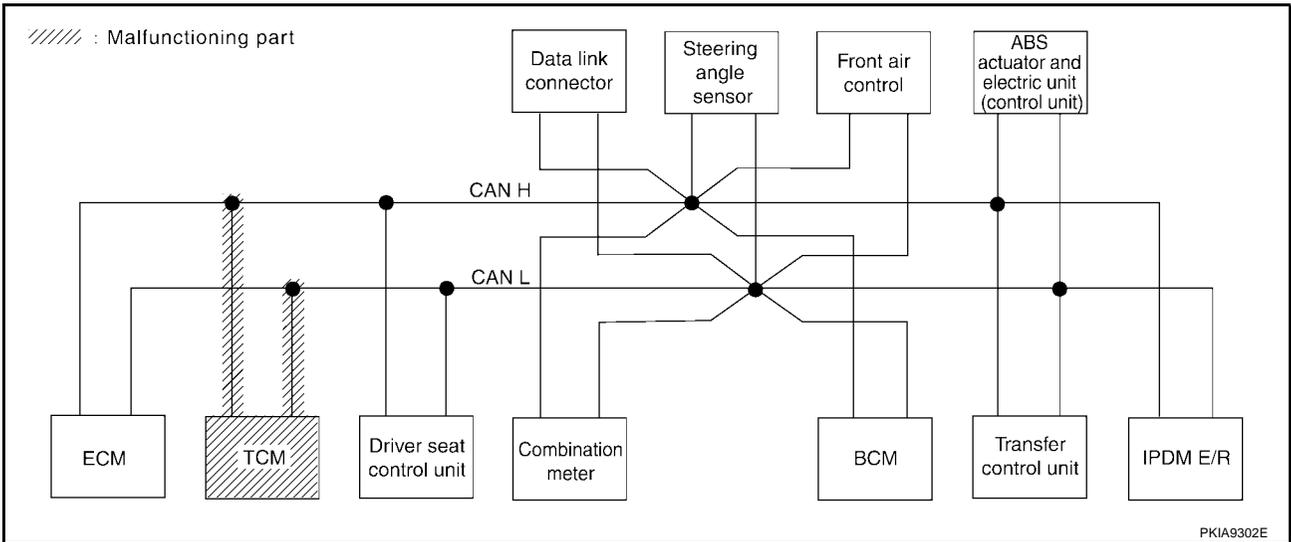


Case 5

Check TCM circuit. Refer to [LAN-452, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis								
				ECM	TCM	METER/M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKW	—	UNKW [✓]	UNKW	UNKW	—	—	UNKW	UNKW	UNKW
A/T	—	NG	UNKW	UNKW [✓]	—	UNKW [✓]	—	—	—	UNKW [✓]	UNKW [✓]	—
AUTO DRIVE POS.	No indication	NG	UNKW	—	UNKW [✓]	UNKW	UNKW	—	—	—	—	—
BCM	No indication	NG	UNKW	UNKW	—	UNKW	—	—	—	—	—	UNKW
ALL MODE AWD/4WD	—	NG	UNKW	UNKW	UNKW [✓]	—	—	—	—	—	UNKW	—
ABS	—	NG	UNKW	UNKW	UNKW [✓]	—	—	UNKW	UNKW	—	—	—
IPDM E/R	No indication	—	UNKW	UNKW	—	—	UNKW	—	—	—	—	—

PKIA9209E



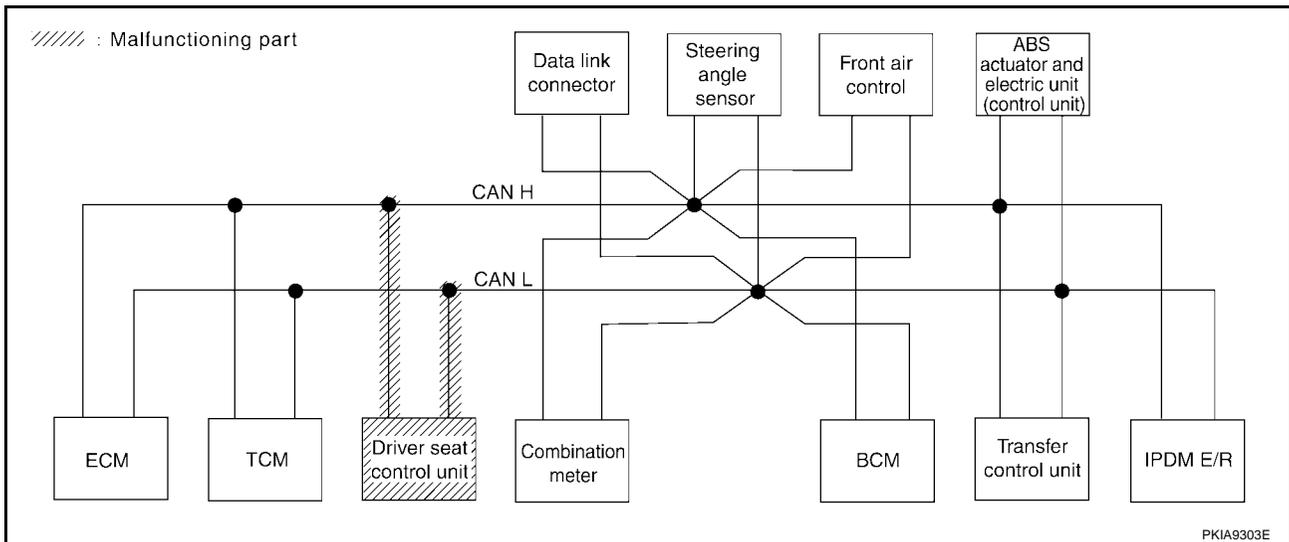
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Case 6

Check driver seat control unit circuit. Refer to [LAN-453, "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	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	—	—	—	—	
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	—	—	—	—	

PKIA9210E

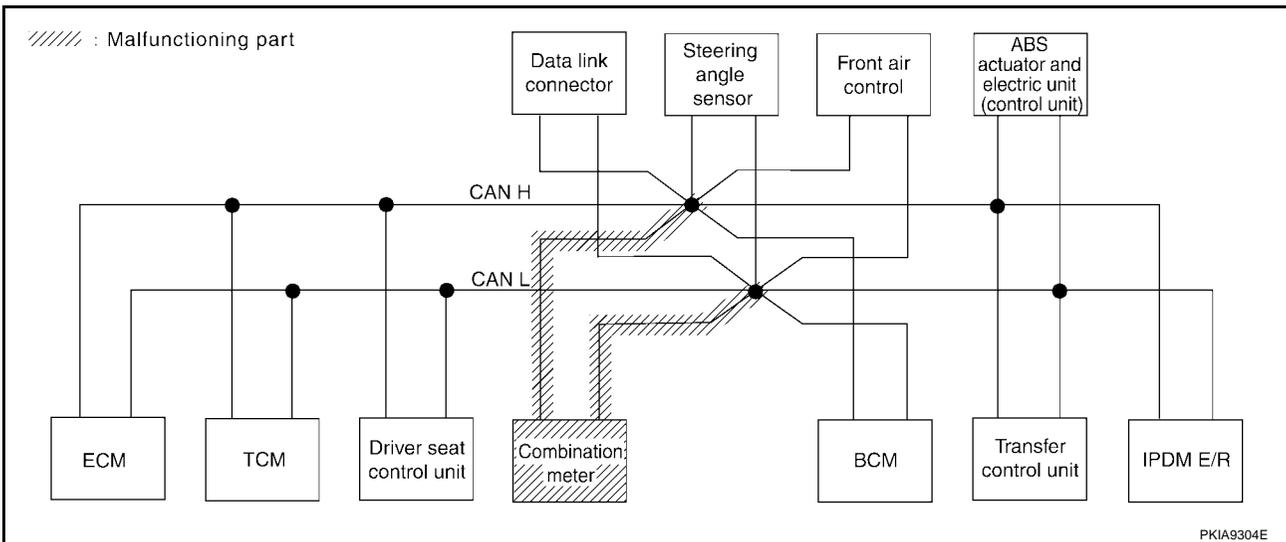


Case 7

Check combination meter circuit. Refer to [LAN-453, "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	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKW	—	UNKW	✓	UNKW	—	UNKW	UNKW	UNKW	
A/T	—	NG	UNKW	UNKW	—	UNKW	—	—	UNKW	UNKW	—	
AUTO DRIVE POS.	No indication	NG	UNKW	—	UNKW	✓	UNKW	—	—	—	—	
BCM	No indication	NG	UNKW	UNKW	—	✓	—	—	—	—	UNKW	
ALL MODE AWD/4WD	—	NG	UNKW	UNKW	UNKW	—	—	—	—	UNKW	—	
ABS	—	NG	UNKW	UNKW	UNKW	—	—	UNKW	UNKW	—	—	
IPDM E/R	No indication	—	UNKW	UNKW	—	—	UNKW	—	—	—	—	

PKIA9211E



CAN SYSTEM (TYPE 14)

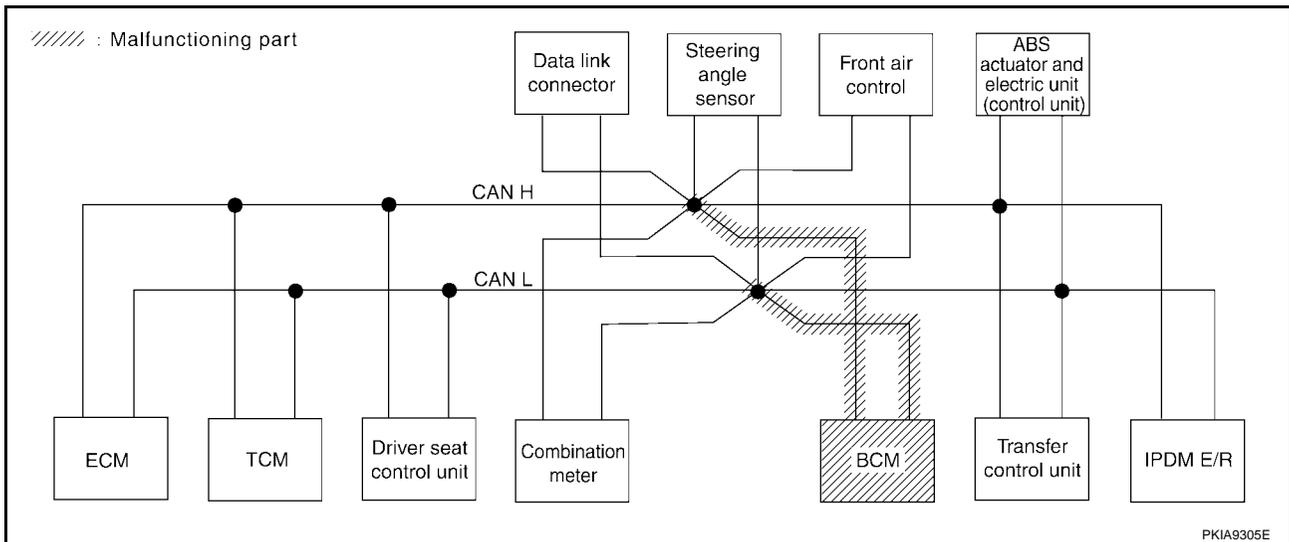
[CAN]

Case 8

Check BCM circuit. Refer to [LAN-454, "BCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	TCM	METER/M&A	BCM/SEC	STRG	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	—	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	UNKWN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UNKWN	UNKWN	UNKWN ✓	—	—	—	—
BCM	No indication ✓	NG	UNKWN	UNKWN	—	UNKWN	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	—	UNKWN ✓	—	—	—	—

PKIA9212E



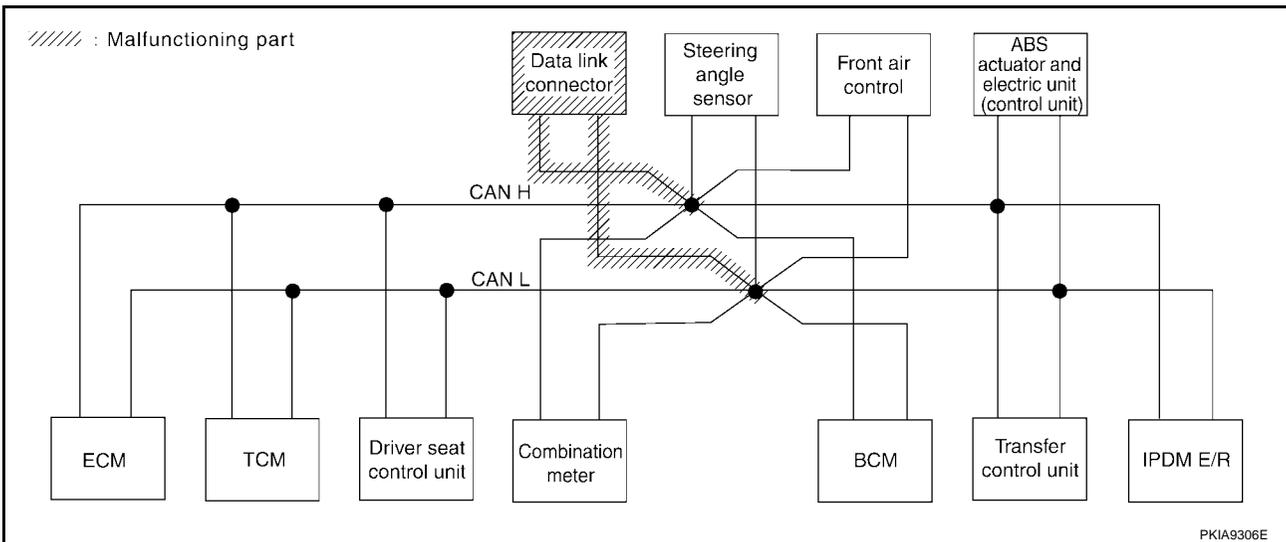
PKIA9305E

Case 9

Check data link connector circuit. Refer to [LAN-454, "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	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	—	—	—	—	
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	—	—	—	—	

PKIA9213E



CAN SYSTEM (TYPE 14)

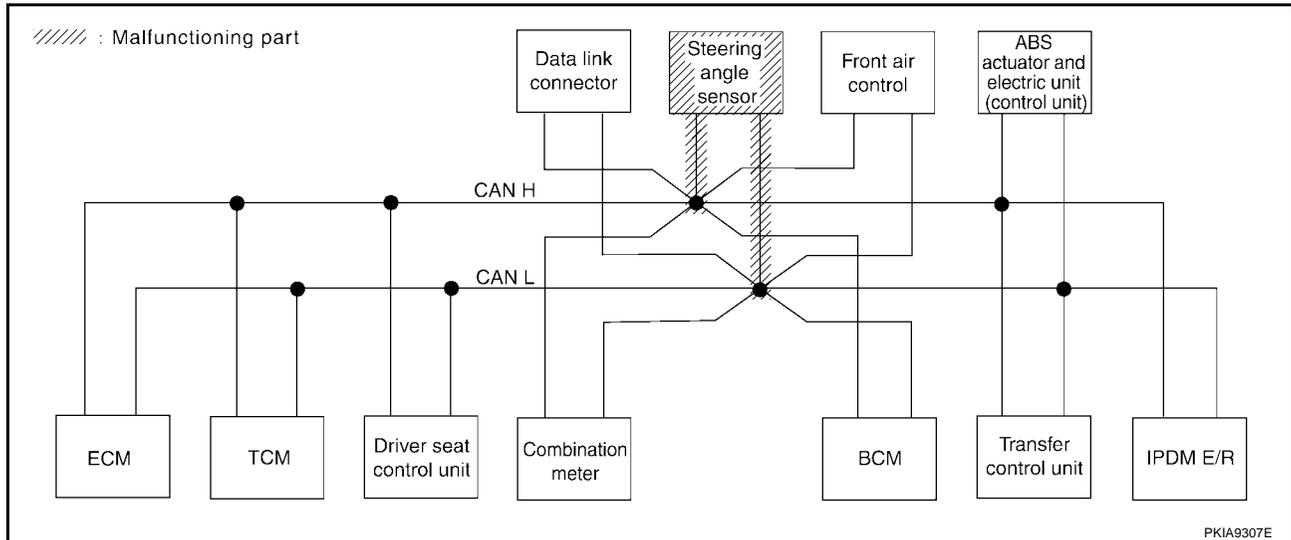
[CAN]

Case 10

Check steering angle sensor circuit. Refer to [LAN-455, "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	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	—	—	—	—	
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	—	—	—	—	

PKIA9214E



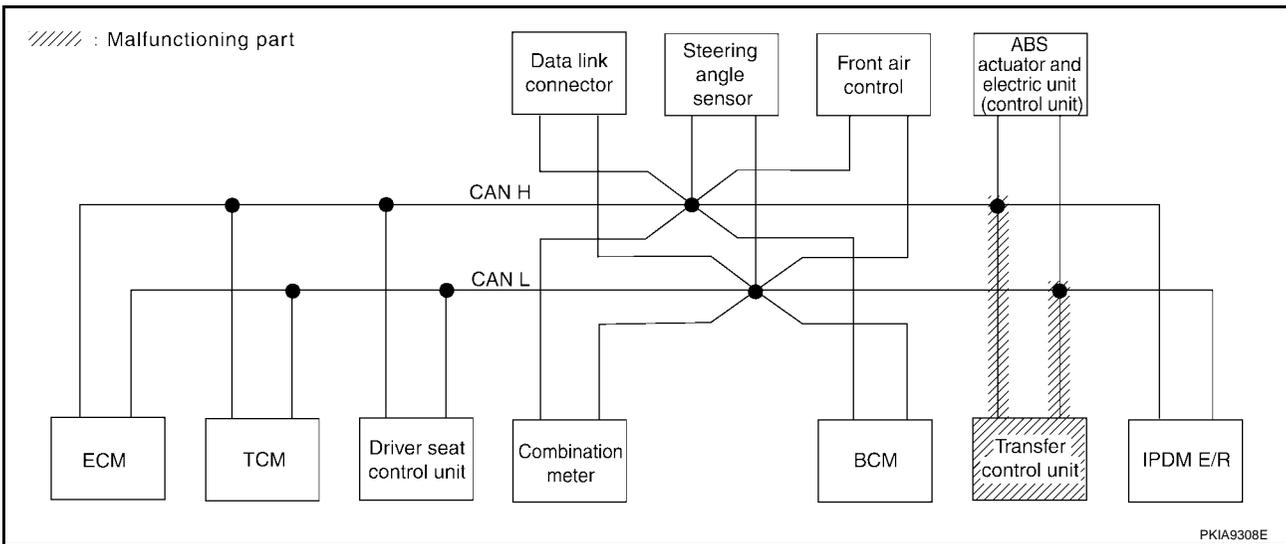
PKIA9307E

Case 11

Check transfer control unit circuit. Refer to [LAN-455, "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	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	—	—	—	—
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	—	—	—	—

PKIA9215E

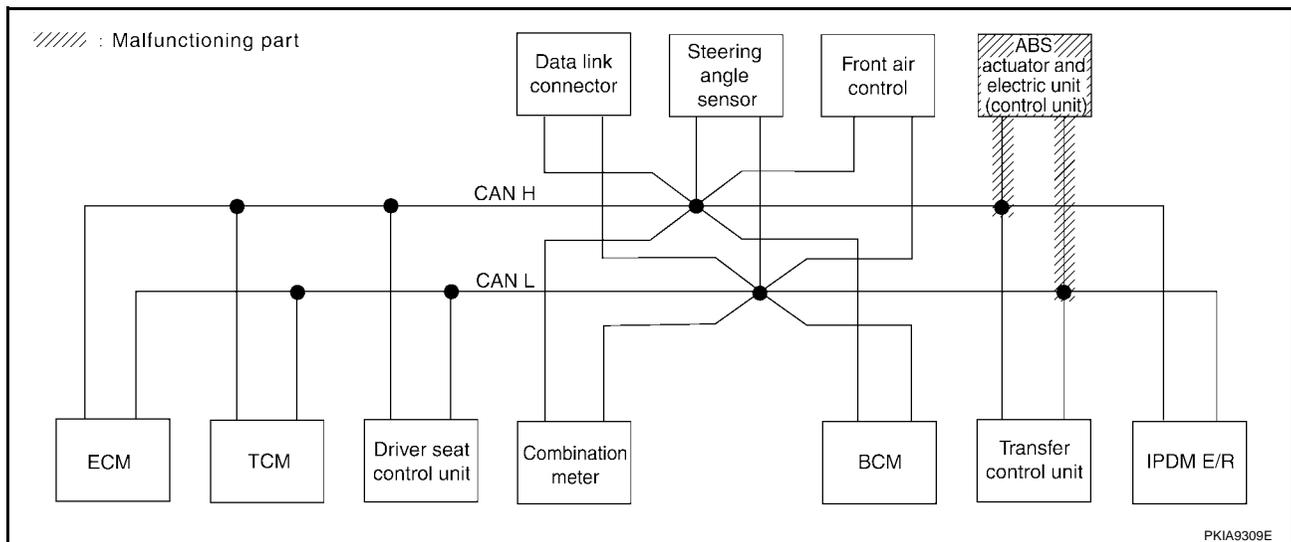


Case 12

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-456, "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	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	—	—	—	—
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	—	—	—	—

PKIA9216E



CAN SYSTEM (TYPE 14)

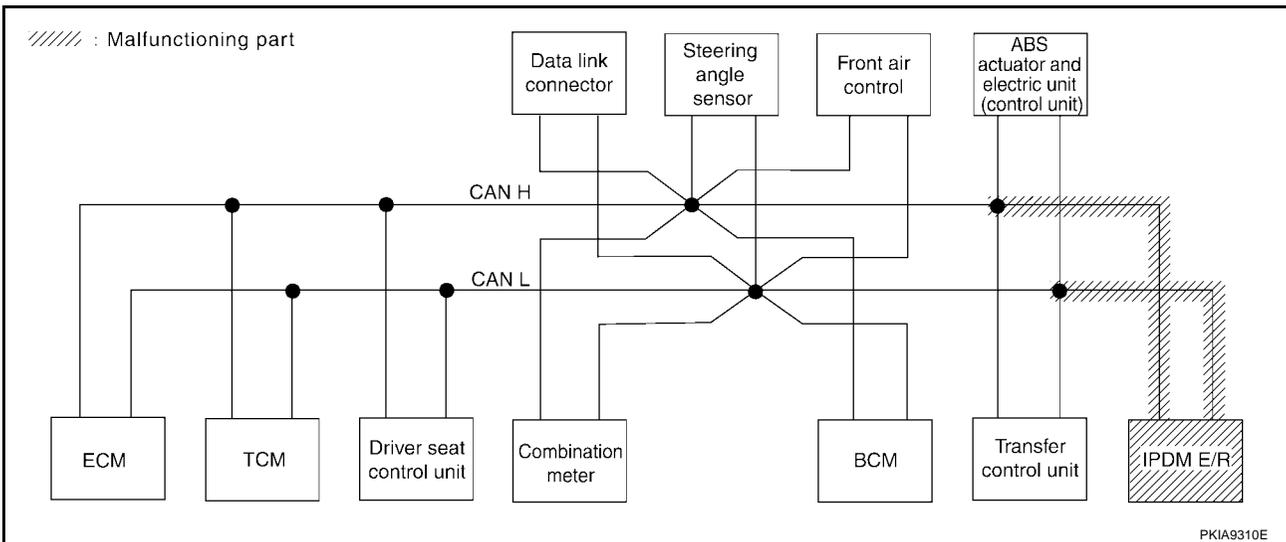
[CAN]

Case 13

Check IPDM E/R circuit. Refer to [LAN-456, "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	AWD/4WD /e4WD	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW	—	UNKW	UNKW	UNKW	—	UNKW	UNKW	UNKW ✓
A/T	—	NG	UNKW	UNKW	—	UNKW	—	—	UNKW	UNKW	—
AUTO DRIVE POS.	No indication	NG	UNKW	—	UNKW	UNKW	UNKW	—	—	—	—
BCM	No indication	NG	UNKW	UNKW	—	UNKW	—	—	—	—	UNKW ✓
ALL MODE AWD/4WD	—	NG	UNKW	UNKW	UNKW	—	—	—	—	UNKW	—
ABS	—	NG	UNKW	UNKW	UNKW	—	—	UNKW	UNKW	—	—
IPDM E/R	No indication ✓	—	UNKW	UNKW	—	—	UNKW	—	—	—	—

PKIA9217E



CAN SYSTEM (TYPE 14)

[CAN]

Case 14

Check CAN communication circuit. Refer to [LAN-457, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—

PKIA9218E

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-457, "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	AWD/4WD/e4WD	VDC/TCS/ABS	IPDM E/R
ENGINE	—	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—	—
BCM	No indication	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—

PKIA9219E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-457, "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	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	—	—	—	—
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	—	—	—	—

PKIA9220E

Circuit Check Between TCM and Driver Seat Control Unit

UKS0023Y

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 E50
 - Harness connector B75

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).

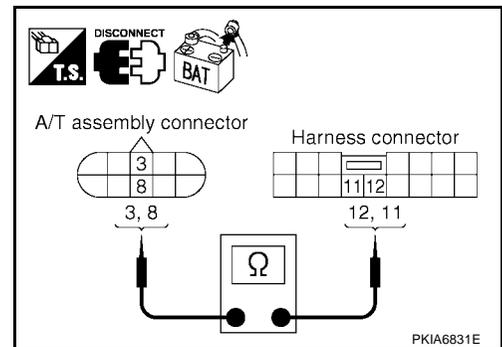
3 (W) - 12 (W) : Continuity should exist.

8 (R) - 11 (R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



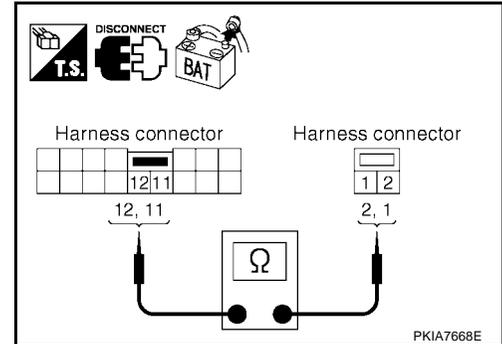
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

12 (W) - 2 (W) : Continuity should exist.
11 (R) - 1 (R) : Continuity should exist.

OK or NG

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



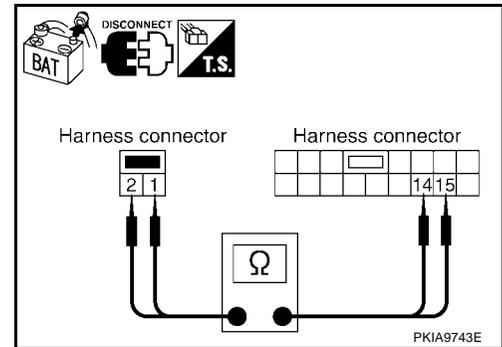
4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

2 (W) - 15 (W) : Continuity should exist.
1 (R) - 14 (R) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-432, "Work Flow"](#).
 NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0023Z

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.

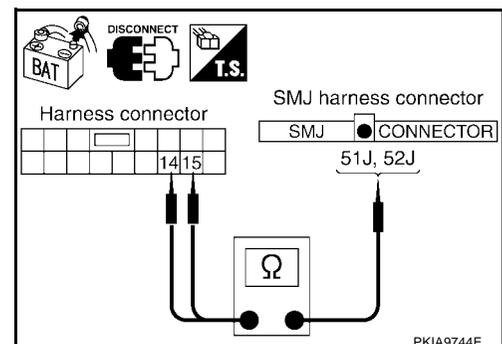
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

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

OK or NG

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



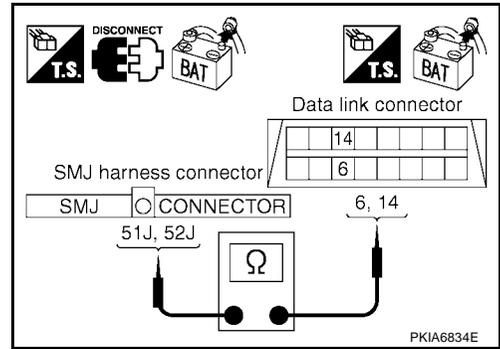
3. CHECK HARNESS FOR OPEN CIRCUIT

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-432, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS00240

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.

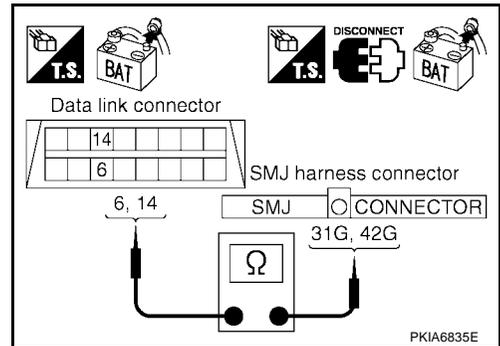
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



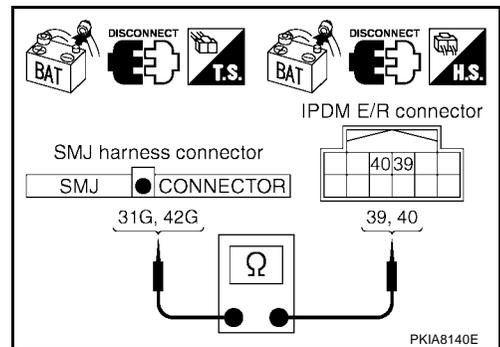
3. CHECK HARNESS FOR OPEN CIRCUIT

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-432, "Work Flow"](#).
- NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

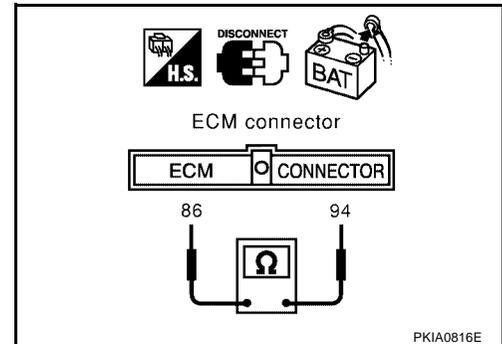
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

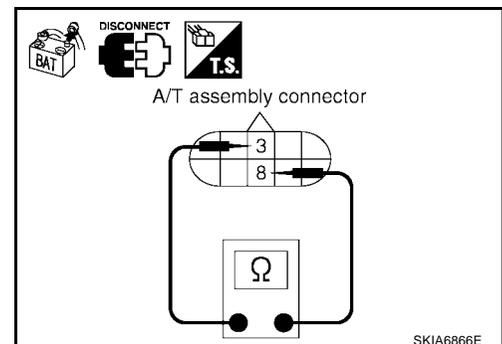
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

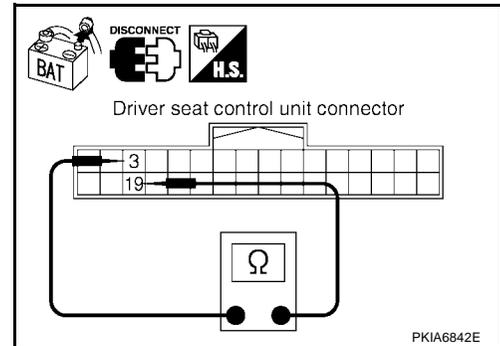
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

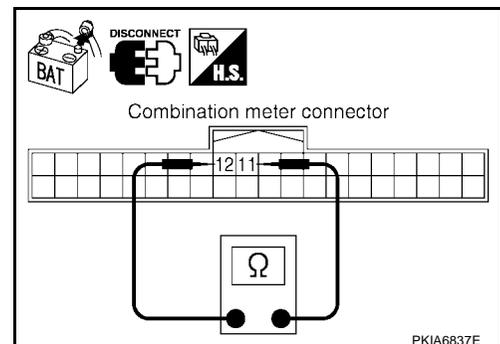
2. CHECK HARNESS FOR OPEN CIRCUIT

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.



BCM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

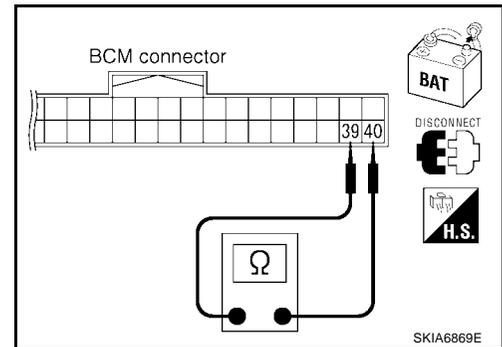
2. CHECK HARNESS FOR OPEN CIRCUIT

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

39 (W) - 40 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM. Refer to [BCS-25, "Removal and Installation of BCM"](#) .
 NG >> Repair harness between BCM and data link connector.

**Data Link Connector Circuit Check****1. CHECK CONNECTOR**

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

OK or NG

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

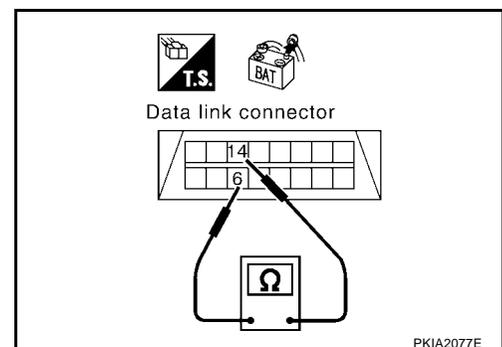
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-432, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check**1. CHECK CONNECTOR**

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

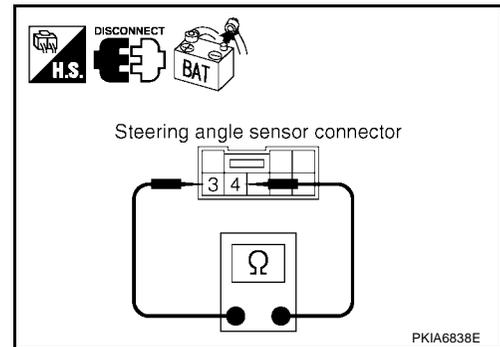
2. CHECK HARNESS FOR OPEN CIRCUIT

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.

**Transfer Control Unit Circuit Check****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.

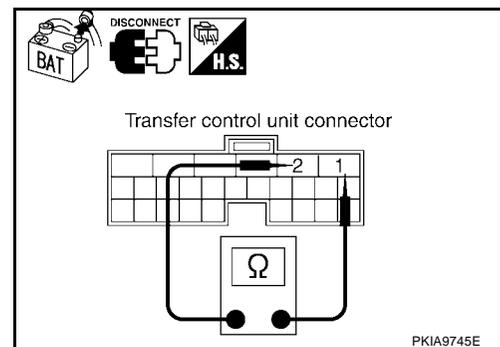
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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**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.

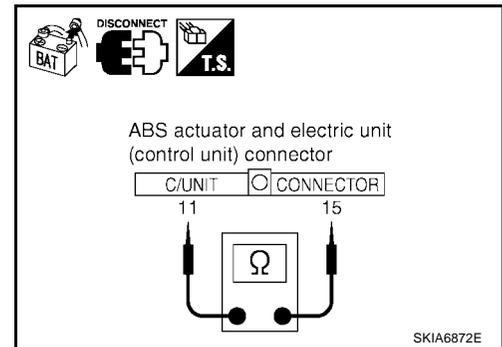
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

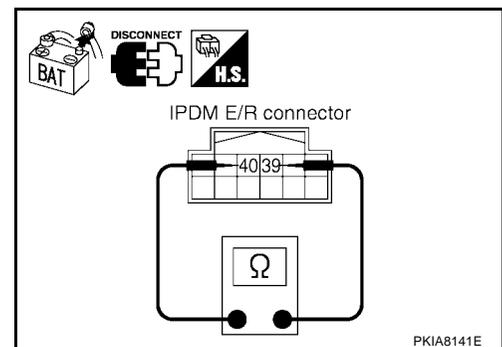
2. CHECK HARNESS FOR OPEN CIRCUIT

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**1. CHECK CONNECTOR**

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

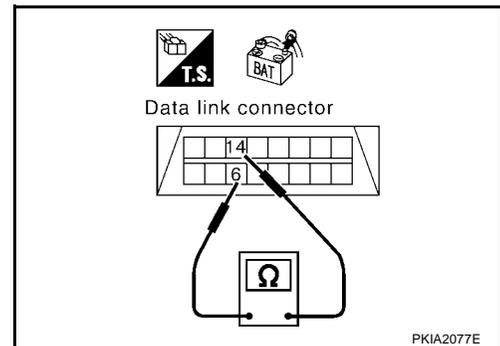
2. CHECK HARNESS FOR SHORT CIRCUIT

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**

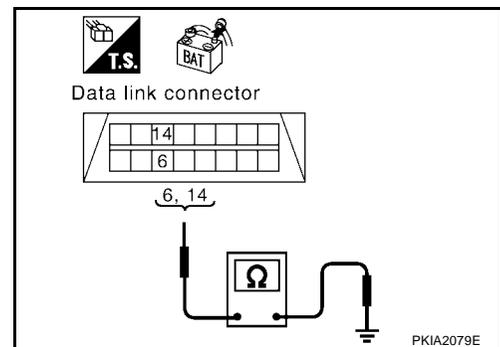
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-458, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
 NG >> Repair harness.

**IPDM E/R Ignition Relay Circuit Check**

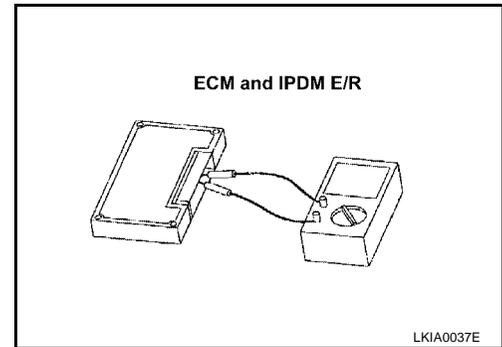
Check the following. If no malfunction is found, replace the IPDM E/R.

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

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

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

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



CAN SYSTEM (TYPE 15)

PFP:23710

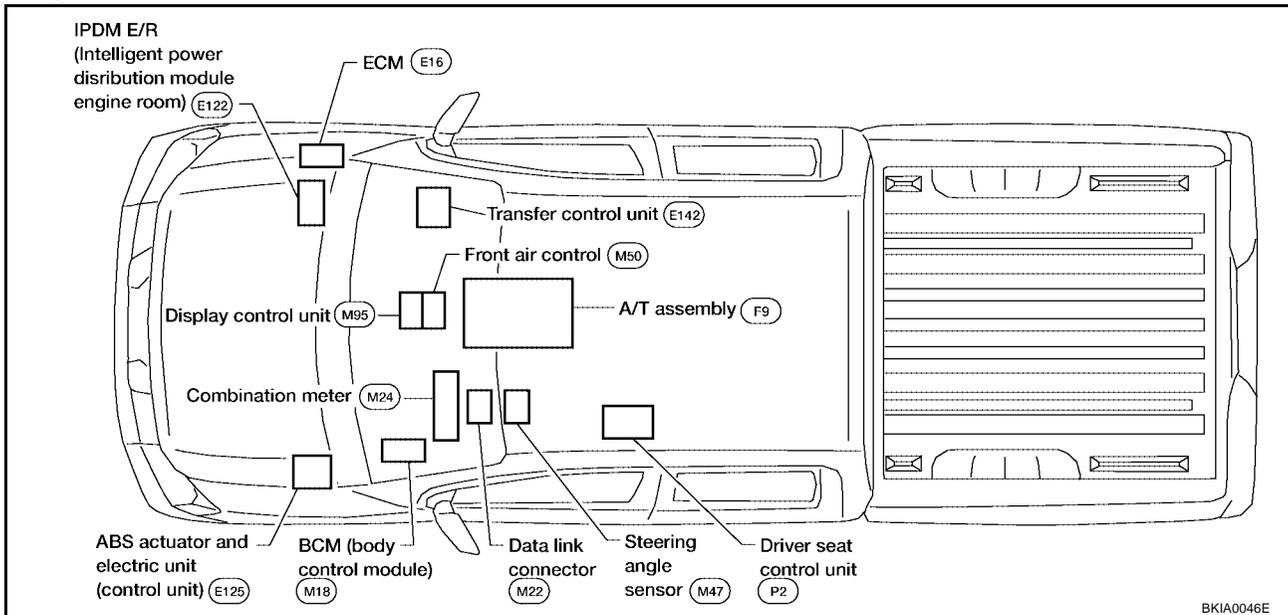
System Description

UKS001X4

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

UKS001X5



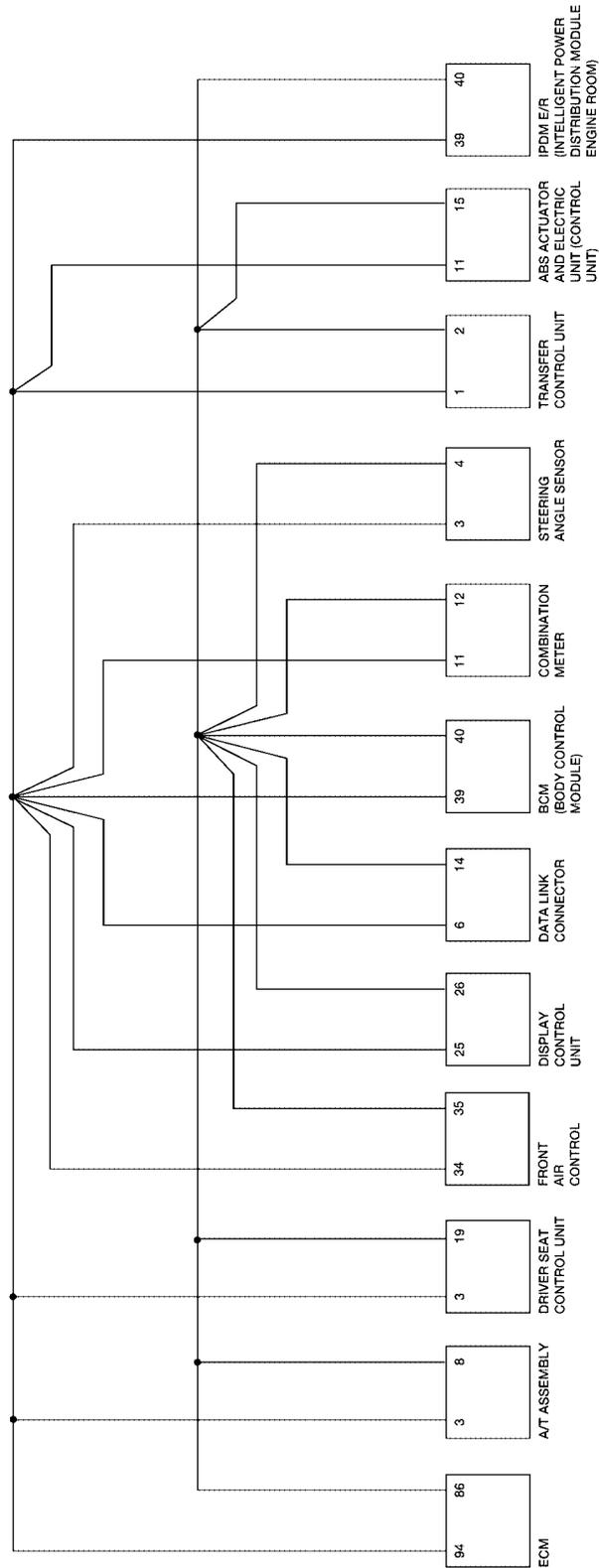
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M

CAN SYSTEM (TYPE 15)

[CAN]

Schematic

UKS001X6



BKWA0168E

CAN SYSTEM (TYPE 15)

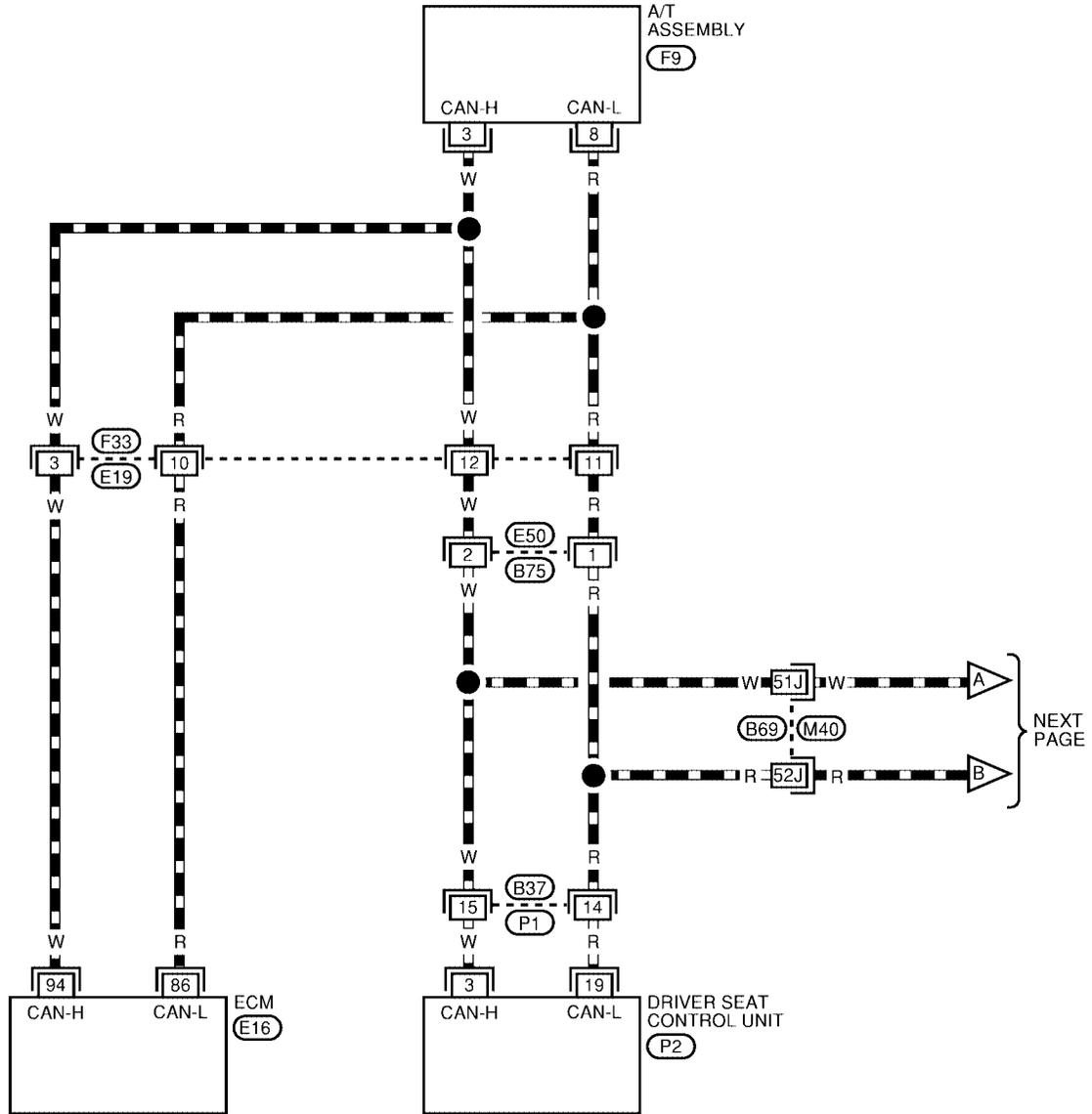
[CAN]

Wiring Diagram - CAN -

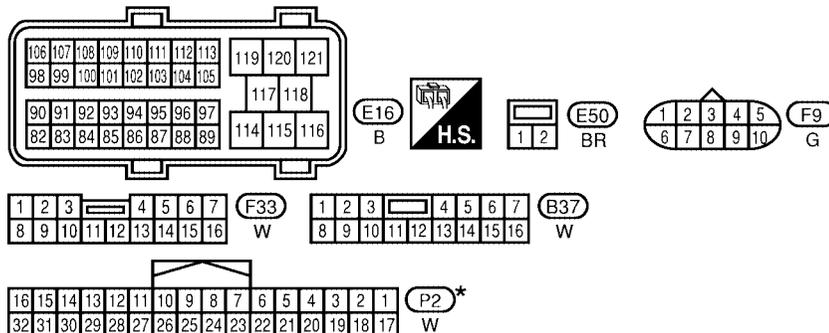
UKS001X7

LAN-CAN-43

— : DATA LINE



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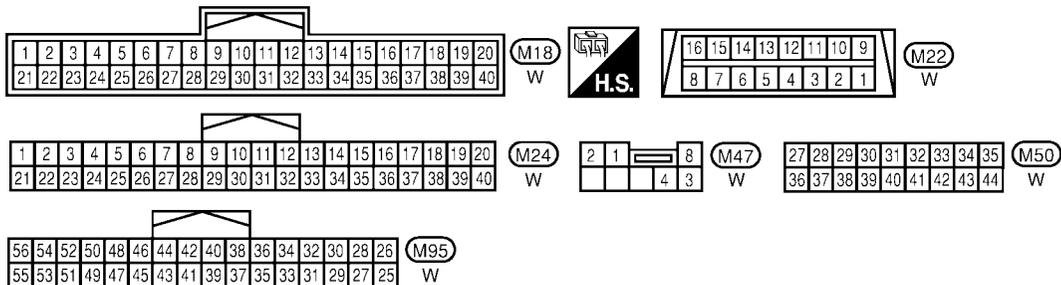
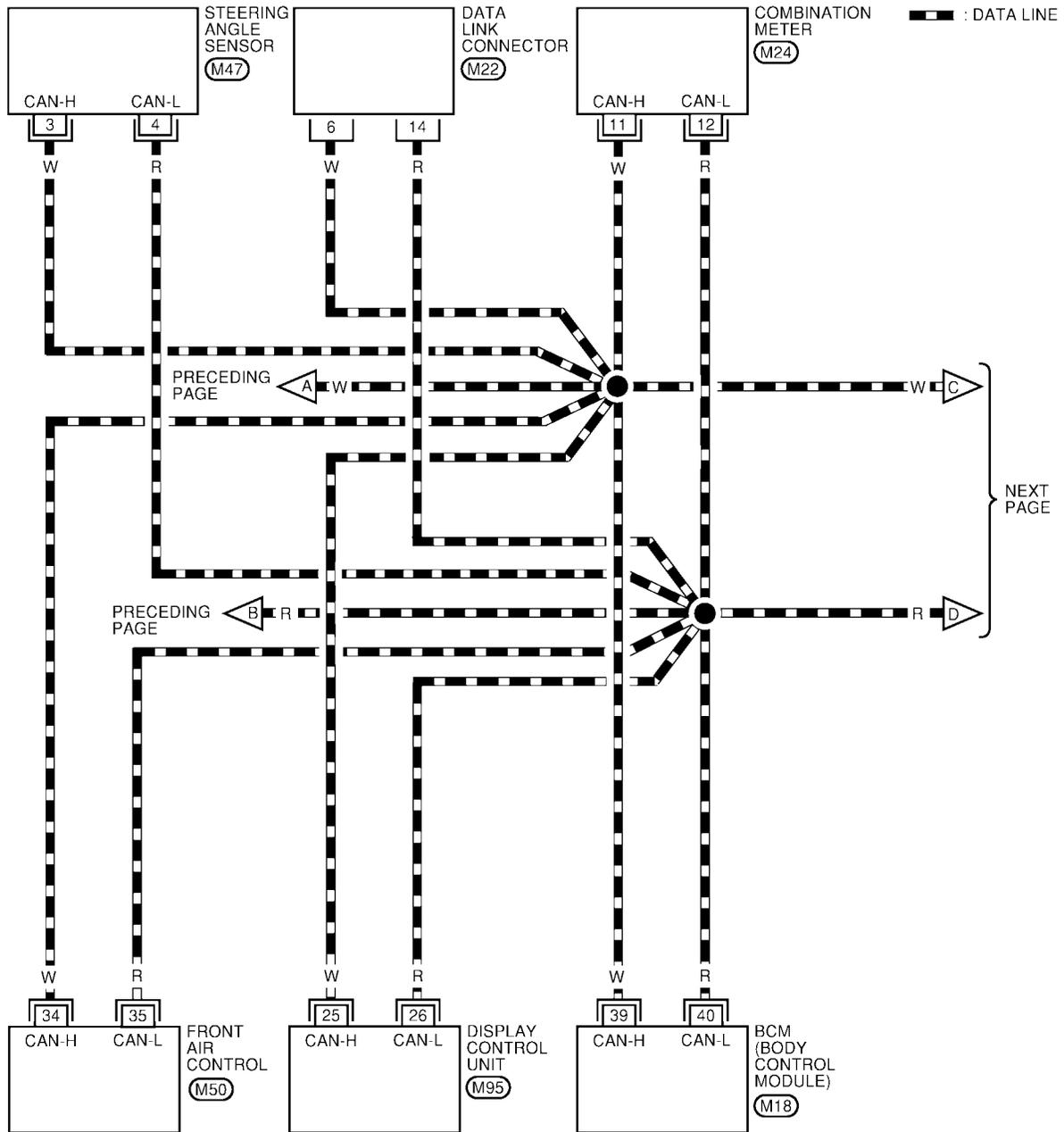
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

REFER TO THE FOLLOWING.

(M40) - SUPER MULTIPLE JUNCTION (SMJ)

BKWA0169E

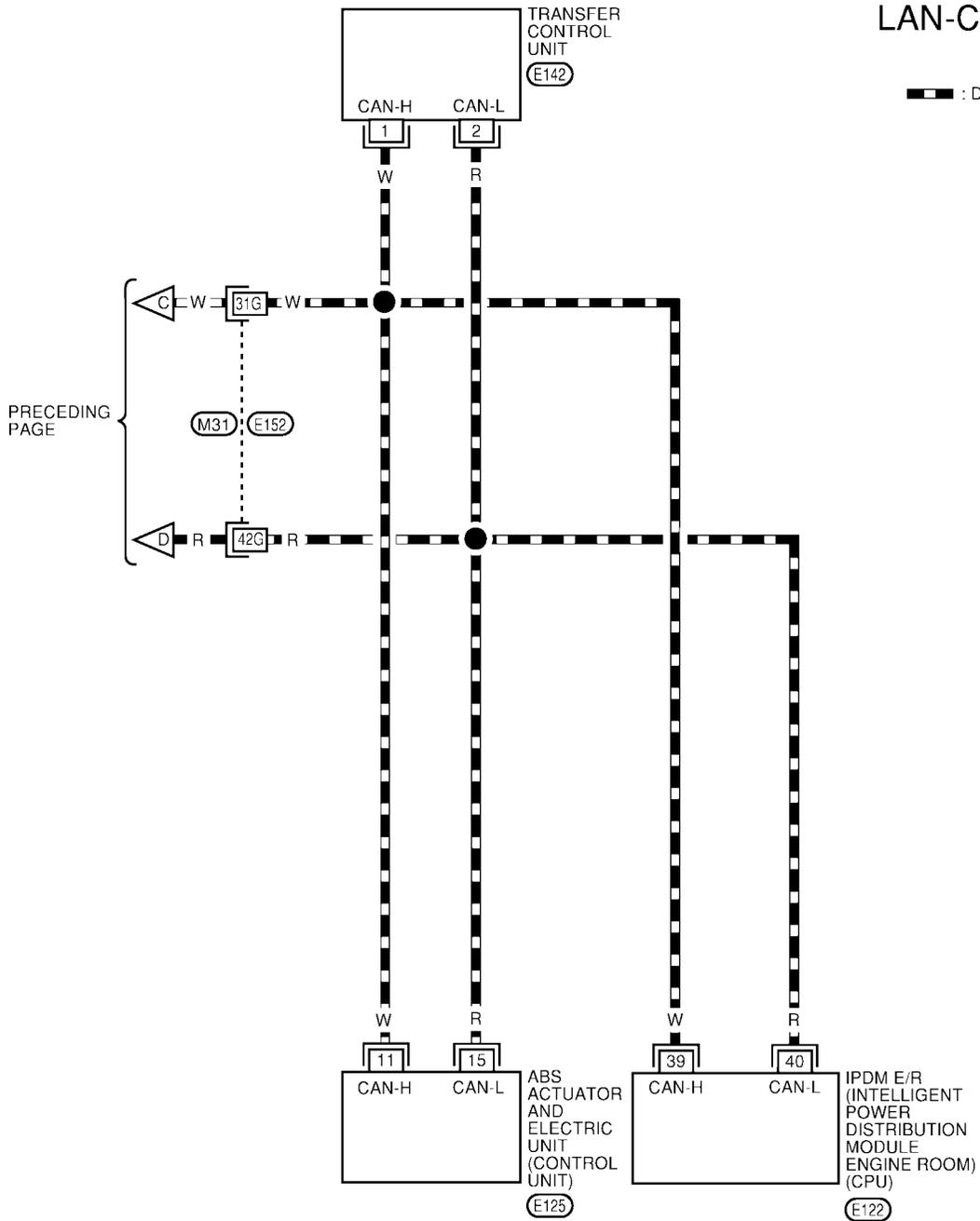
LAN-CAN-44



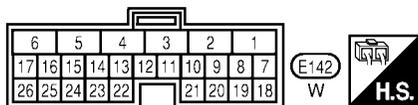
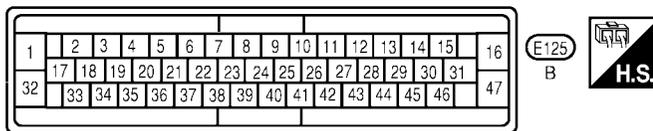
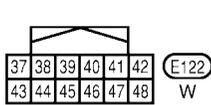
BKWA0170E

LAN-CAN-45

— : DATA LINE



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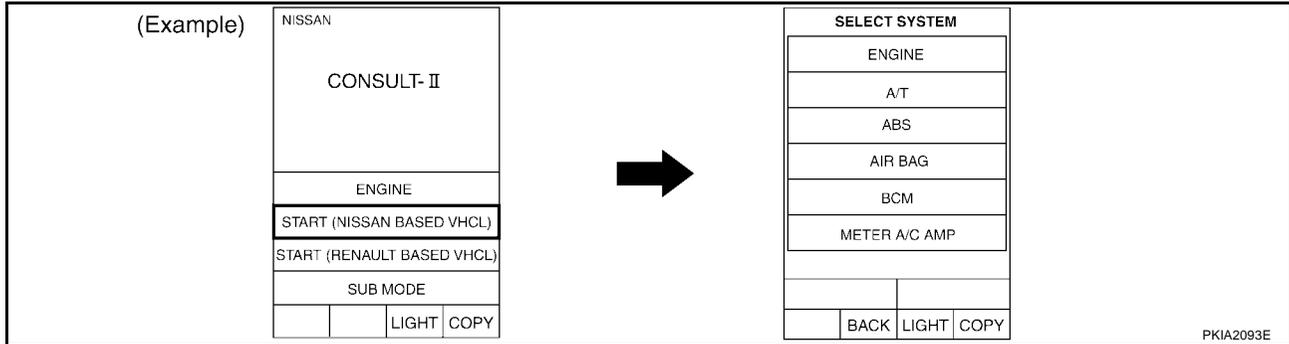


REFER TO THE FOLLOWING.
(M31) - SUPER MULTIPLE JUNCTION (SMJ)

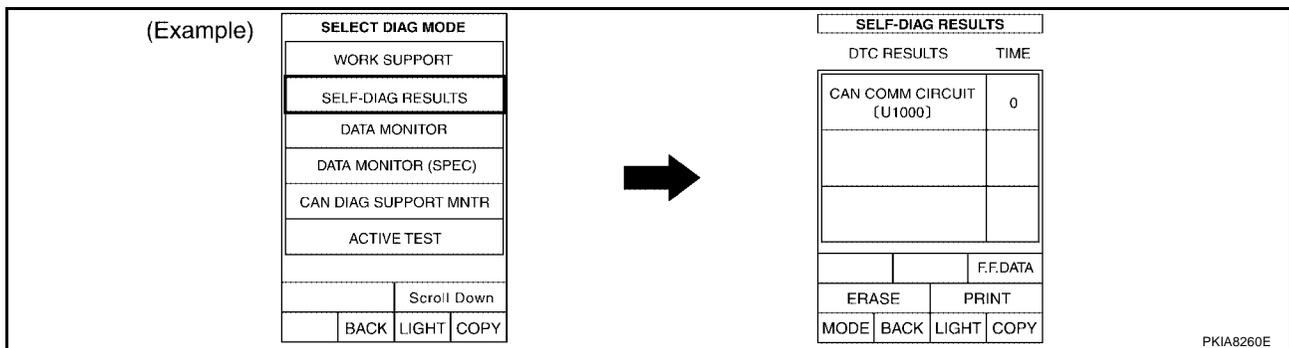
BKWA0171E

Work Flow

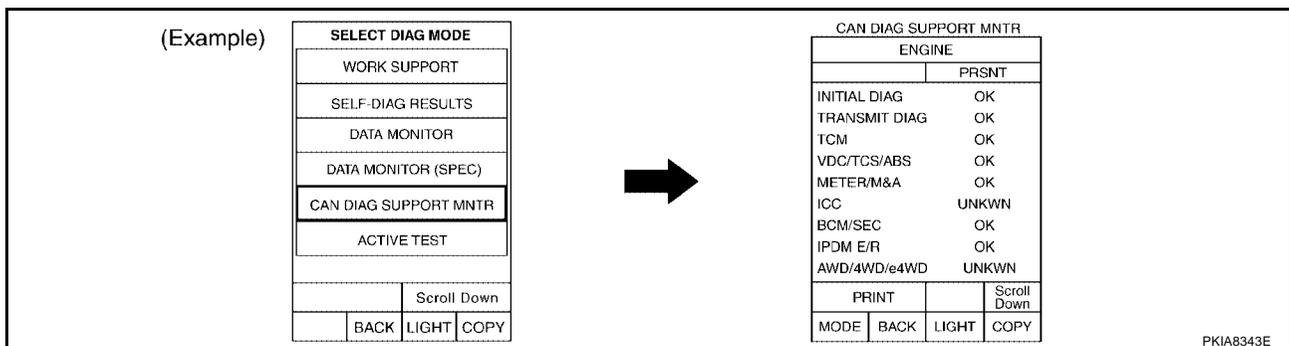
- When there are no indications of "AUTO DRIVE POS.", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



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



- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-466, "CHECK SHEET"](#).
- Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks "v" onto the items with "No indication", "NG" or "UNKWN" in the check sheet table. Refer to [LAN-466, "CHECK SHEET"](#).

NOTE:

- If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.
- The "CAN DIAG SUPPORT MNTR" items, which are not in check sheet table, are not related to diagnostic procedure on service manual.
So it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.

- Check CAN communication line of the navigation system. Refer to [AV-149, "CAN Communication Line Check"](#).
- Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to [LAN-466, "CHECK SHEET"](#).

CAN SYSTEM (TYPE 15)

[CAN]

8. Mark the "NG" or "UNKWN" item of the check sheet table with "v" from the result of CAN DIAG SUPPORT MONITOR check sheet. Refer to [LAN-466, "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-149, "CAN Communication Line Check"](#) .

9. According to the check sheet results (example), start inspection. Refer to [LAN-468, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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D

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CAN SYSTEM (TYPE 15)

[CAN]

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

CAN SYSTEM (TYPE 15)

[CAN]

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

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PKIA9145E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

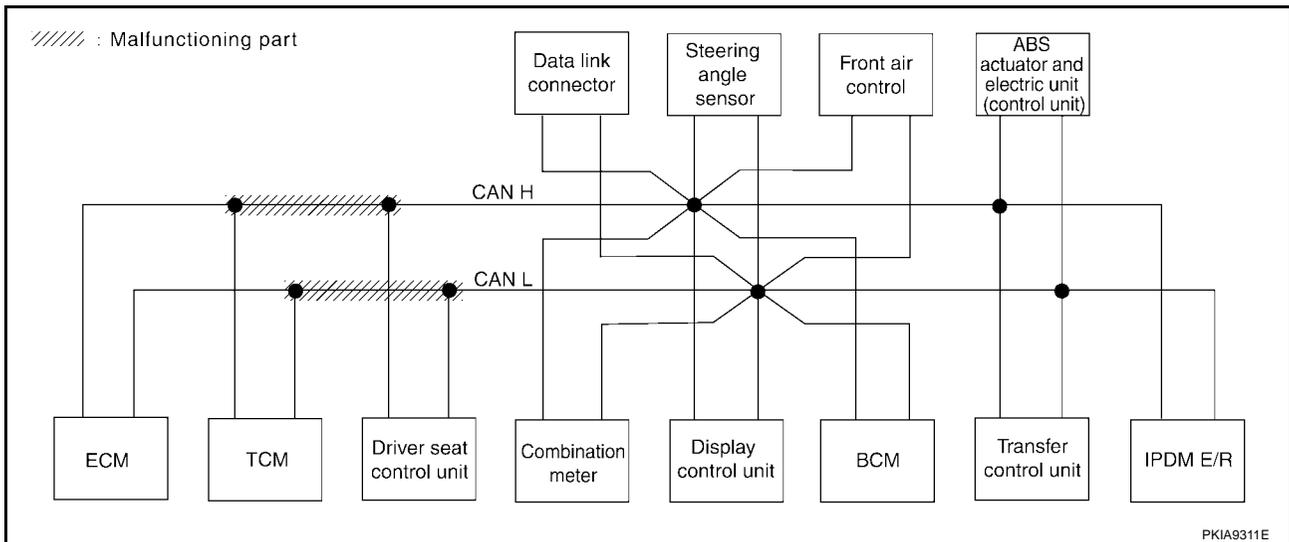
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" or "CAN COMM" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and driver seat control unit. Refer to [LAN-484, "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	UN KN ✓WN	UN KN ✓WN	—	—	—	UN KN ✓WN	UN KN ✓WN	UN KN ✓WN
A/T	—	NG	UNKWN	UNKWN	—	UN KN ✓WN	—	—	—	—	UN KN ✓WN	UN KN ✓WN	—
AUTO DRIVE POS.	No indication	NG	UNKWN	—	UN KN ✓WN	UNKWN	UNKWN	—	—	—	—	—	—
Display control unit	—	CAN COMM	CAN CIRC 1	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 2	—	CAN CIRC 4	—	—	—	CAN CIRC 7
BCM	No indication	NG	UNKWN	UN KN ✓WN	—	UNKWN	—	—	—	—	—	—	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UN KN ✓WN	UN KN ✓WN	—	—	—	—	—	—	UNKWN	—
ABS	—	NG	UNKWN	UN KN ✓WN	UN KN ✓WN	—	—	UNKWN	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UN KN ✓WN	—	—	UNKWN	—	—	—	—	—	—

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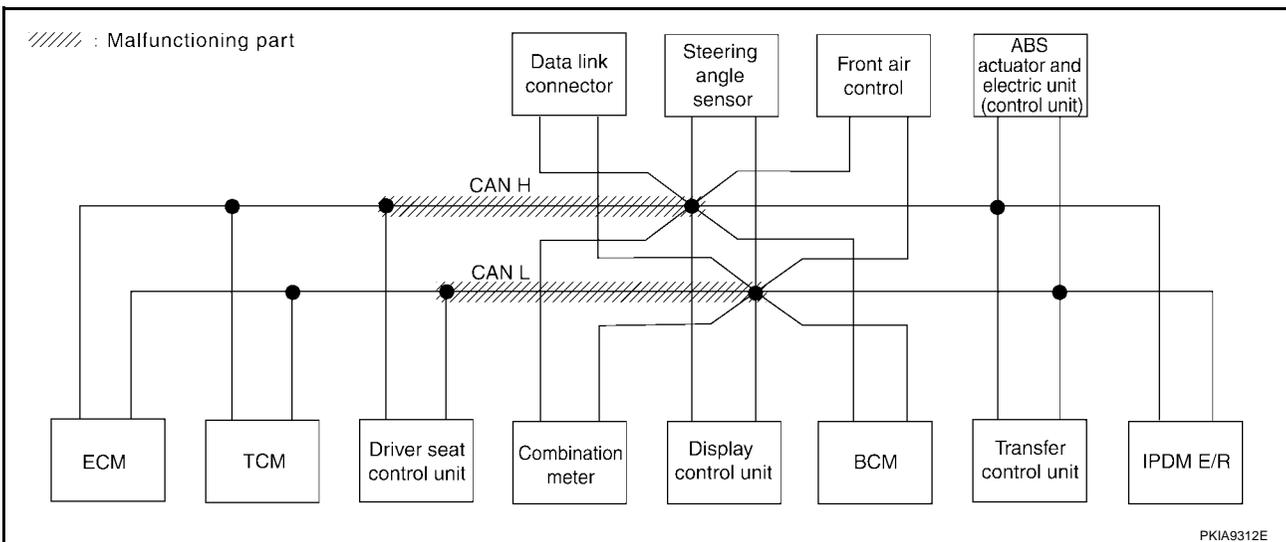


Case 2

Check harness between driver seat control unit and data link connector. Refer to [LAN-485, "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	UNKWN
ALL MODE AWD/4WD	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	—	UNKWN	—	—
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	UNKWN	—	UNKWN	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—	—	—	—	—

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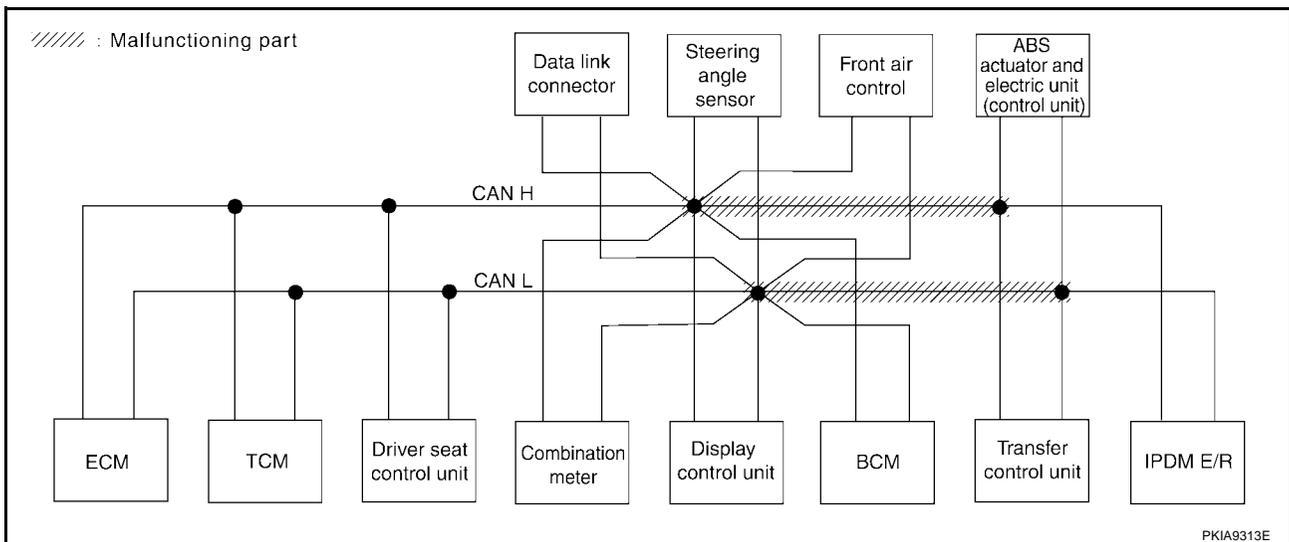


Case 3

Check harness between data link connector and IPDM E/R. Refer to [LAN-486, "Circuit Check Between Data Link Connector and IPDM E/R"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	—	—	—	—	—	—

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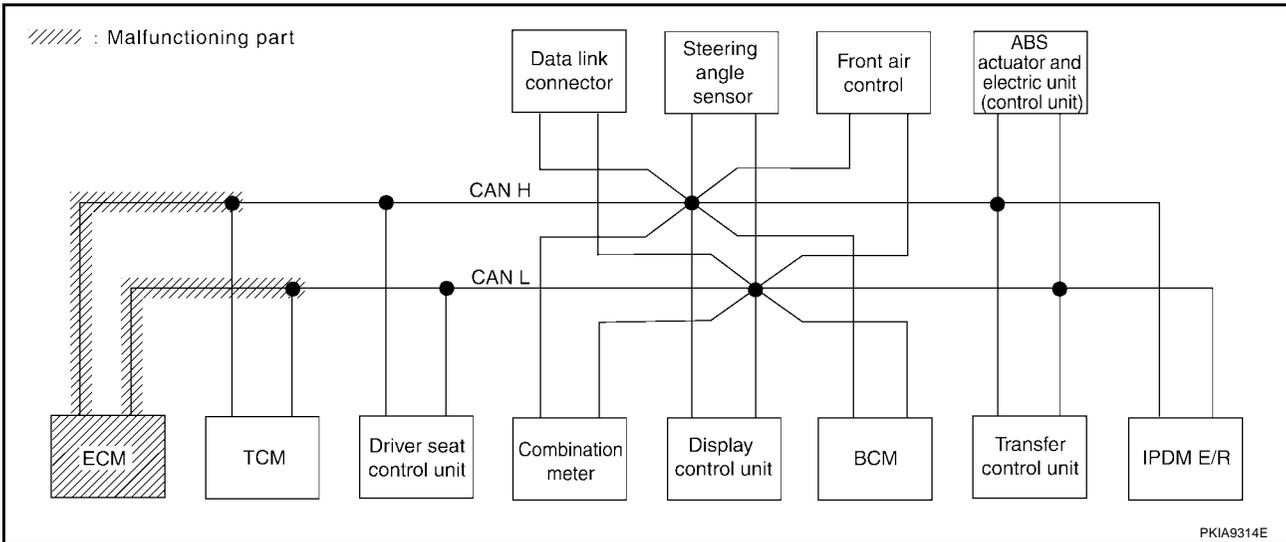


Case 4

Check ECM circuit. Refer to [LAN-487, "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	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	UNKW N	UNKW N	UNKW N
A/T	—	NG	UNKW N	UNKW N	—	UNKW N	—	—	—	UNKW N	UNKW N	—
AUTO DRIVE POS.	No indication	NG	UNKW N	—	UNKW N	UNKW N	UNKW N	—	—	—	—	—
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	UNKW N	UNKW N	—	UNKW N	—	—	—	—	—	UNKW N
ALL MODE AWD/4WD	—	NG	UNKW N	UNKW N	UNKW N	—	—	—	—	—	UNKW N	—
ABS	—	NG	UNKW N	UNKW N	UNKW N	—	—	UNKW N	—	UNKW N	—	—
IPDM E/R	No indication	—	UNKW N	UNKW N	—	—	UNKW N	—	—	—	—	—

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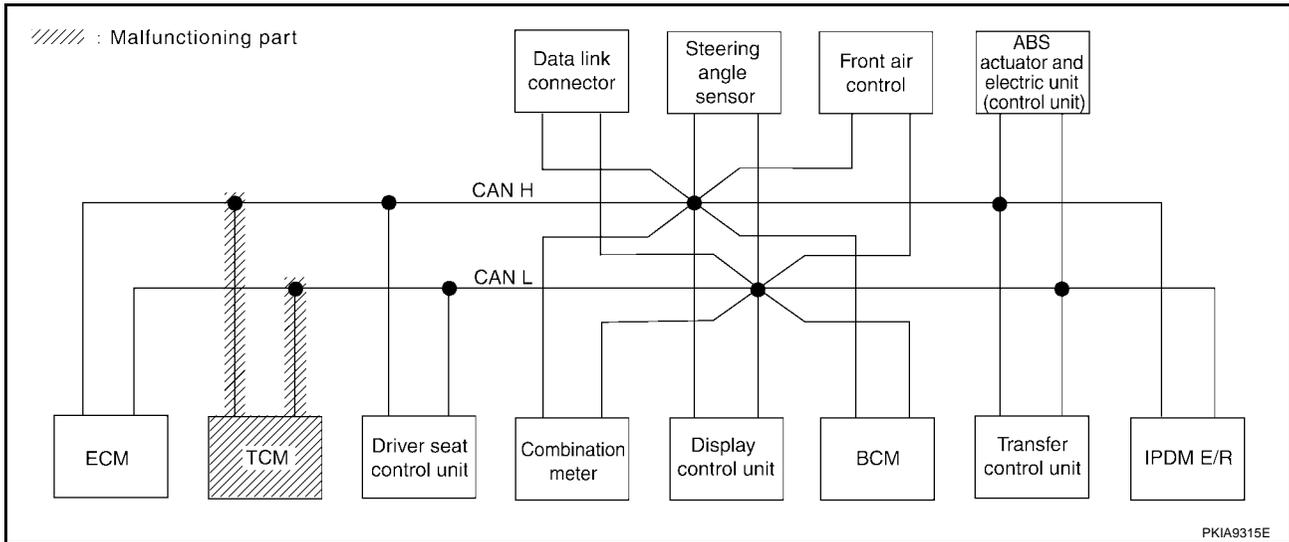


Case 5

Check TCM circuit. Refer to [LAN-487, "TCM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	—	—	—	—	—	—

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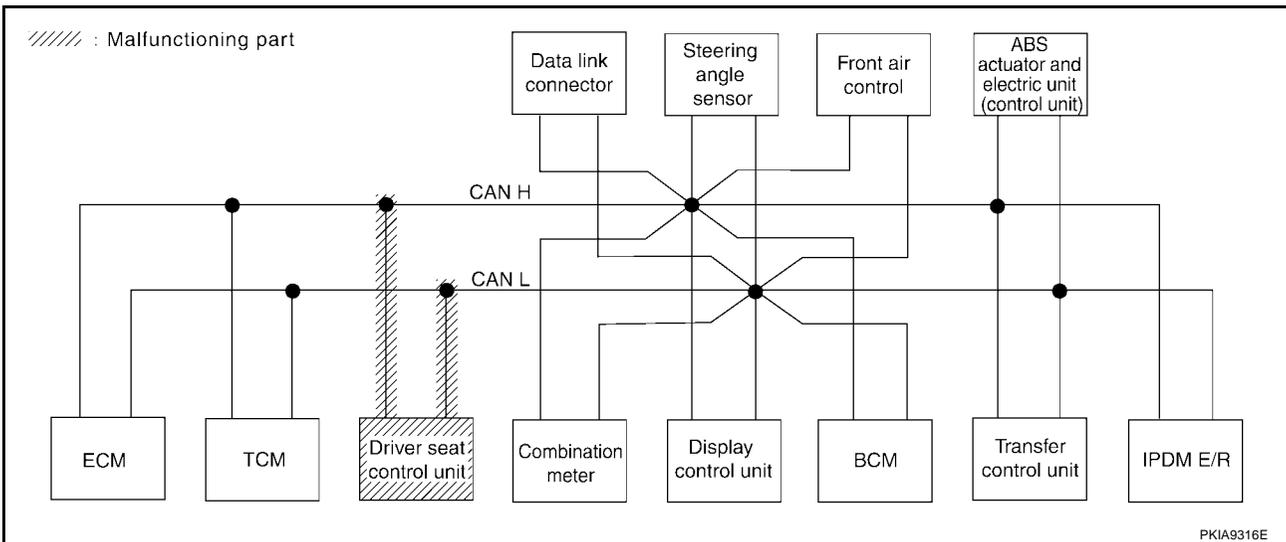


Case 6

Check driver seat control unit circuit. Refer to [LAN-488, "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	—	—	—	—	—

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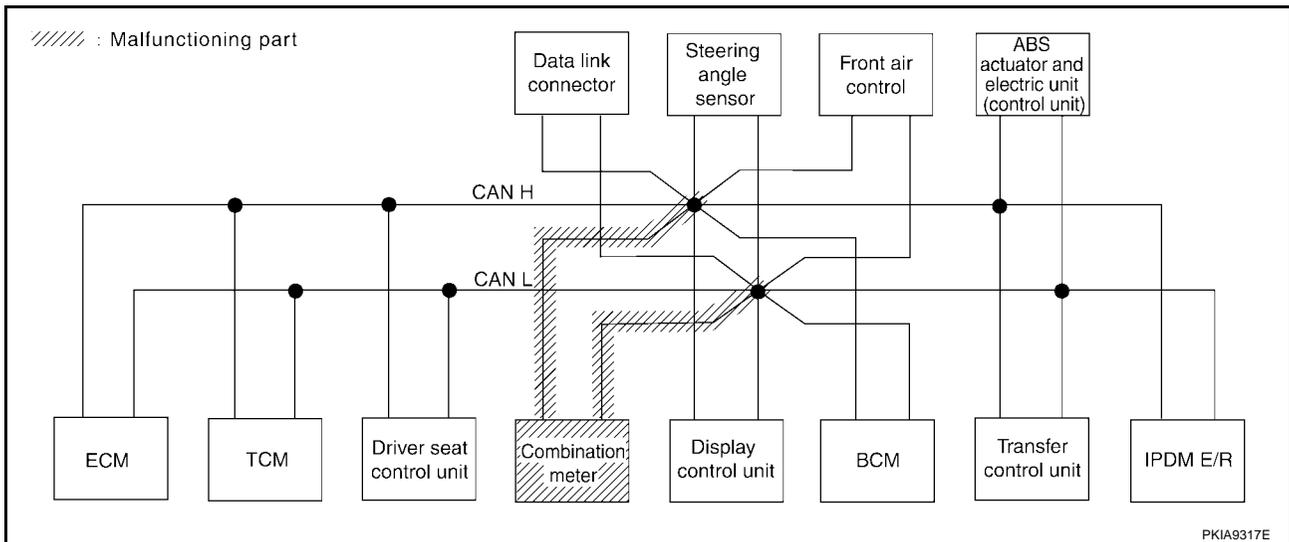


Case 7

Check combination meter circuit. Refer to [LAN-488, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	—	—	—	—	—	

PKIA9227E

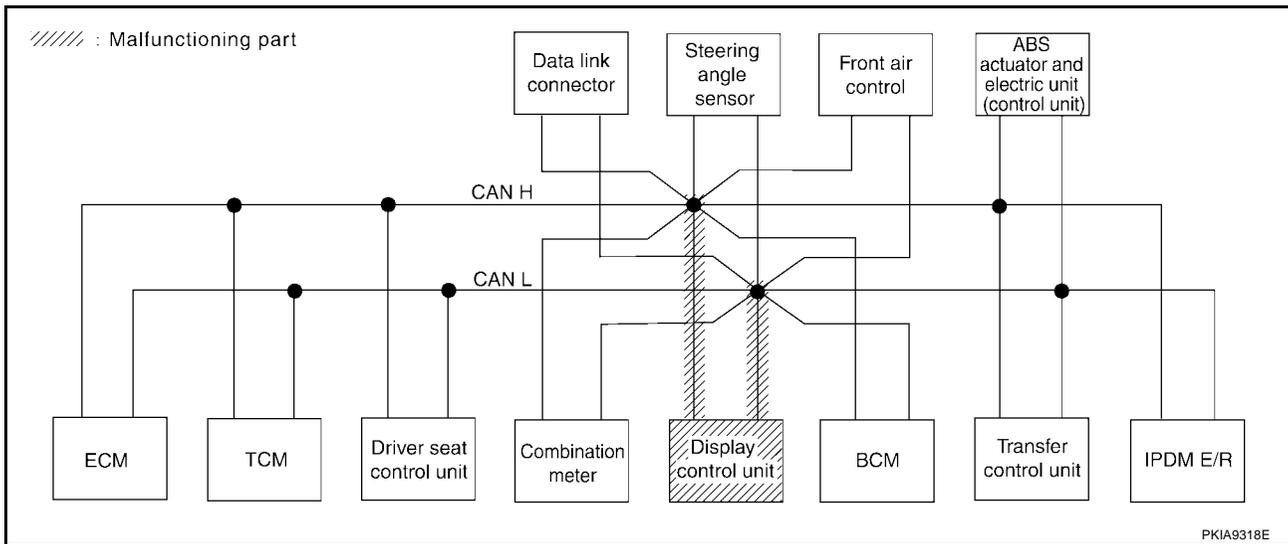


Case 8

Check display control unit circuit. Refer to [LAN-489, "Display Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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 ✓C 1	CAN ✓C 3	—	CAN ✓C 5	CAN ✓C 2	—	CAN ✓C 4	—	—	CAN ✓C 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	—	—	—	—	—	

PKIA9228E



CAN SYSTEM (TYPE 15)

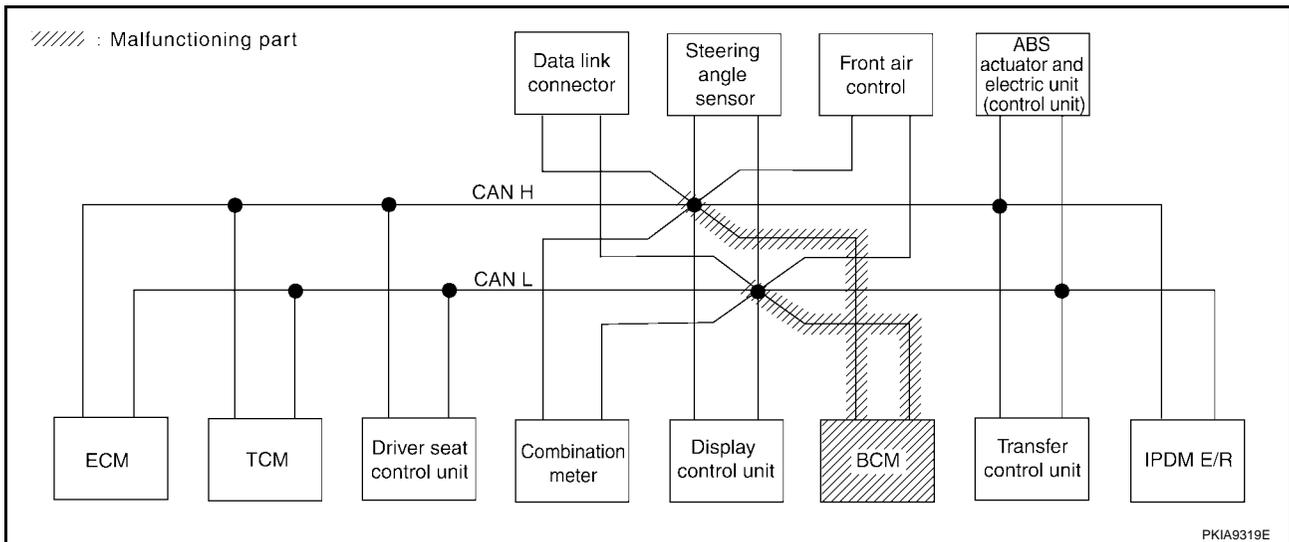
[CAN]

Case 9

Check BCM circuit. Refer to [LAN-489, "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	—	—	—	—	—	—

PKIA9229E



CAN SYSTEM (TYPE 15)

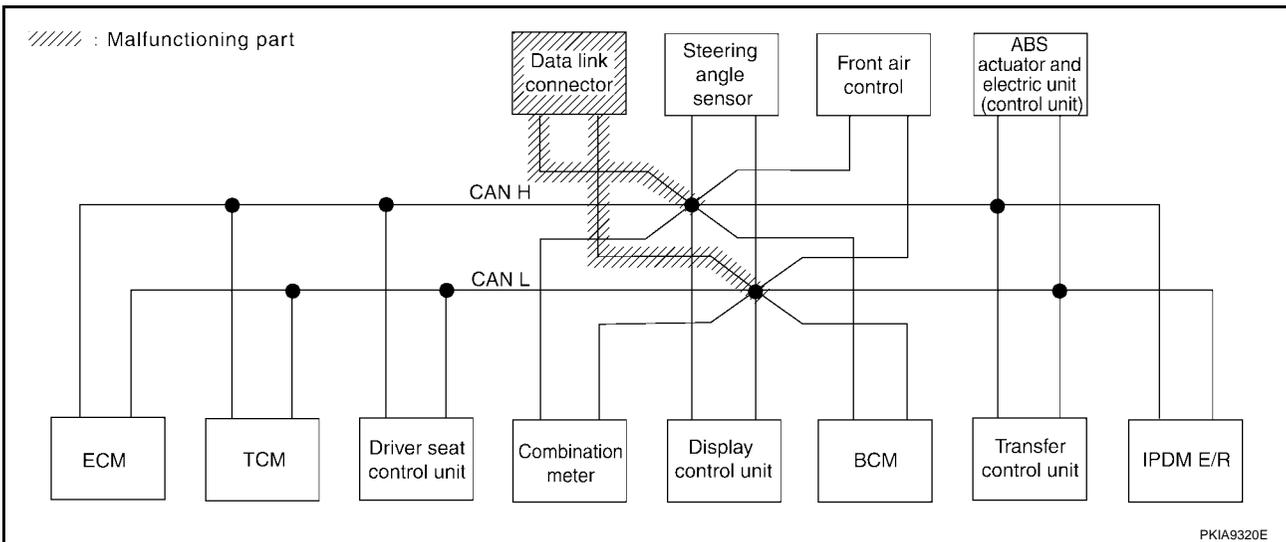
[CAN]

Case 10

Check data link connector circuit. Refer to [LAN-490, "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	—	—	—	—	—

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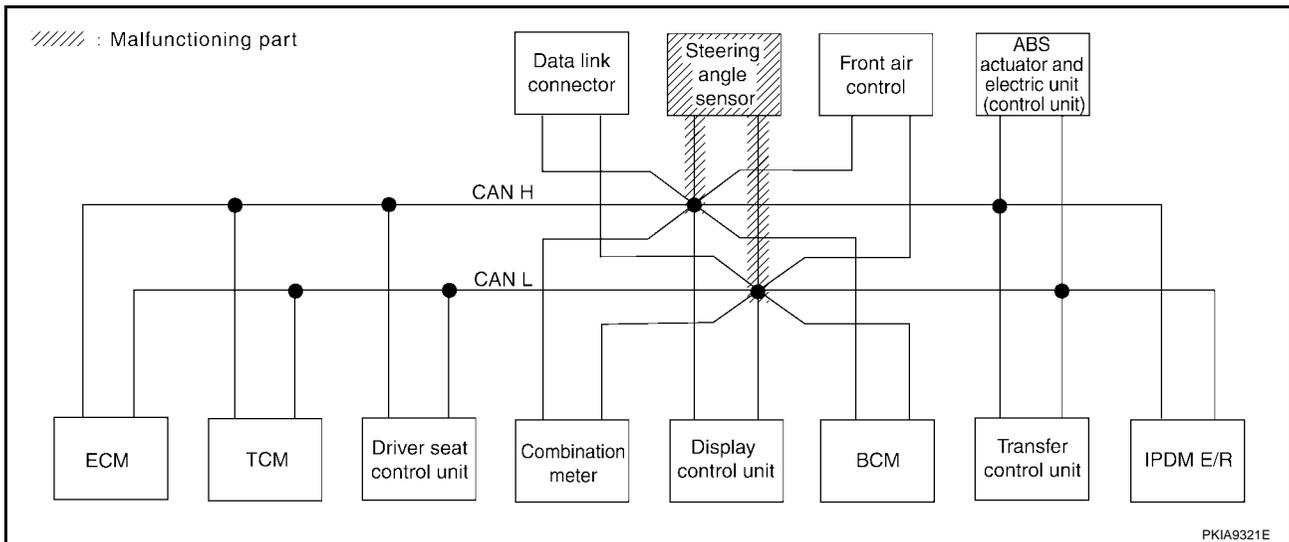


Case 11

Check steering angle sensor circuit. Refer to [LAN-490, "Steering Angle Sensor Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	—	—	—	—	—	

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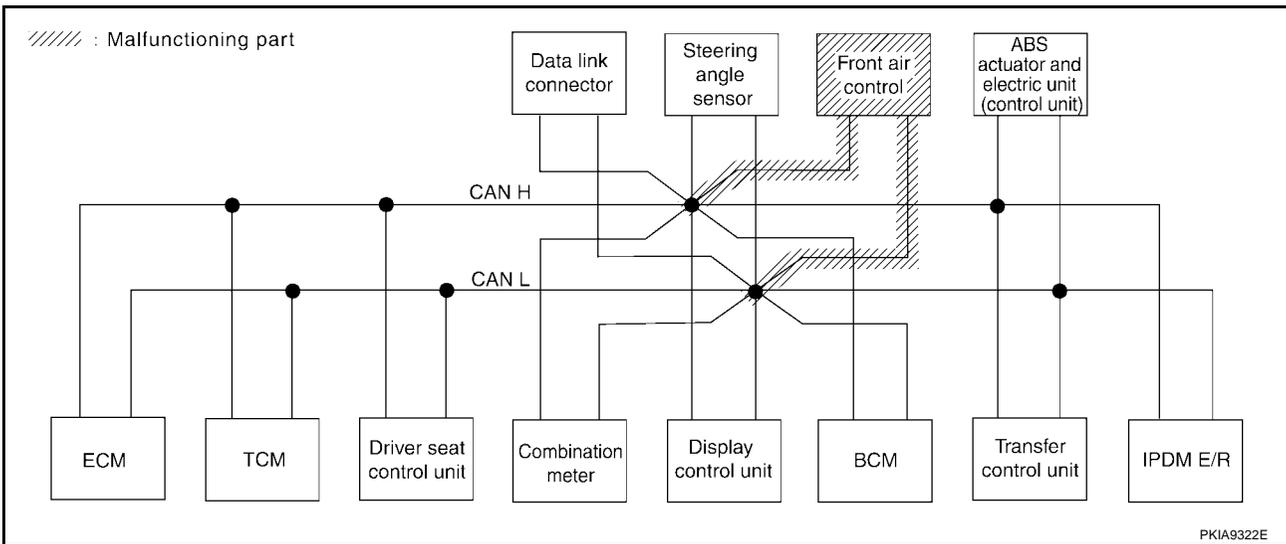


Case 12

Check front air control circuit. Refer to [LAN-491, "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	—	—	—	—	—

PKIA9322E

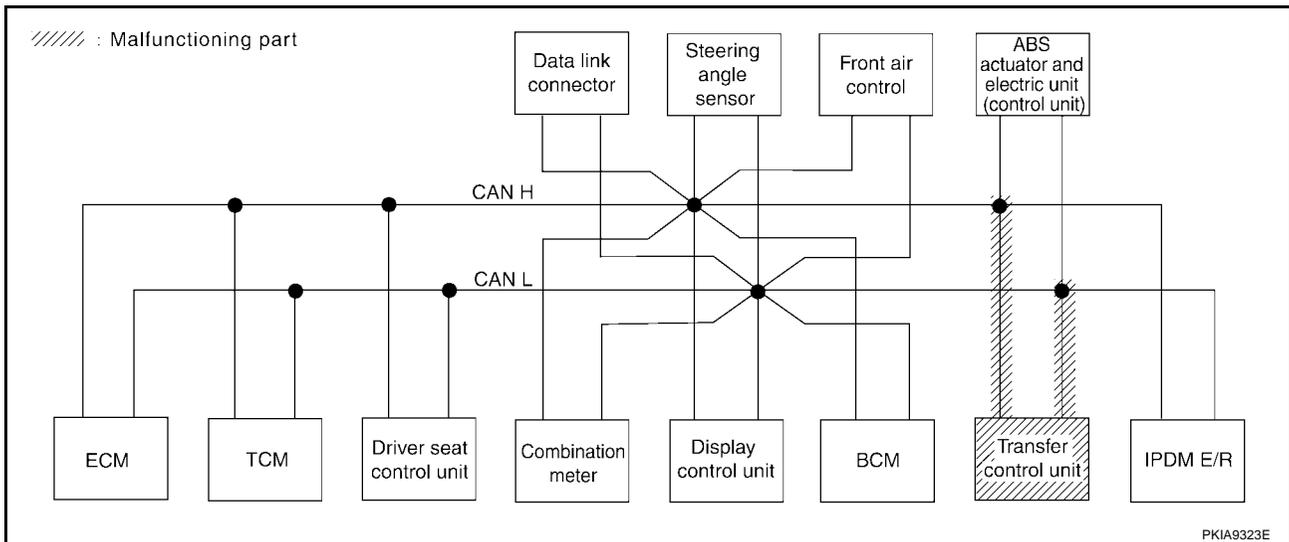


Case 13

Check transfer control unit circuit. Refer to [LAN-491, "Transfer Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	—	—	—	—	—	—

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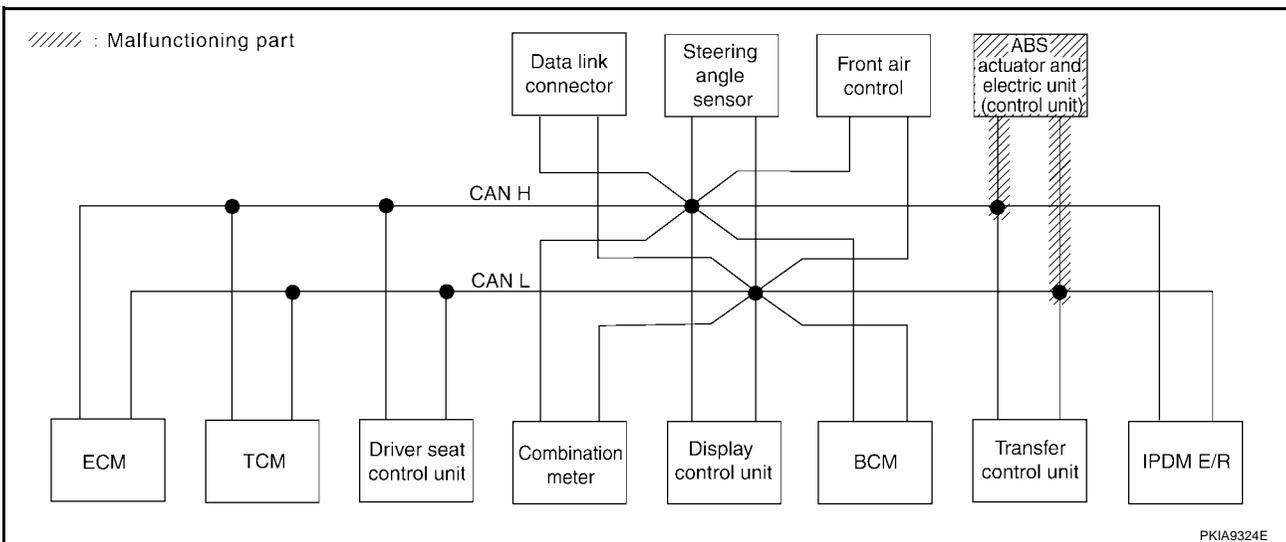


Case 14

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-492, "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	—	—	—	—	—

PKIA9234E



CAN SYSTEM (TYPE 15)

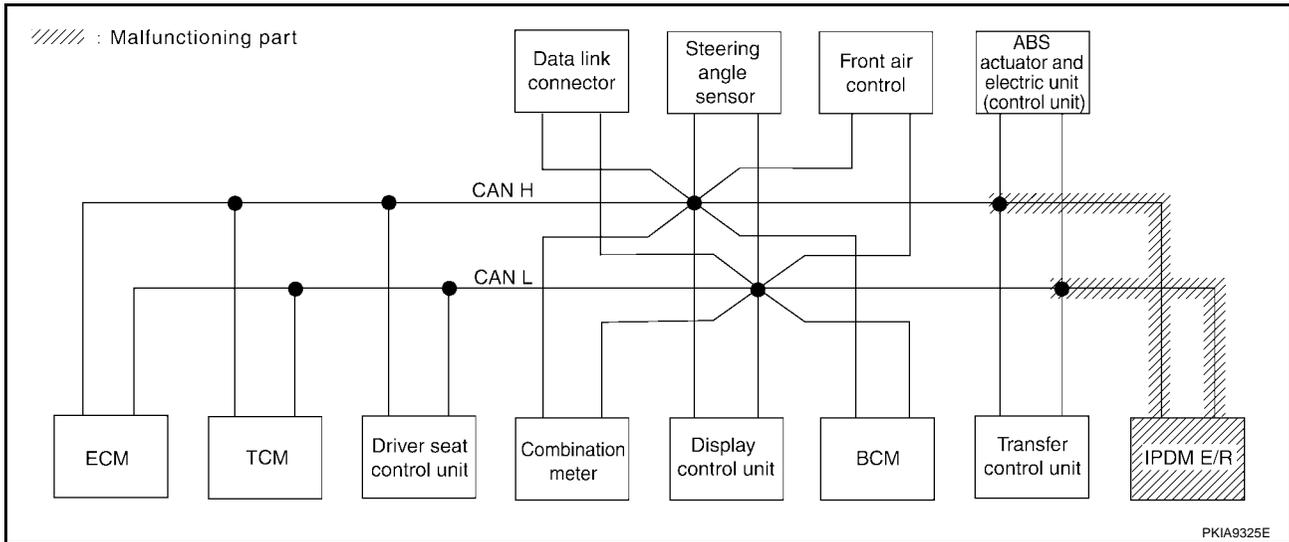
[CAN]

Case 15

Check IPDM E/R circuit. Refer to [LAN-492, "IPDM E/R Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
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	—	—	—	—	—	

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CAN SYSTEM (TYPE 15)

[CAN]

Case 16

Check CAN communication circuit. Refer to [LAN-493, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
ENGINE	-	NG	UNKW N	-	UNKW N	UNKW N	UNKW N	-	-	UNKW N	UNKW N	UNKW N	
A/T	-	NG	UNKW N	UNKW N	-	UNKW N	-	-	-	UNKW N	UNKW N	-	
AUTO DRIVE POS.	No indication	NG	UNKW N	-	UNKW N	UNKW N	UNKW N	-	-	-	-	-	
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	UNKW N	UNKW N	-	UNKW N	-	-	-	-	-	UNKW N	
ALL MODE AWD/4WD	-	NG	UNKW N	UNKW N	UNKW N	-	-	-	-	-	UNKW N	-	
ABS	-	NG	UNKW N	UNKW N	UNKW N	-	-	UNKW N	-	UNKW N	-	-	
IPDM E/R	No indication	-	UNKW N	UNKW N	-	-	UNKW N	-	-	-	-	-	

PKIA9236E

Case 17

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-493, "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR											
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									IPDM E/R
				ECM	TCM	METER /M&A	BCM /SEC	STRG	Front air control	AWD/4WD /e4WD	VDC/TCS /ABS		
ENGINE	-	NG	UNKW N	-	UNKW N	UNKW N	UNKW N	-	-	UNKW N	UNKW N	UNKW N	
A/T	-	NG	UNKW N	UNKW N	-	UNKW N	-	-	-	UNKW N	UNKW N	-	
AUTO DRIVE POS.	No indication	NG	UNKW N	-	UNKW N	UNKW N	UNKW N	-	-	-	-	-	
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	UNKW N	UNKW N	-	UNKW N	-	-	-	-	-	UNKW N	
ALL MODE AWD/4WD	-	NG	UNKW N	UNKW N	UNKW N	-	-	-	-	-	UNKW N	-	
ABS	-	NG	UNKW N	UNKW N	UNKW N	-	-	UNKW N	-	UNKW N	-	-	
IPDM E/R	No indication	-	UNKW N	UNKW N	-	-	UNKW N	-	-	-	-	-	

PKIA9237E

3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E50.
2. Check continuity between harness connector E19 terminals 12 (W), 11 (R) and harness connector E50 terminals 2 (W), 1 (R).

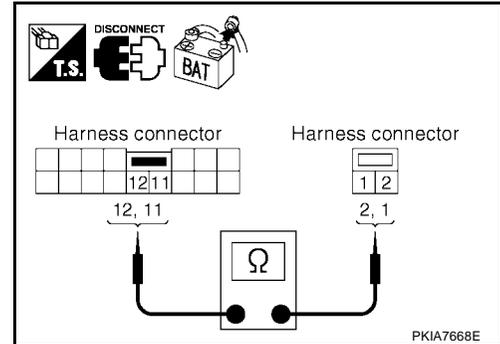
12 (W) - 2 (W) : Continuity should exist.

11 (R) - 1 (R) : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B37.
2. Check continuity between harness connector B75 terminals 2 (W), 1 (R) and harness connector B37 terminals 15 (W), 14 (R).

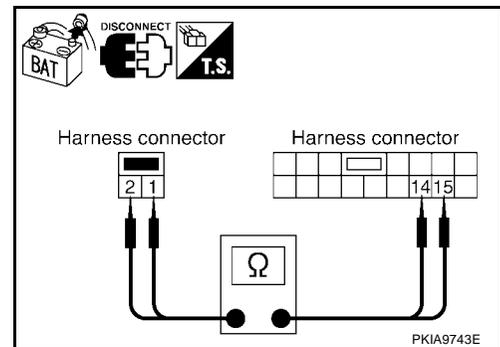
2 (W) - 15 (W) : Continuity should exist.

1 (R) - 14 (R) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-464, "Work Flow"](#).

NG >> Repair harness.



Circuit Check Between Driver Seat Control Unit and Data Link Connector

UKS0024F

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 harness connector B37 and harness connector B69.
2. Check continuity between harness connector B37 terminals 15 (W), 14 (R) and harness connector B69 terminals 51J (W), 52J (R).

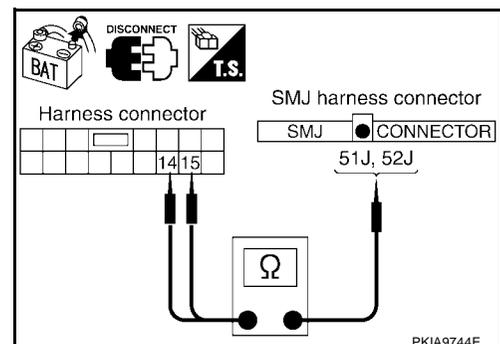
15 (W) - 51J (W) : Continuity should exist.

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

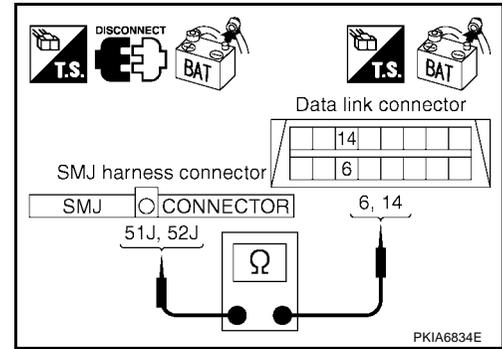
Check continuity between harness connector M40 terminals 51J (W), 52J (R) and data link connector M22 terminals 6 (W), 14 (R).

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-464, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Data Link Connector and IPDM E/R

UKS0024G

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

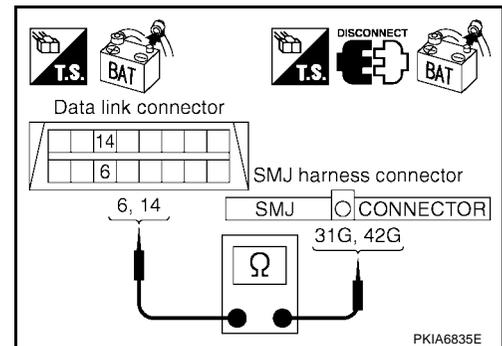
1. Disconnect harness connector M31.
2. Check continuity between data link connector M22 terminals 6 (W), 14 (R) and harness connector M31 terminals 31G (W), 42G (R).

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

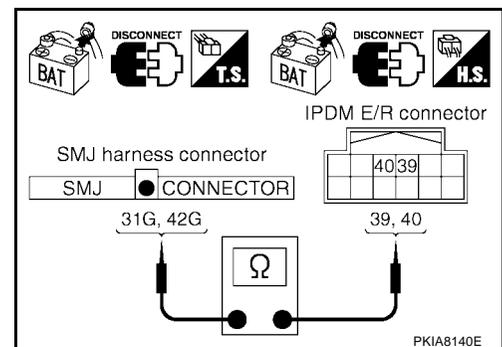
1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector E152 terminals 31G (W), 42G (R) and IPDM E/R harness connector E122 terminals 39 (W), 40 (R).

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-464, "Work Flow"](#).
- NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

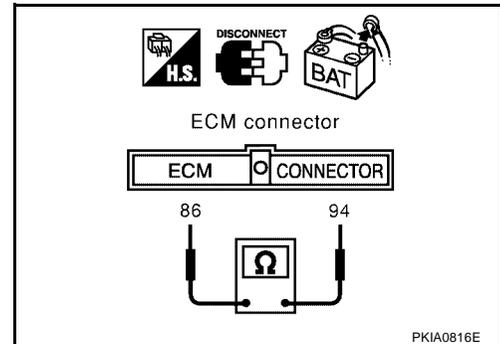
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

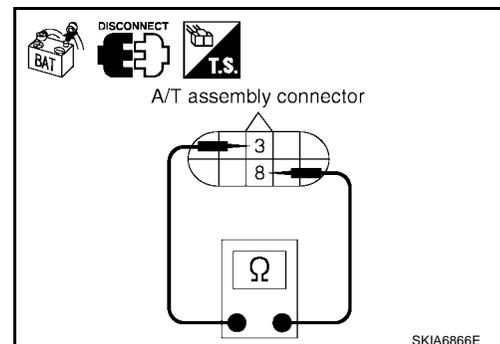
2. CHECK HARNESS FOR OPEN CIRCUIT

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



Driver Seat Control Unit Circuit Check**1. CHECK CONNECTOR**

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

OK or NG

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

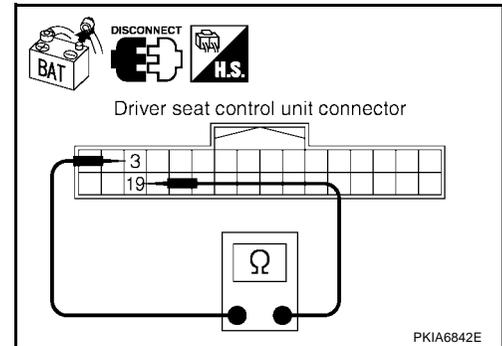
2. CHECK HARNESS FOR OPEN CIRCUIT

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

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****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.

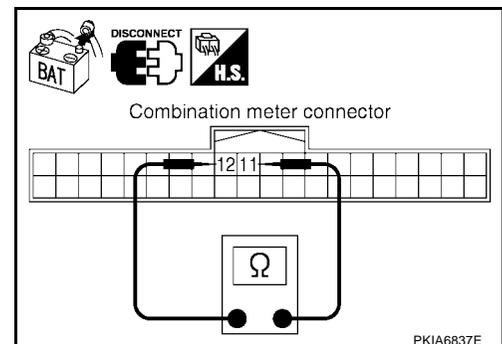
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

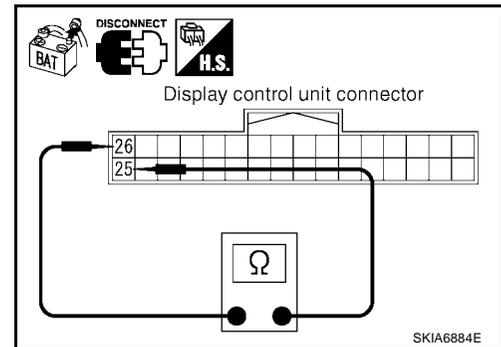
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

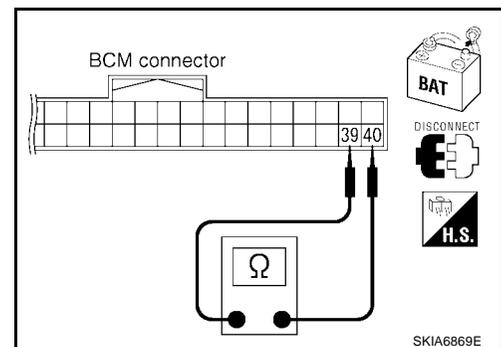
2. CHECK HARNESS FOR OPEN CIRCUIT

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-25, "Removal and Installation of BCM"](#) .
NG >> Repair harness between BCM and data link connector.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

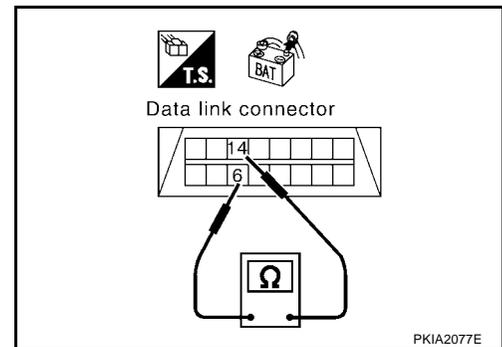
2. CHECK HARNESS FOR OPEN CIRCUIT

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

6 (W) - 14 (R) : Approx. 54 - 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-464, "Work Flow"](#) .
 NG >> Repair harness between data link connector and combination meter.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

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

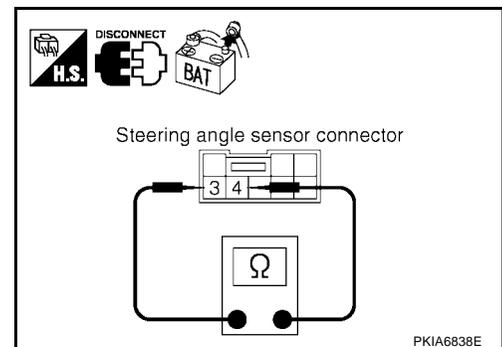
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

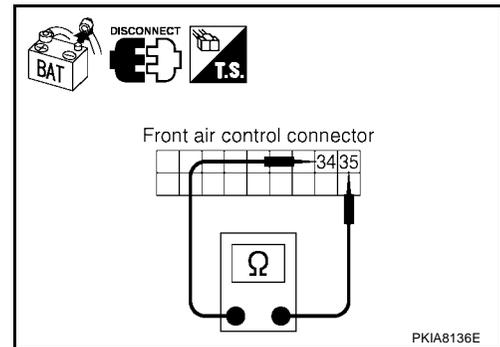
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

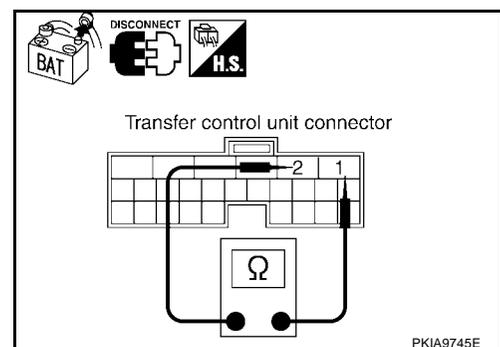
2. CHECK HARNESS FOR OPEN CIRCUIT

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

1 (W) - 2 (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**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.

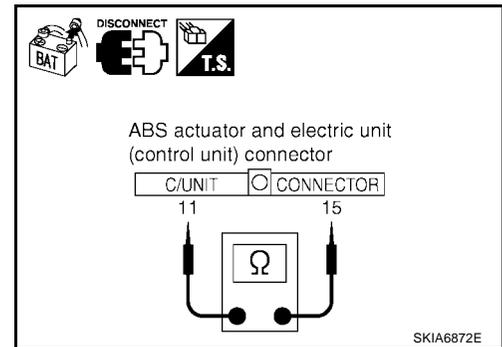
2. CHECK HARNESS FOR OPEN CIRCUIT

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****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.

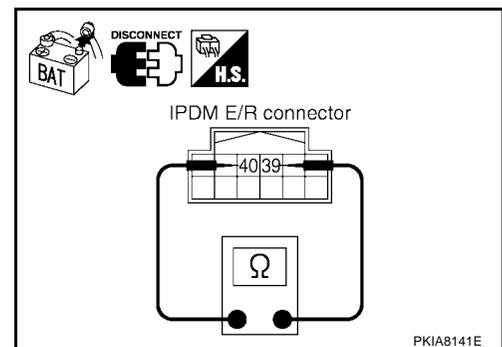
2. CHECK HARNESS FOR OPEN CIRCUIT

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**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.

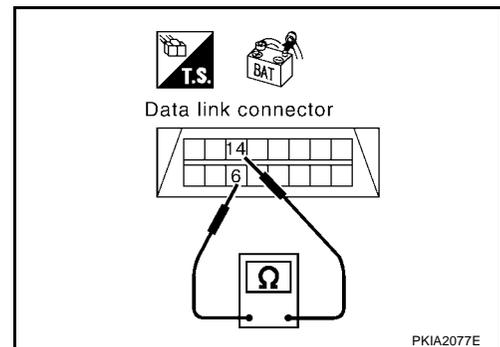
2. CHECK HARNESS FOR SHORT CIRCUIT

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**

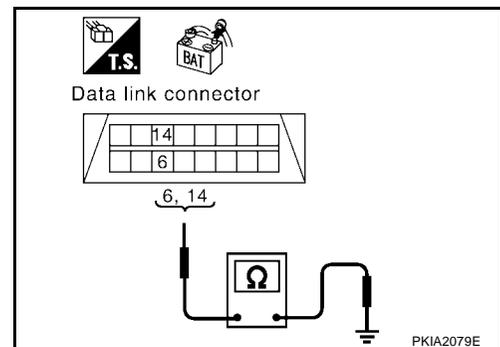
Check continuity between data link connector M22 terminals 6 (W), 14 (R) and ground.

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-494, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).
 NG >> Repair harness.

**IPDM E/R Ignition Relay Circuit Check**

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

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

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

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

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

