

SECTION **LAN**
LAN SYSTEM

CONTENTS

CAN	
PRECAUTIONS	3
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3
Precautions for Battery Service	3
Precautions When Using CONSULT-II	3
CHECK POINTS FOR USING CONSULT-II	4
Precautions For Trouble Diagnosis	4
CAN SYSTEM	4
Precautions For Harness Repair	4
CAN SYSTEM	4
CAN COMMUNICATION	5
System Description	5
CAN Communication Unit	5
TYPE 1	5
TYPE 2	7
TYPE 3	8
TYPE 4	9
CAN SYSTEM (TYPE 1)	12
System Description	12
Component Parts and Harness Connector Location	12
Wiring Diagram — CAN —	13
Work Flow	15
CHECK SHEET	16
CHECK SHEET RESULTS (EXAMPLE)	18
Circuit Check Between TCM and Data Link Connector	29
Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.	30
Circuit Check Between Unified Meter and A/C Amp. and BCM	31
Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)	31
ECM Circuit Check	32
TCM Circuit Check	32
Data Link Connector Circuit Check	33
Unified Meter and A/C Amp. Circuit Check	33
BCM Circuit Check	34
ABS Actuator and Electric Unit (Control Unit) Circuit Check	34
IPDM E/R Circuit Check	35
CAN Communication Circuit Check	36
IPDM E/R Ignition Relay Circuit Check	38
Component Inspection	38
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	38
CAN SYSTEM (TYPE 2)	39
System Description	39
Component Parts and Harness Connector Location	39
Wiring Diagram — CAN —	40
Work Flow	42
CHECK SHEET	43
CHECK SHEET RESULTS (EXAMPLE)	45
Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.	55
Circuit Check Between Unified Meter and A/C Amp. and BCM	55
Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)	55
ECM Circuit Check	56
Data Link Connector Circuit Check	57
Unified Meter and A/C Amp. Circuit Check	57
BCM Circuit Check	58
ABS Actuator and Electric Unit (Control Unit) Circuit Check	58
IPDM E/R Circuit Check	59
CAN Communication Circuit Check	60
IPDM E/R Ignition Relay Circuit Check	62
Component Inspection	62
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	62
CAN SYSTEM (TYPE 3)	63
System Description	63
Component Parts and Harness Connector Location	63
Wiring Diagram — CAN —	64
Work Flow	66
CHECK SHEET	67
CHECK SHEET RESULTS (EXAMPLE)	69
Circuit Check Between Data Link Connector and	

Unified Meter and A/C Amp.	79	Circuit Check Between Data Link Connector and Unified Meter and A/C Amp.	107
Circuit Check Between Unified Meter and A/C Amp. and BCM	79	Circuit Check Between Unified Meter and A/C Amp. and BCM	107
Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)	79	Circuit Check Between BCM and Low Tire Pressure Warning Control Unit	108
ECM Circuit Check	80	Circuit Check Between Low Tire Pressure Warning Control Unit and Steering Angle Sensor	108
Data Link Connector Circuit Check	81	Circuit Check Between Steering Angle Sensor and VDC/TCS/ABS Control Unit	109
Unified Meter and A/C Amp. Circuit Check	81	ECM Circuit Check	109
BCM Circuit Check	82	Data Link Connector Circuit Check	110
ABS Actuator and Electric Unit (Control Unit) Circuit Check	82	Unified Meter and A/C Amp. Circuit Check	110
IPDM E/R Circuit Check	83	BCM Circuit Check	111
CAN Communication Circuit Check	84	Low Tire Pressure Warning Control Unit Circuit Check	111
IPDM E/R Ignition Relay Circuit Check	86	Steering Angle Sensor Circuit Check	112
Component Inspection	86	VDC/TCS/ABS Control Unit Circuit Check	112
ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	86	IPDM E/R Circuit Check	113
CAN SYSTEM (TYPE 4)	87	CAN Communication Circuit Check	114
System Description	87	IPDM E/R Ignition Relay Circuit Check	116
Component Parts and Harness Connector Location ..	87	Component Inspection	116
Wiring Diagram — CAN —	88	ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION	116
Work Flow	90		
CHECK SHEET	91		
CHECK SHEET RESULTS (EXAMPLE)	93		

PRECAUTIONS

PF0:00001

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

AKS00BRF

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 for Battery Service

AKS003TZ

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Precautions When Using CONSULT-II

AKS003M4

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.

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

LAN

CHECK POINTS FOR USING CONSULT-II

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

Precautions For Trouble Diagnosis CAN SYSTEM

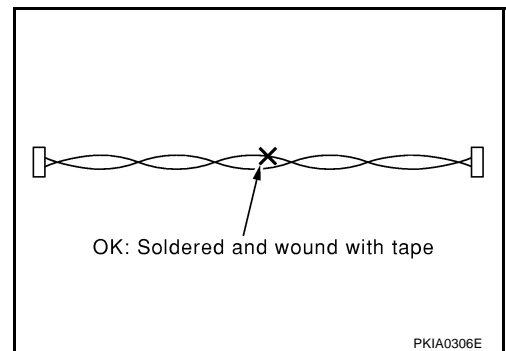
AKS000ZD

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

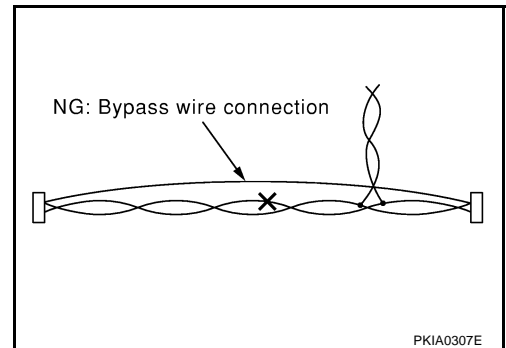
Precautions For Harness Repair CAN SYSTEM

AKS000ZE

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



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



CAN COMMUNICATION

PFP:23710

System Description

AKS000ZF

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

AKS00BQT

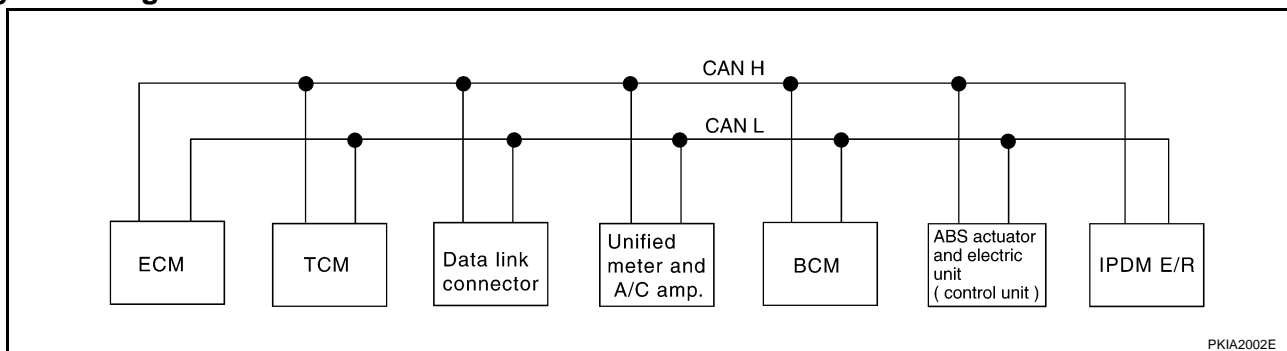
Go to CAN system, when selecting your CAN system type from the following table.

Body type	Roadster		Coupe			
Axle	2WD					
Engine	VQ35DE					
Transmission	A/T	M/T	A/T	M/T		
Brake control	TCS	TCS	TCS	ABS	TCS	VDC
Low tire pressure warning system						×
CAN system type	1	2	1	3	2	4
CAN system trouble diagnosis	LAN-12	LAN-39	LAN-12	LAN-63	LAN-39	LAN-87

×: Applicable

TYPE 1

System Diagram



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R	R		R	
Engine coolant temperature signal	T	R	R			
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				
Stop lamp switch signal		R	T			
Fuel consumption monitor signal	T		R			
A/T self-diagnosis signal	R	T				
A/T CHECK indicator lamp signal		T	R			
A/T position indicator signal		T	R		R	

CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Manual mode gear position signal		T	R			
ABS operation signal		R			T	
A/T shift schedule change demand signal		R			T	
A/C switch signal	R			T		
A/C compressor request signal	T					R
A/C compressor feedback signal	T		R			
Blower fan motor switch signal	R			T		
Cooling fan speed request signal	T					R
Position lights 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
Day time running light request signal				T		R
Vehicle speed signal			R		T	
	R	R	T	R		
Sleep request 1 signal			R	T		
Sleep request 2 signal				T		R
Wake up request 1 signal			R	T		
Door switch signal			R	T		R
Turn indicator signal			R	T		
Seat belt buckle switch signal			T	R		
Buzzer output signal			R	T		
Fuel level sensor signal	R		T			
Malfunction indicator lamp signal	T		R			
ASCD SET lamp signal	T		R			
ASCD operation signal	T	R				
ASCD CRUISE lamp signal	T		R			
ASCD OD cancel request signal	T	R				
Output shaft revolution signal	R	T				
Turbine revolution signal	R	T				
Front wiper request signal				T		R
Front wiper stop position signal				R		T
Rear window defogger switch signal				T		R
Rear window defogger control signal	R					T
Manual mode signal		R	T			
Not manual mode signal		R	T			
Manual mode shift up signal		R	T			
Manual mode shift down signal		R	T			
Manual mode indicator signal		T	R			
Hood switch signal				R		T
Theft warning horn request signal				T		R

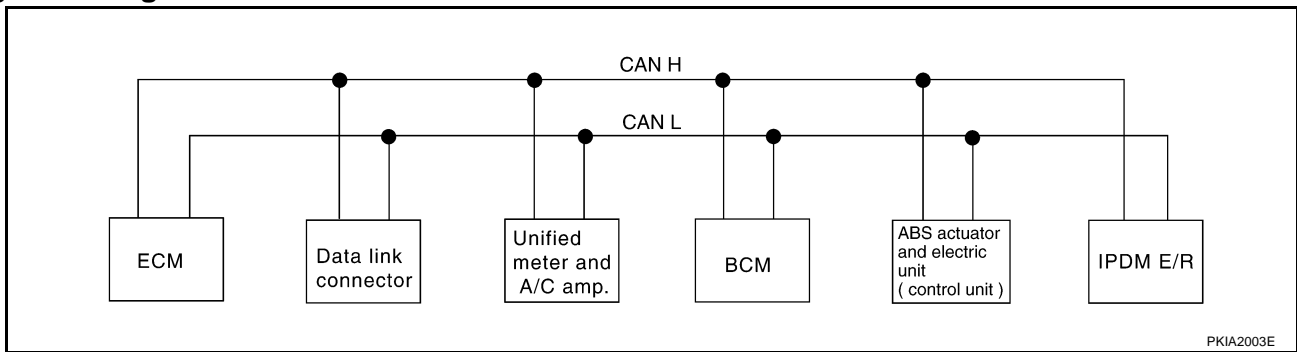
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Horn chirp signal				T		R
Ignition switch signal				T		R
ABS warning lamp signal			R		T	
TCS OFF indicator lamp signal			R		T	
SLIP indicator lamp signal			R		T	
Brake warning lamp signal			R		T	

TYPE 2

System Diagram



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	
Engine coolant temperature signal	T	R			
Accelerator pedal position signal	T			R	
Fuel consumption monitor signal	T	R			
A/C switch signal	R		T		
A/C compressor request signal	T				R
A/C compressor feedback signal	T	R			
Blower fan motor switch signal	R		T		
Cooling fan speed request signal	T				R
Position lights 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
Day time running light request signal			T		R
Vehicle speed signal		R		T	
	R	T	R		
Sleep request 1 signal		R	T		
Sleep request 2 signal			T		R
Wake up request 1 signal		R	T		
Door switch signal		R	T		R
Turn indicator signal		R	T		

CAN COMMUNICATION

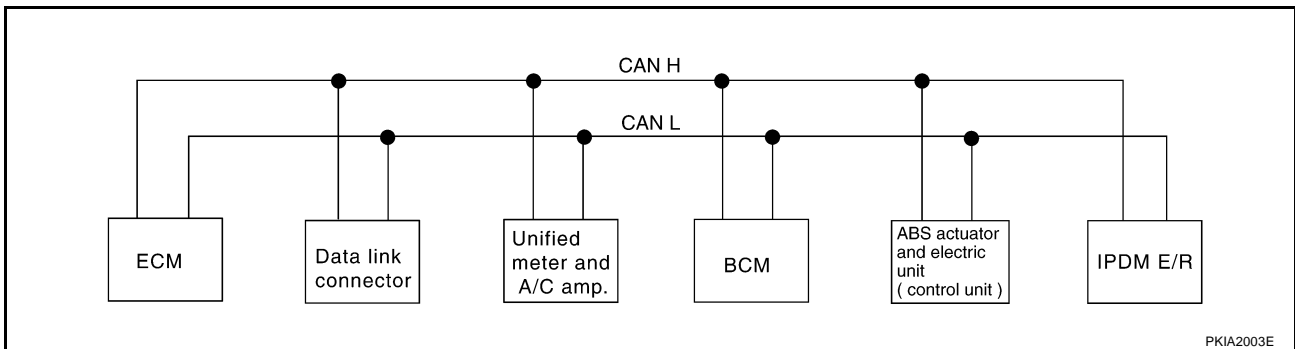
[CAN]

Signals	ECM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Seat belt buckle switch signal		T	R		
Buzzer output signal		R	T		
Fuel level sensor signal	R	T			
Malfunction indicator lamp signal	T	R			
ASCD SET lamp signal	T	R			
ASCD CRUISE lamp signal	T	R			
Front wiper request signal			T		R
Front wiper stop position signal			R		T
Rear window defogger switch signal			T		R
Rear window defogger control signal	R				T
Hood switch signal			R		T
Theft warning horn request signal			T		R
Horn chirp signal			T		R
Ignition switch signal			T		R
ABS warning lamp signal		R		T	
TCS OFF indicator lamp signal		R		T	
SLIP indicator lamp signal		R		T	
Brake warning lamp signal		R		T	

TYPE 3

System Diagram

- Type3



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	
Engine coolant temperature signal	T	R			
Accelerator pedal position signal	T			R	
Fuel consumption monitor signal	T	R			
A/C switch signal	R		T		
A/C compressor request signal	T				R
A/C compressor feedback signal	T	R			
Blower fan motor switch signal	R		T		
Cooling fan speed request signal	T				R

CAN COMMUNICATION

[CAN]

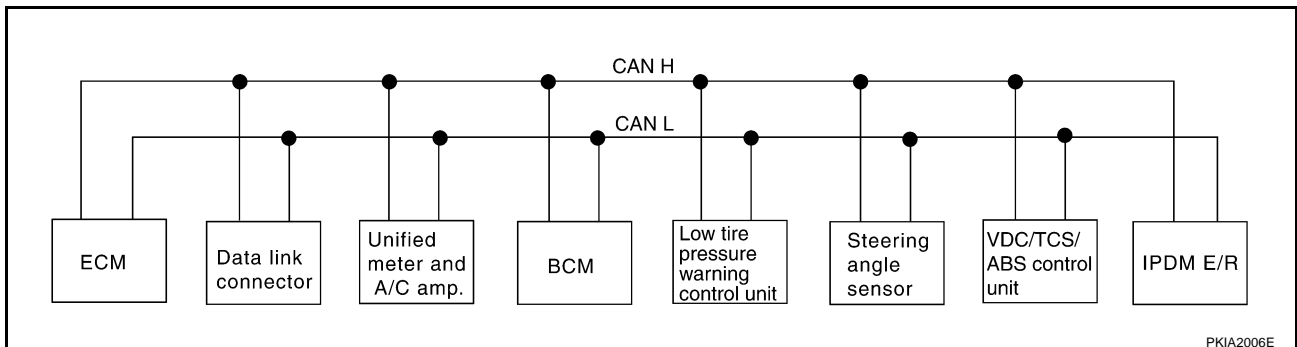
Signals	ECM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Position lights request signal		R	T		R
Low beam request signal			T		R
Low beam status signal	R				T
High beam request signal		R	T		R
High beam status signal	R				T
Day time running light request signal			T		R
Vehicle speed signal		R		T	
	R	T	R		
Sleep request 1 signal		R	T		
Sleep request 2 signal			T		R
Wake up request 1 signal		R	T		
Door switch signal		R	T		R
Turn indicator signal		R	T		
Seat belt buckle switch signal		T	R		
Buzzer output signal		R	T		
Fuel level sensor signal	R	T			
Malfunction indicator lamp signal	T	R			
ASCD SET lamp signal	T	R			
ASCD CRUISE lamp signal	T	R			
Front wiper request signal			T		R
Front wiper stop position signal			R		T
Rear window defogger switch signal			T		R
Rear window defogger control signal	R				T
Hood switch signal			R		T
Theft warning horn request signal			T		R
Horn chirp signal			T		R
Ignition switch signal			T		R
Tire pressure signal		R			
ABS warning lamp signal		R		T	
Brake warning lamp signal		R		T	

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

LAN

TYPE 4 System Diagram

- Type4



CAN COMMUNICATION

[CAN]

Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	Steering angle sensor	VDC/TCS/ABS control unit	IPDM E/R
Engine speed signal	T	R				R	
Engine coolant temperature signal	T	R					
Accelerator pedal position signal	T					R	
Fuel consumption monitor signal	T	R					
A/C switch signal	R		T				
A/C compressor request signal	T						R
A/C compressor feedback signal	T	R					
Blower fan motor switch signal	R		T				
Cooling fan speed request signal	T						R
Position lights 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
Day time running light request signal			T				R
Vehicle speed signal		R				T	
	R	T	R	R			
Sleep request 1 signal		R	T				
Sleep request 2 signal			T				R
Wake up request 1 signal		R	T				
Door switch signal		R	T				R
Turn indicator signal		R	T				
Seat belt buckle switch signal		T	R				
Buzzer output signal		R	T				
Fuel level sensor signal	R	T					
Malfunction indicator signal	T	R					
ASCD SET lamp signal	T	R					
ASCD CRUISE lamp signal	T	R					
Front wiper request signal			T				R
Front wiper stop position signal			R				T
Rear window defogger switch signal			T				R
Rear window defogger control signal	R						T
Hood switch signal			R				T
Theft warning horn request signal			T				R
Horn chirp signal			T				R
Ignition switch signal			T				R
Steering angle sensor signal					T	R	
Tire pressure signal		R		T			
ABS warning lamp signal		R				T	
VDC OFF indicator lamp signal		R				T	

CAN COMMUNICATION

[CAN]

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	Steering angle sensor	VDC/TCS/ABS control unit	IPDM E/R
SLIP indicator lamp signal		R				T	
Brake warning lamp signal		R				T	

A

B

C

D

E

F

G

H

I

J

LAN

L

M

CAN SYSTEM (TYPE 1)

PFP:23710

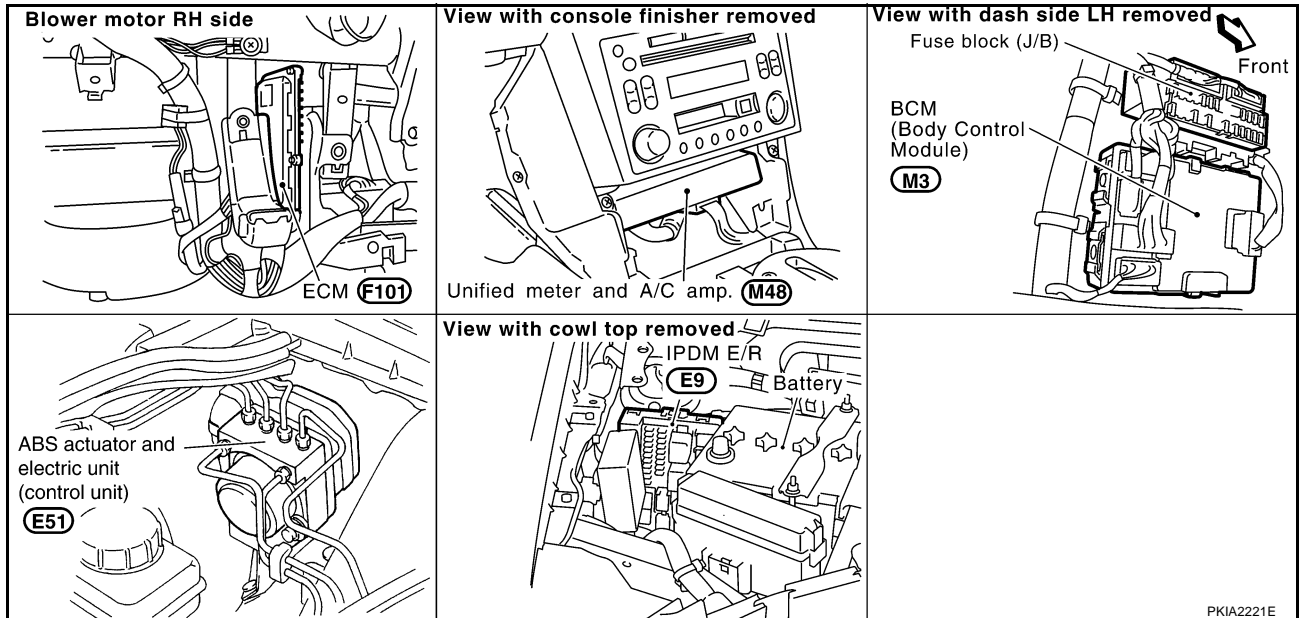
System Description

AKS00A8P

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

AKS00A8Q



PKIA2221E

CAN SYSTEM (TYPE 1)

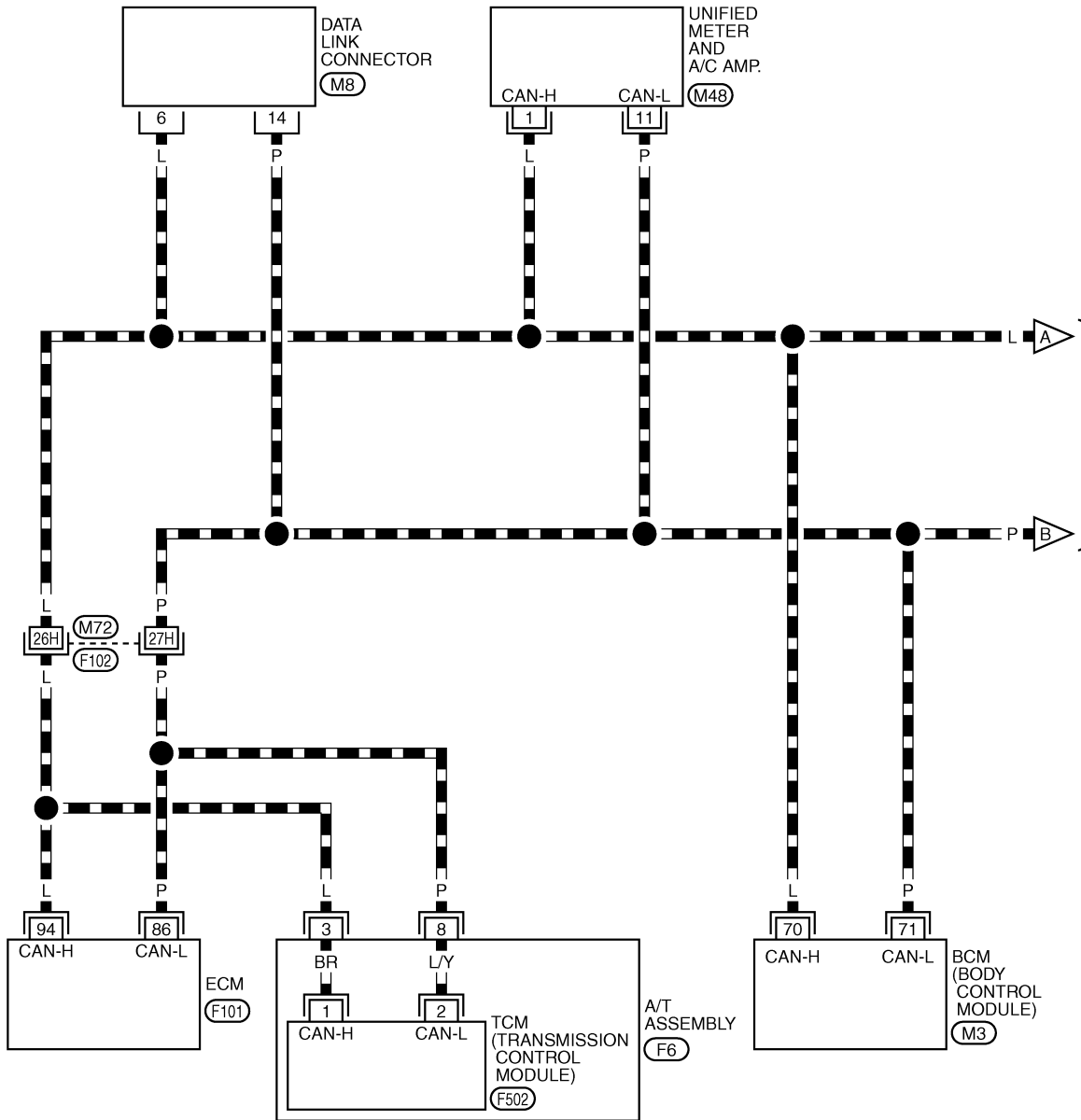
[CAN]

Wiring Diagram — CAN —

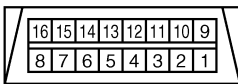
AKS00ABR

LAN-CAN-01

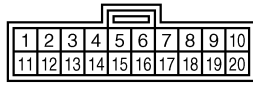
▬ : DATA LINE



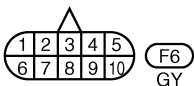
A
B
C
D
E
F
G
H
I
J
LAN
L
M



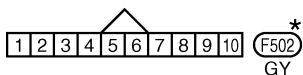
(M8)
W



(M48)
GY



(F6)
GY



(F502)
GY

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

REFER TO THE FOLLOWING.

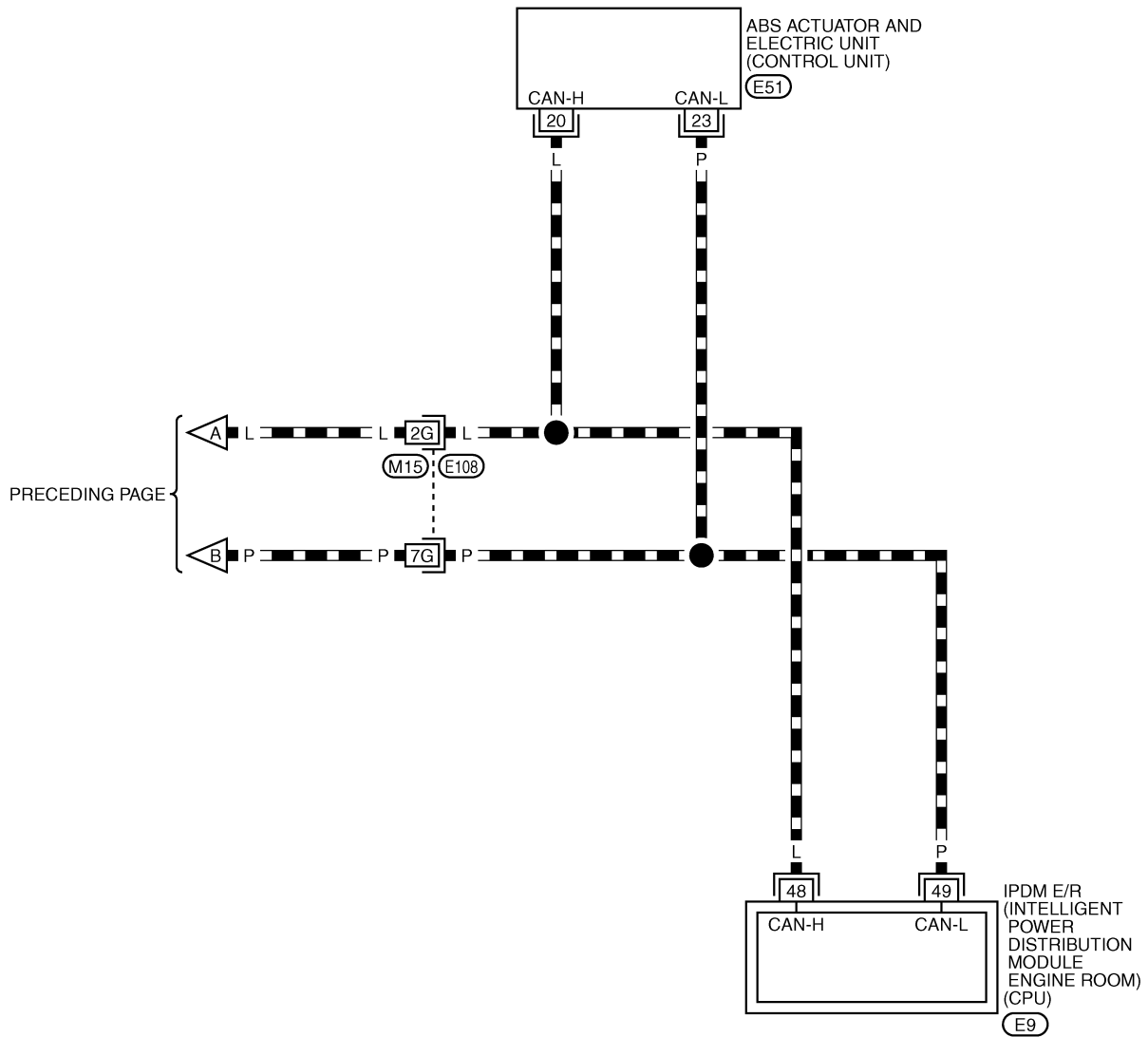
(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(M3), (F101) -ELECTRICAL UNITS

TKWM1321E

LAN-CAN-02

▬ : DATA LINE



52	51	50	49	48	47	46	45
60	59	58	57	56	55	54	53

E9
W



REFER TO THE FOLLOWING.

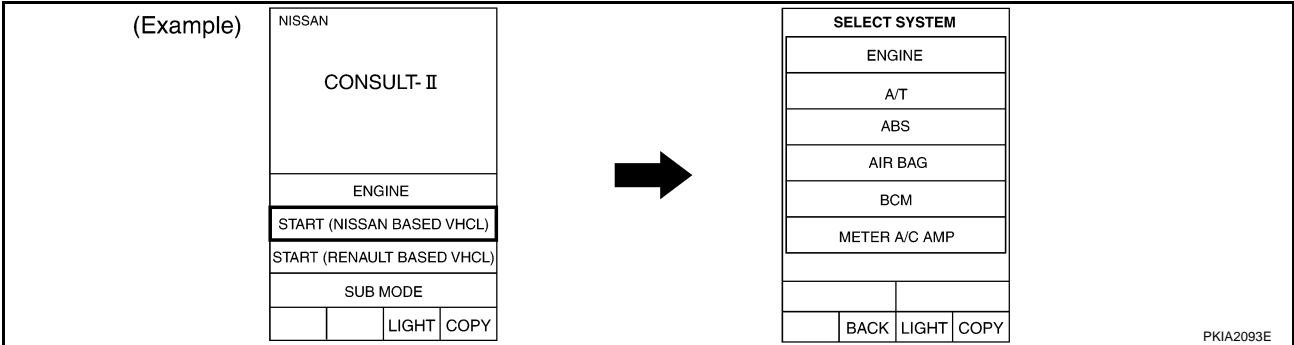
E108 -SUPER MULTIPLE JUNCTION (SMJ)

E51 -ELECTRICAL UNITS

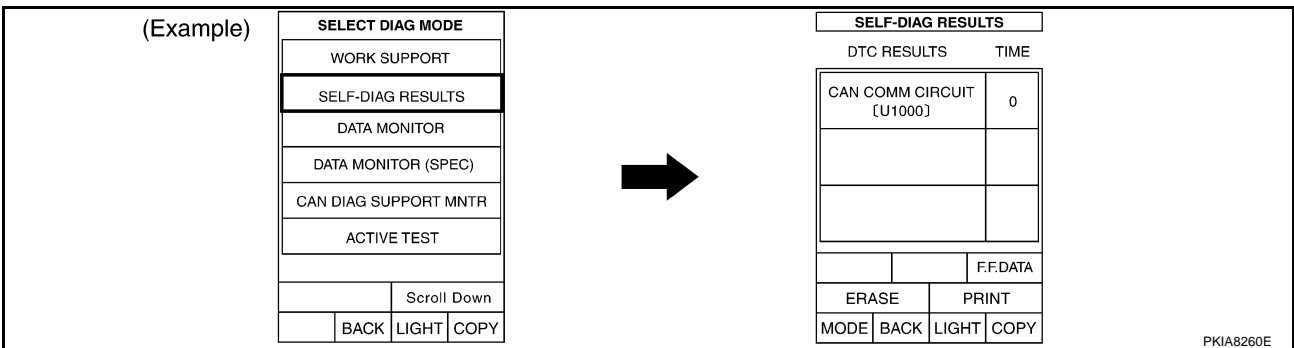
TKWT1554E

Work Flow

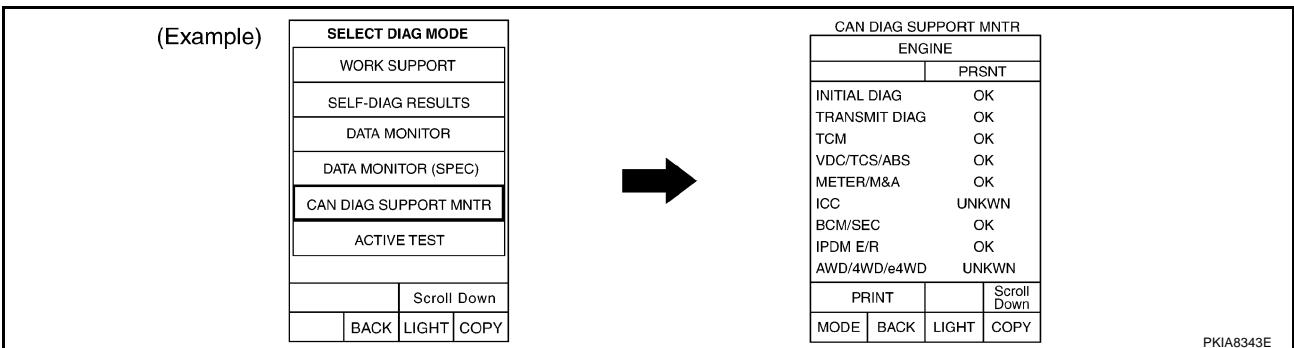
- When there are no indications of "METER A/C AMP" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "A/T", "METER A/C AMP", "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-16, "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 "UNKWVN" in the check sheet table. Refer to [LAN-16, "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-18, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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



CAN SYSTEM (TYPE 1)

[CAN]

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.

Check sheet table

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN
ABS	—	NG	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 1)

[CAN]

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

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
METER A/C AMP
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
METER A/C AMP
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

PKIA8262E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

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

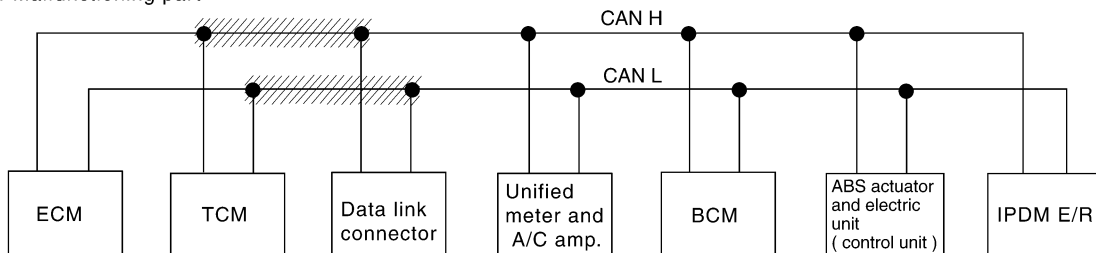
Case 1

Check harness between TCM and data link connector. Refer to [LAN-29, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN ✓	—	UNKWN ✓	—
METER A/C AMP	No indication	—	UNKWN	UNKWN ✓	UNKWN ✓	—	UNKWN	UNKWN	—
BCM	—	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN ✓	—	—	UNKWN	—	—

PKIA8263E

/// : Malfunctioning part



PKIA2007E

CAN SYSTEM (TYPE 1)

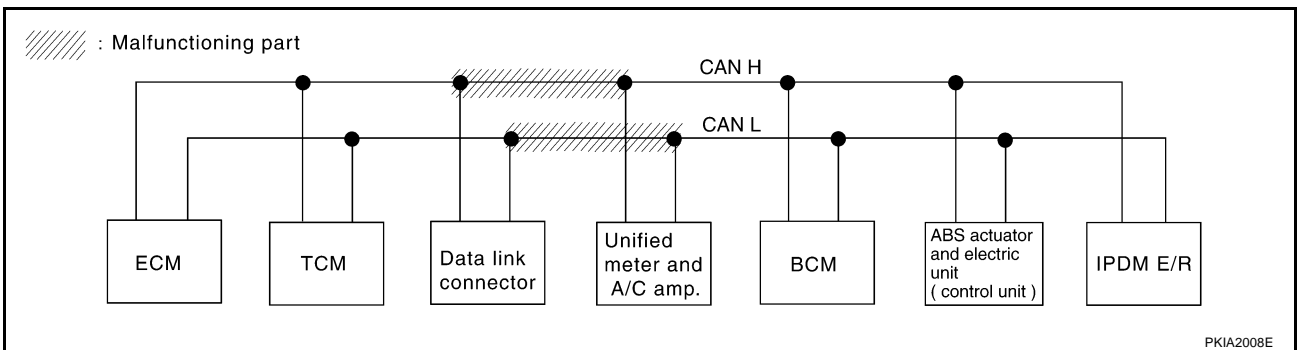
[CAN]

Case 2

Check harness between data link connector and unified meter and A/C amp. Refer to [LAN-30, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."](#)

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

PKIA8264E



PKIA2008E

LAN

CAN SYSTEM (TYPE 1)

[CAN]

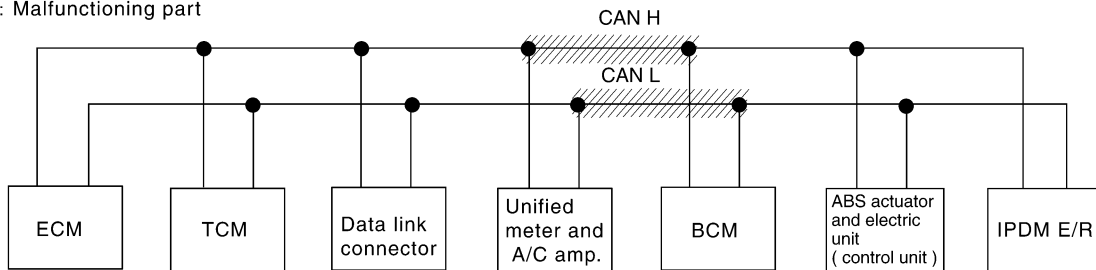
Case 3

Check harness between unified meter and A/C amp. and BCM. Refer to [LAN-31, "Circuit Check Between Unified Meter and A/C Amp. and BCM"](#) .

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

PKIA8265E

/// : Malfunctioning part



PKIA2009E

CAN SYSTEM (TYPE 1)

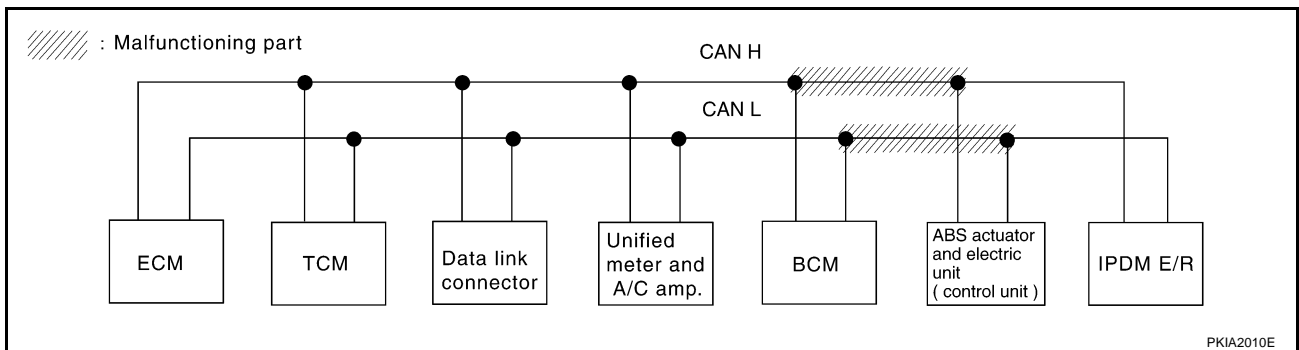
[CAN]

Case 4

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-31, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

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

PKIA8266E



LAN

CAN SYSTEM (TYPE 1)

[CAN]

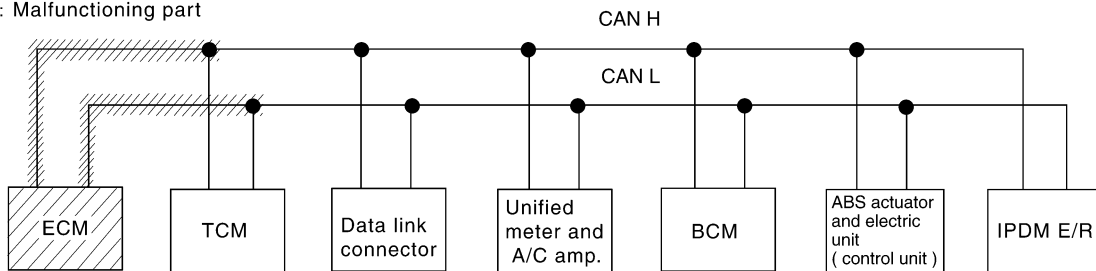
Case 5

Check ECM circuit. Refer to [LAN-32, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	TCM	METER /M&A	BCM/SEC	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	—
METER A/C AMP	No indication	—	UNKW [✓] N	UNKW [✓] N	—	UNKW [✓] N	—	UNKW [✓] N	—
BCM	—	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	—	—

PKIA8267E

▨ : Malfunctioning part



PKIA2011E

CAN SYSTEM (TYPE 1)

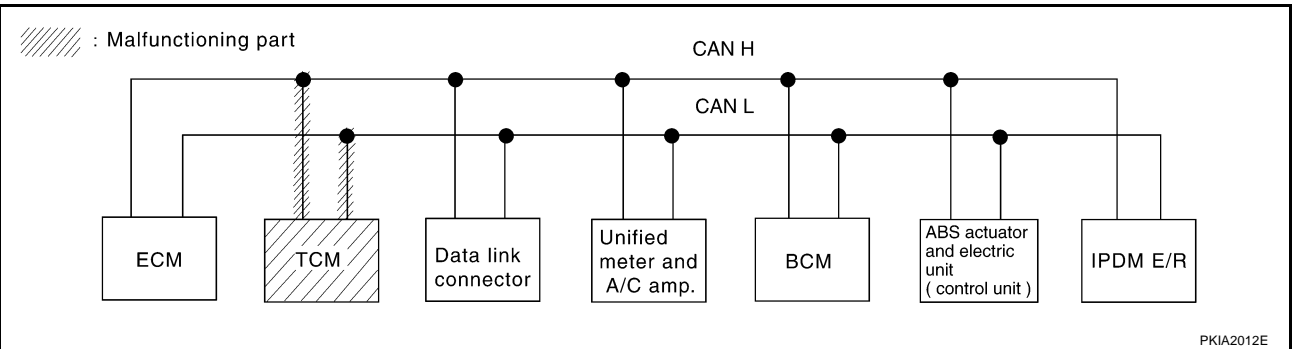
[CAN]

Case 6

Check TCM circuit. Refer to [LAN-32. "TCM Circuit Check"](#) .

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

PKIA8268E



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

LAN

CAN SYSTEM (TYPE 1)

[CAN]

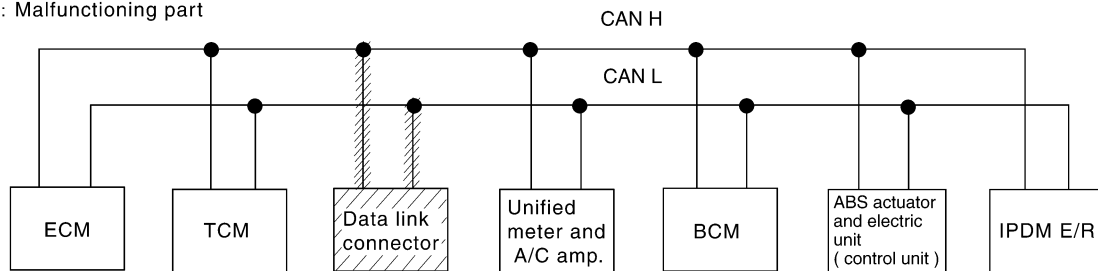
Case 7

Check data link connector circuit. Refer to [LAN-33, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—
METER A/C AMP	No indication ✓	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA8269E

//// : Malfunctioning part



PKIA2013E

CAN SYSTEM (TYPE 1)

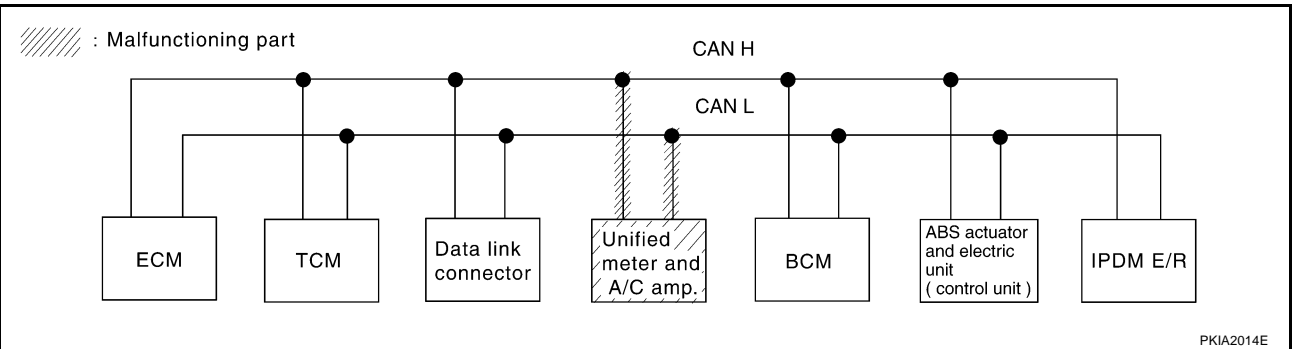
[CAN]

Case 8

Check unified meter and A/C amp. circuit. Refer to [LAN-33, "Unified Meter and A/C Amp. Circuit Check"](#) .

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

PKIA8270E



A

B

C

D

E

F

G

H

I

J

LAN

L

M

CAN SYSTEM (TYPE 1)

[CAN]

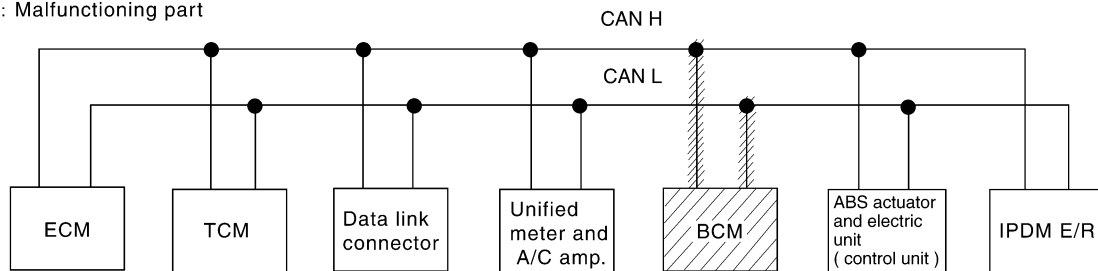
Case 9

Check BCM circuit. Refer to [LAN-34, "BCM Circuit Check"](#) .

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

PKIA8271E

▨ : Malfunctioning part



PKIA2015E

CAN SYSTEM (TYPE 1)

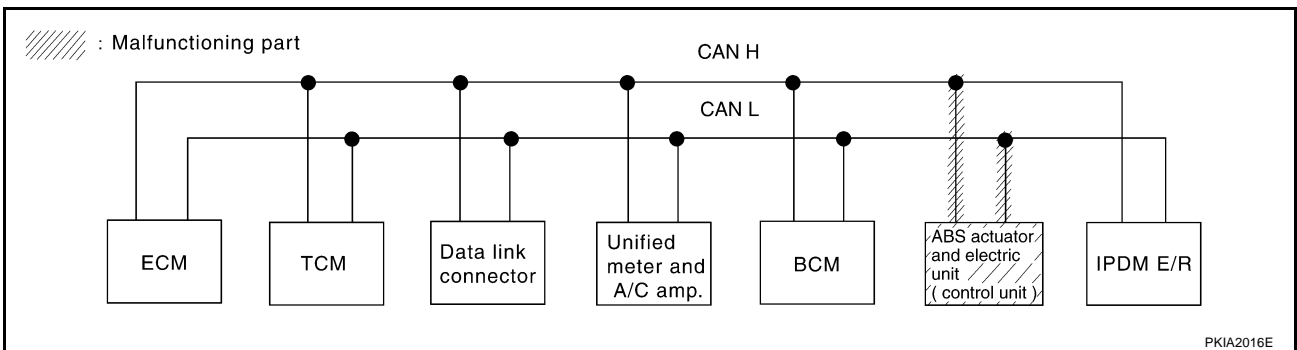
[CAN]

Case 10

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-34, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW	—	UNKW	UNKW	UNKW	UNKW ✓	UNKW
A/T	—	NG	UNKW	UNKW	—	UNKW	—	UNKW ✓	—
METER A/C AMP	No indication	—	UNKW	UNKW	UNKW	—	UNKW	UNKW ✓	—
BCM	—	NG	UNKW	UNKW	—	UNKW	—	—	UNKW
ABS	—	NG	UNKW ✓	UNKW	UNKW	—	—	—	—
IPDM E/R	No indication	—	UNKW	UNKW	—	—	UNKW	—	—

PKIA8272E



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

LAN

CAN SYSTEM (TYPE 1)

[CAN]

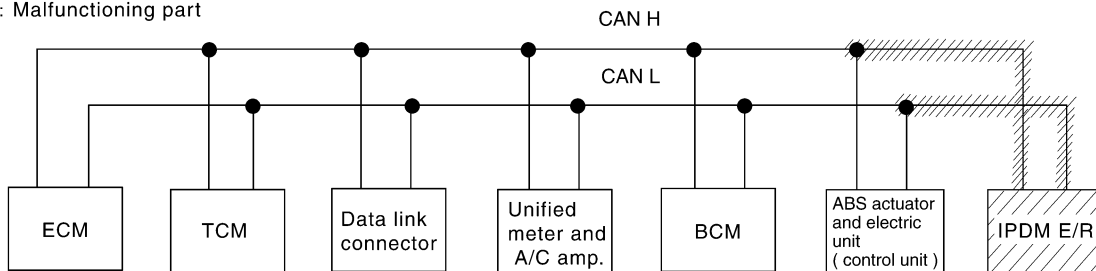
Case 11

Check IPDM E/R circuit. Refer to [LAN-35, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN ✓
A/T	—	NG	UNKWN	UNKWN	—	UNKWN	—	UNKWN	—
METER A/C AMP	No indication	—	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN ✓
ABS	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	—	UNKWN	—	—

PKIA8273E

//// : Malfunctioning part



PKIA2017E

Case 12

Check CAN communication circuit. Refer to [LAN-36, "CAN Communication Circuit Check"](#) .

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

PKIA8274E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-38, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN ✓	UNKWN	UNKWN	UNKWN ✓	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	UNKWN	-
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN ✓	-	UNKWN	UNKWN ✓	-
BCM	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

PKIA8275E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-38, "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	VDC/TCS /ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN ✓	-	UNKWN ✓	-	UNKWN	-
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	-
BCM	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN ✓	UNKWN	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

PKIA8276E

Circuit Check Between TCM and Data Link Connector

AKS00A8T

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection (connector side and harness side).
 - Harness connector F102
 - Harness connector M72

OK or NG

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

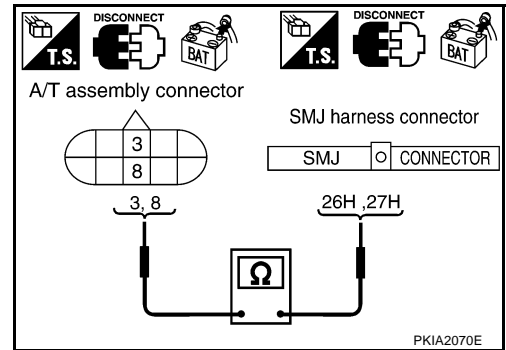
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect A/T assembly connector and harness connector F102.
2. Check continuity between A/T assembly harness connector F6 terminals 3 (L), 8 (P) and harness connector F102 terminals 26H (L), 27H (P).

3 (L) – 26H (L) : Continuity should exist.
8 (P) – 27H (P) : Continuity should exist.

OK or NG

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



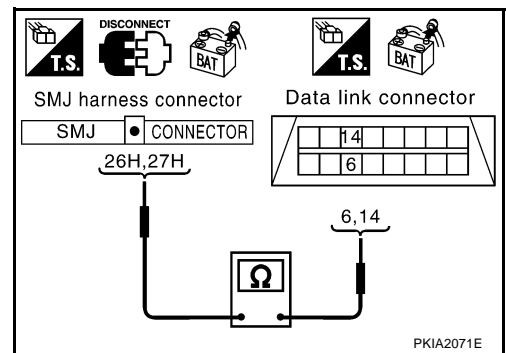
3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M72 terminals 26H (L), 27H (P) and data link connector M8 terminals 6 (L), 14 (P).

26H (L) – 6 (L) : Continuity should exist.
27H (P) – 14 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-15, "Work Flow"](#) .
 NG >> Repair harness.



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

AKS00A8U

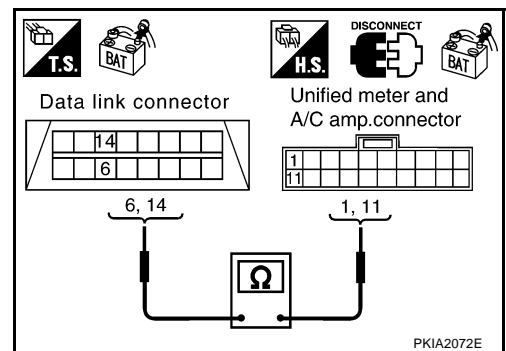
1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector and unified meter and A/C amp. connector.
4. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P).

6 (L) – 1 (L) : Continuity should exist.
14 (P) – 11 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-15, "Work Flow"](#) .
 NG >> Repair harness.



Circuit Check Between Unified Meter and A/C Amp. and BCM

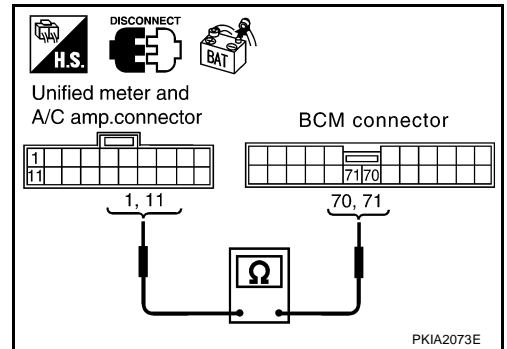
1. CHECK HARNESS FOR OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following connectors.
 - ECM connector
 - Unified meter and A/C amp. connector
 - BCM connector
4. Check continuity between unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P) and BCM harness connector M3 terminals 70 (L), 71 (P).

1 (L) – 70 (L) : Continuity should exist.
11 (P) – 71 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-15, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between BCM and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection (connector side and harness side).
 - Harness connector M15
 - Harness connector E108

OK or NG

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

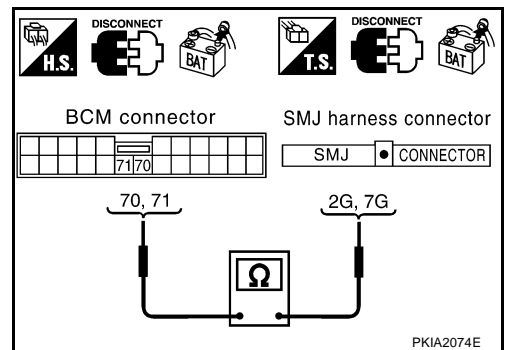
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector and harness connector M15.
2. Check continuity between BCM harness connector M3 terminals 70 (L), 71 (P) and harness connector M15 terminals 2G (L), 7G (P).

70 (L) – 2G (L) : Continuity should exist.
71 (P) – 7G (P) : Continuity should exist.

OK or NG

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



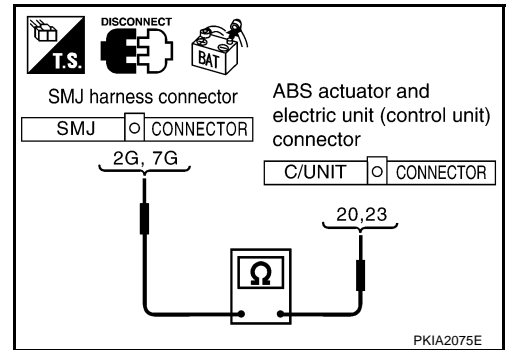
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E108 terminals 2G (L), 7G (P) and ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L), 23 (P).

2G (L) – 20 (L) : Continuity should exist.
7G (P) – 23 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-15, "Work Flow"](#) .
 NG >> Repair harness.



AKS00A8X

ECM Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

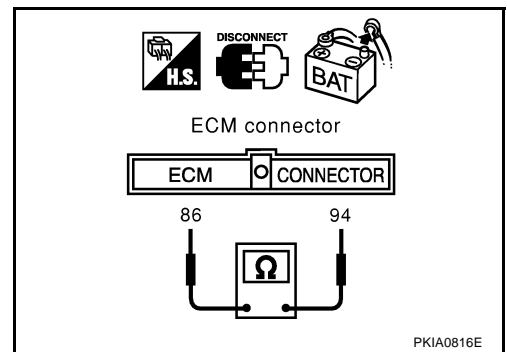
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P) : Approx. 108 – 132Ω

OK or NG

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



AKS00A8Y

TCM Circuit Check

1. CHECK CONNECTOR

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

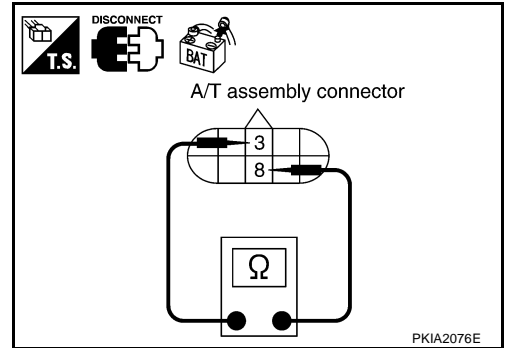
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect A/T assembly connector.
2. Check resistance between A/T assembly harness connector F6 terminals 3 (L) and 8 (P).

3 (L) – 8 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace control valve with TCM.
 NG >> Repair harness between A/T assembly and harness connector F102.



AKS00A8Z

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.

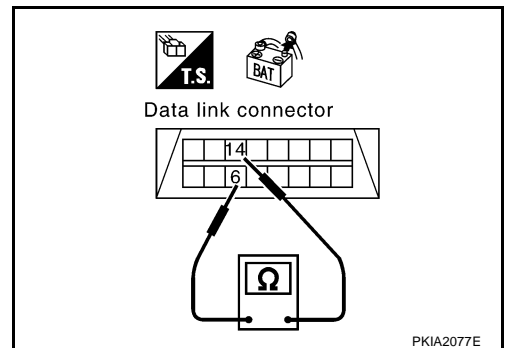
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – 14 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-15, "Work Flow"](#) .
 NG >> Repair harness between data link connector and unified meter and A/C amp.



AKS00A90

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

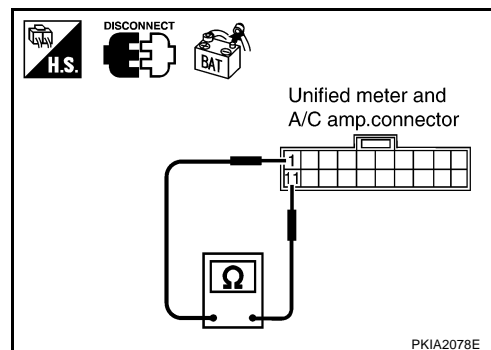
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect unified meter and A/C amp. connector.
2. Check resistance between unified meter and A/C amp. harness connector M48 terminals 1 (L) and 11 (P).

1 (L) – 11 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
 NG >> Repair harness between unified meter and A/C amp. and BCM.



AKS00A91

BCM Circuit Check

1. CHECK CONNECTOR

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

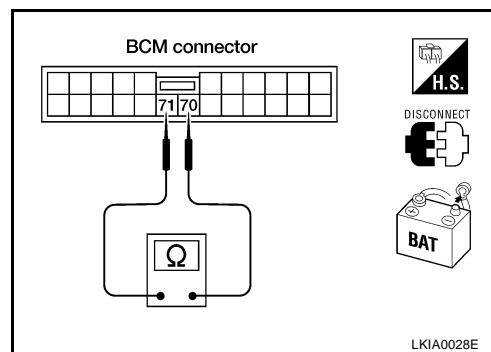
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M3 terminals 70 (L) and 71 (P).

70 (L) – 71 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace BCM.
 NG >> Repair harness between BCM and harness connector M15.



AKS00A92

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 the 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.

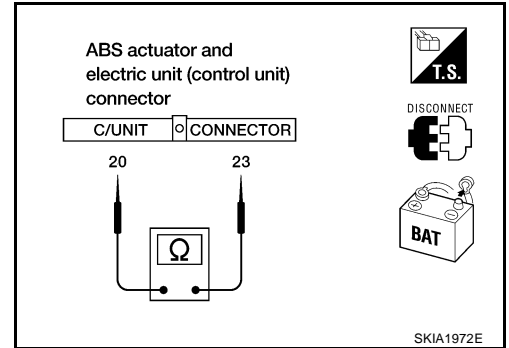
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L) and 23 (P).

20 (L) – 23 (P) : Approx. 54 – 66Ω

OK or NG

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



AKS00A93

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

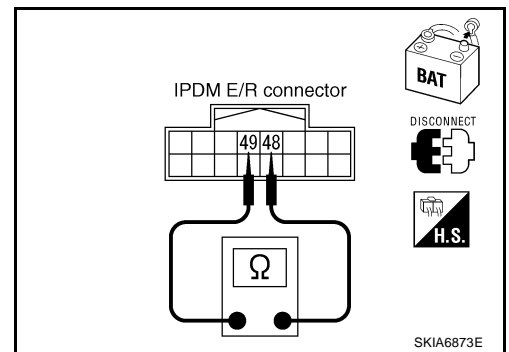
2. CHECK HARNESS FOR OPEN CIRCUIT

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

48 (L) – 49 (P) : Approx. 108 – 132Ω

OK or NG

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



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

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

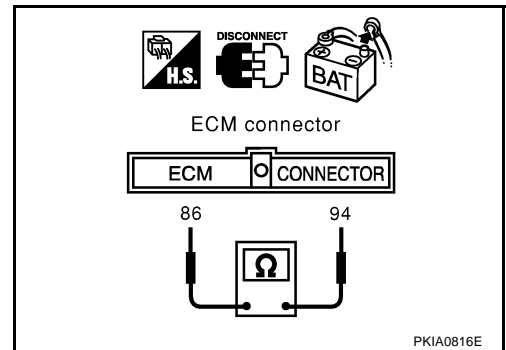
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
 - ECM connector
 - A/T assembly connector
 - Harness connector F102
2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and A/T assembly
 - Harness between ECM and harness connector F102



3. CHECK HARNESS FOR SHORT CIRCUIT

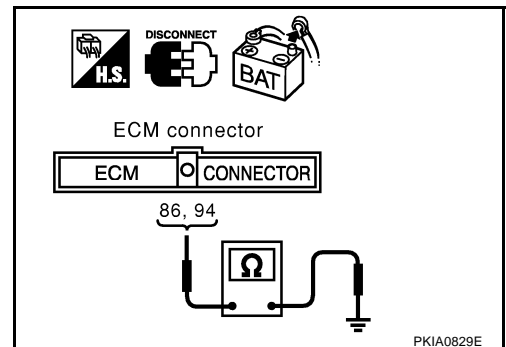
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – ground : Continuity should not exist.

86 (P) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and A/T assembly
 - Harness between ECM and harness connector F102



4. CHECK HARNESS FOR SHORT CIRCUIT

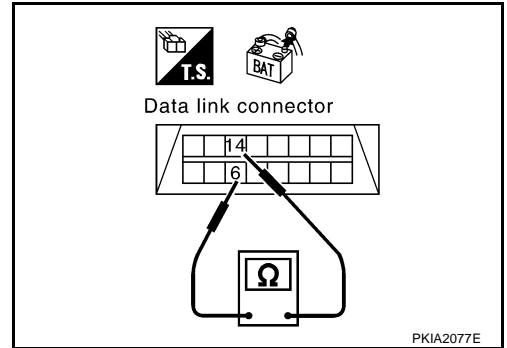
1. Disconnect following connectors.
 - Unified meter and A/C amp. connector
 - BCM connector
 - Harness connector M15
2. Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

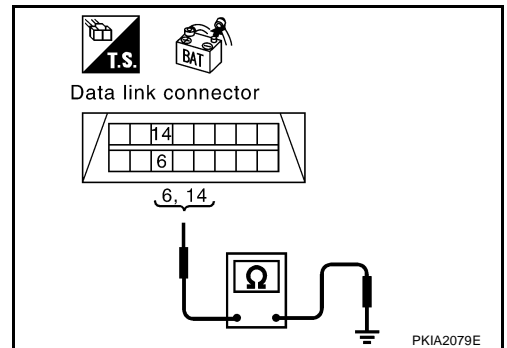
6 (L) – ground : Continuity should not exist.

14 (P) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between data link connector and harness connector M72
 - Harness between data link connector and unified meter and A/C amp.
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M15



6. CHECK HARNESS FOR SHORT CIRCUIT

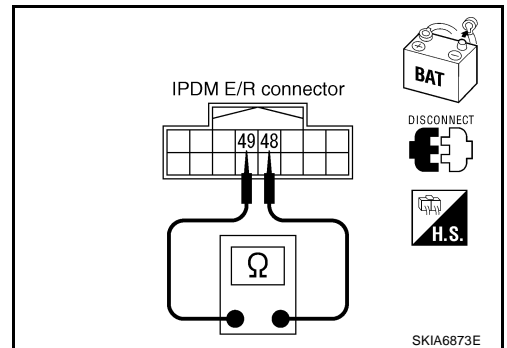
1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

48 (L) – 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108



7. CHECK HARNESS FOR SHORT CIRCUIT

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

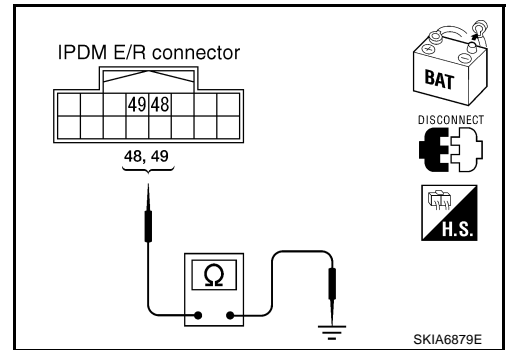
- 48 (L) – ground : Continuity should not exist.**
- 49 (P) – ground : Continuity should not exist.**

OK or NG

OK >> GO TO 8.

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

- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E108



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-38, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-15, "Work Flow"](#).

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

IPDM E/R Ignition Relay Circuit Check

AKS00A95

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

- IPDM E/R power supply circuit. Refer to [PG-27, "IPDM E/R Power/Ground Circuit Inspection"](#).
- Ignition power supply circuit. Refer to [PG-11, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#).

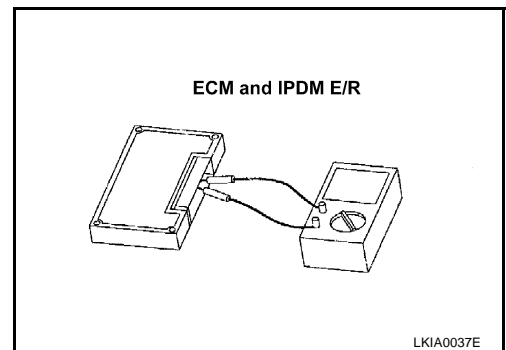
Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS00A96

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

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



CAN SYSTEM (TYPE 2)

PFP:23710

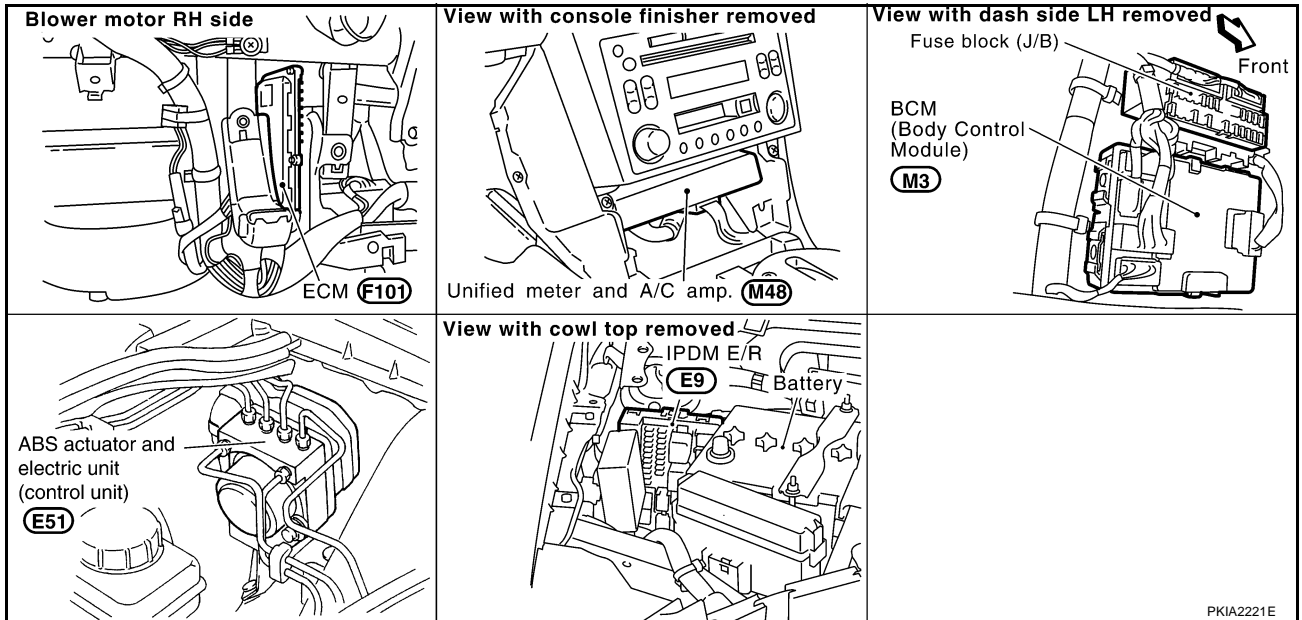
System Description

AKS00A97

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

AKS00A98



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

LAN

CAN SYSTEM (TYPE 2)

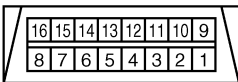
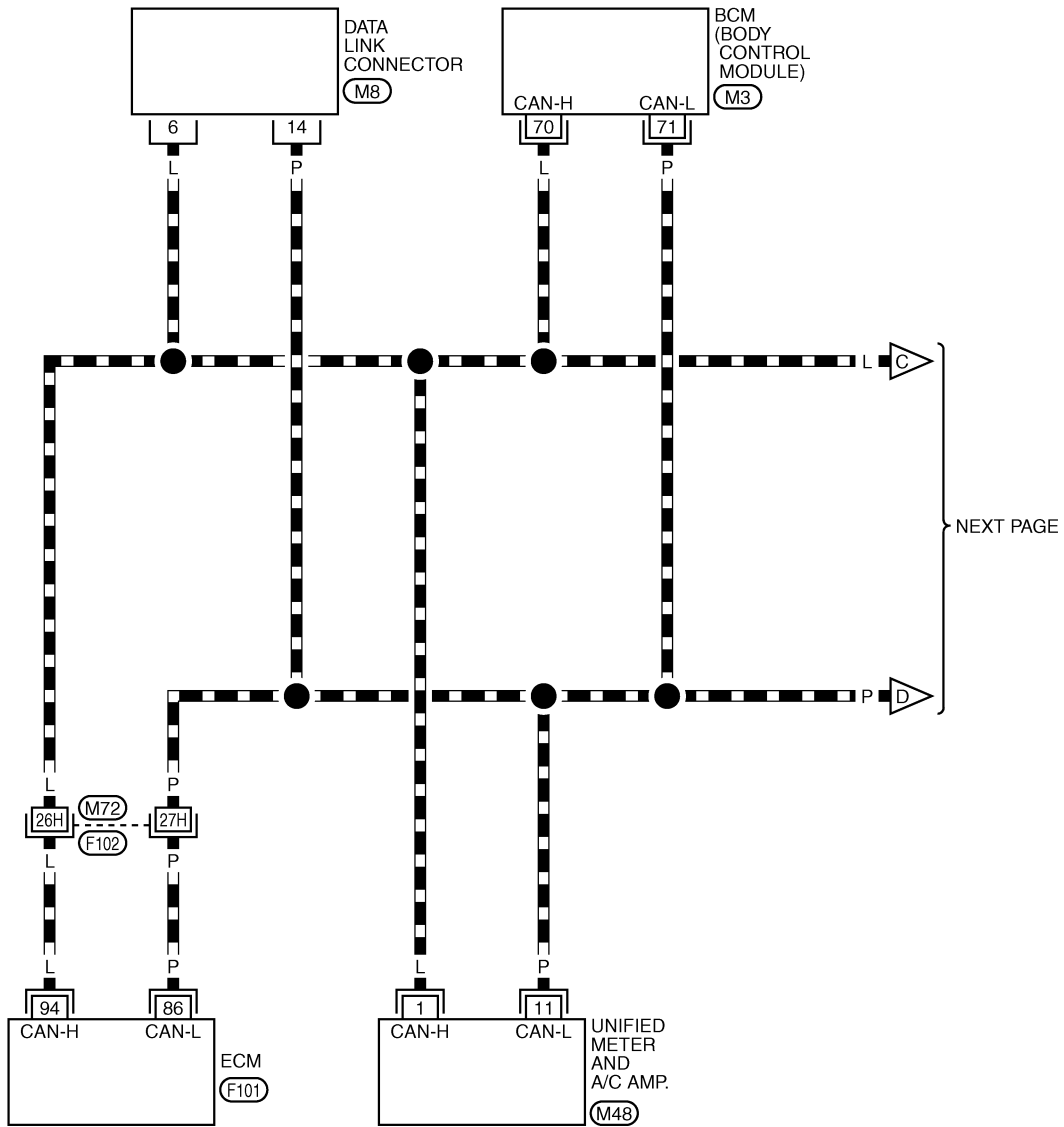
[CAN]

AKS00A99

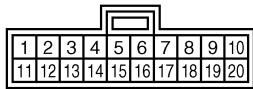
Wiring Diagram — CAN —

LAN-CAN-03

▬▬▬▬ : DATA LINE



M8
W



M48
GY



REFER TO THE FOLLOWING.

(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(M3), (F101) -ELECTRICAL UNITS

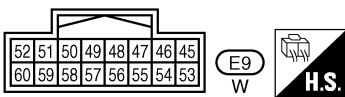
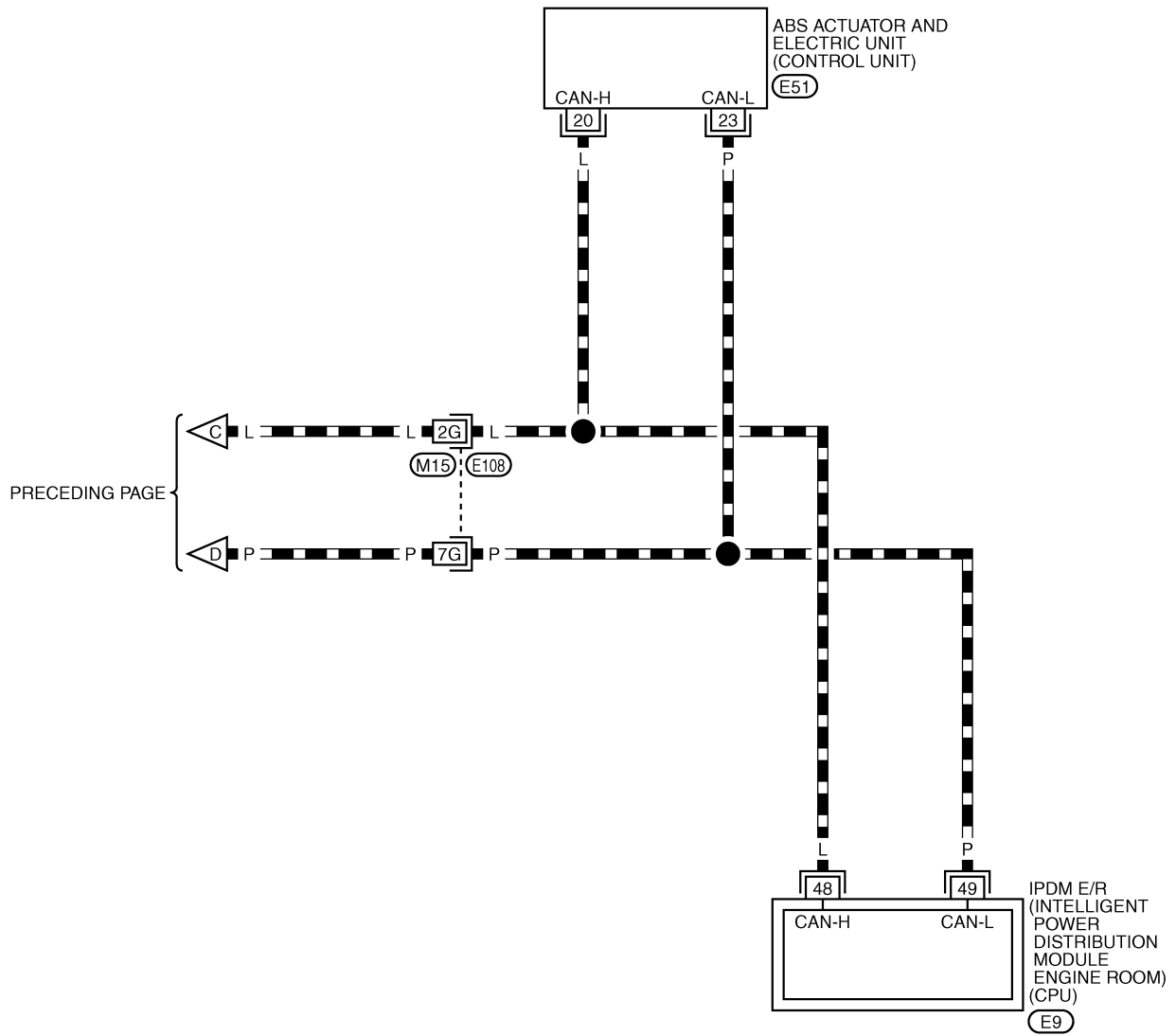
TKWT1760E

CAN SYSTEM (TYPE 2)

[CAN]

LAN-CAN-04

▬ : DATA LINE



REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE JUNCTION (SMJ)

(E51) -ELECTRICAL UNITS

TKWT1555E

Work Flow

- When there are no indications of "METER A/C AMP" 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", "METER A/C AMP", "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: 70%;">CAN COMM CIRCUIT [U1000]</td> <td style="width: 30%;">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", "METER A/C AMP", "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;"> <thead> <tr> <th style="width: 70%;">ENGINE</th> <th style="width: 30%;">PRSNT</th> </tr> </thead> <tbody> <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> </tbody> </table> PRINT Scroll Down MODE BACK LIGHT COPY	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
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																						

PKIA8343E

- Attach the printed sheet of "SELECT SYSTEM", "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-43, "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-43, "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-45, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 2)

[CAN]

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.

Check sheet table

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

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

LAN

CAN SYSTEM (TYPE 2)

[CAN]

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
METER A/C AMP
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
METER A/C AMP
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

PKIA8278E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

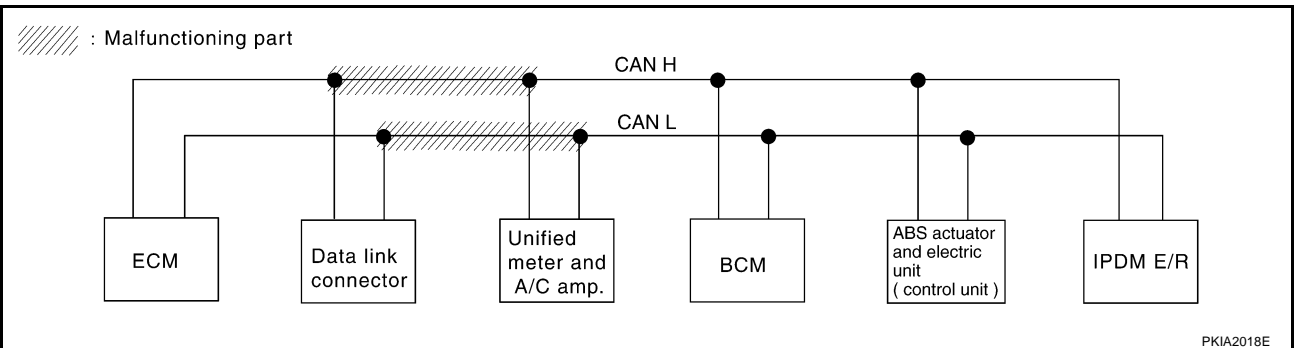
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between data link connector and unified meter and A/C amp. Refer to [LAN-55, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."](#)

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

PKIA8279E



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

LAN

CAN SYSTEM (TYPE 2)

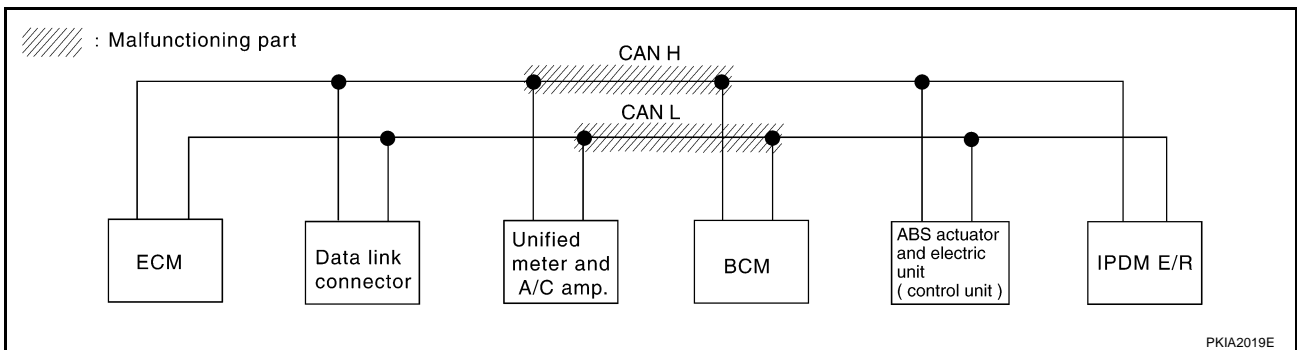
[CAN]

Case 2

Check harness between unified meter and A/C amp. and BCM. Refer to [LAN-55, "Circuit Check Between Unified Meter and A/C Amp. and BCM"](#) .

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

PKIA8280E



PKIA2019E

CAN SYSTEM (TYPE 2)

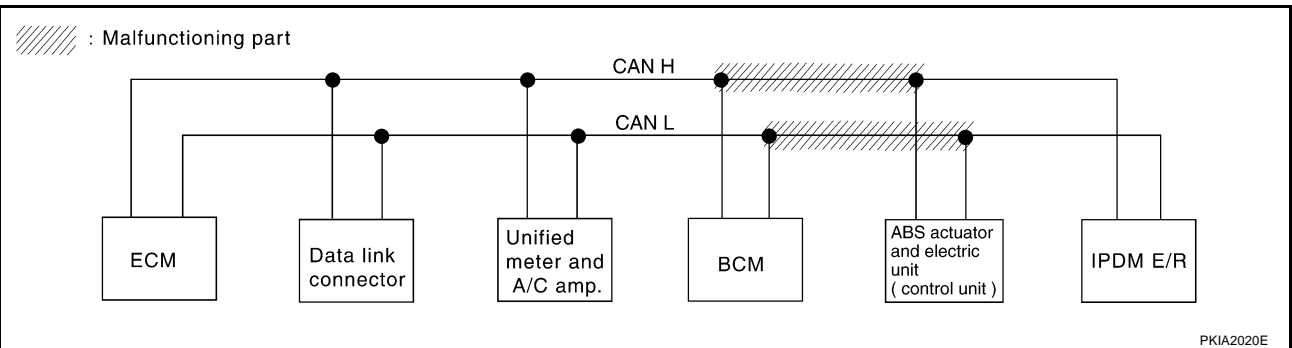
[CAN]

Case 3

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-55, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

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

PKIA6281E



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

LAN

CAN SYSTEM (TYPE 2)

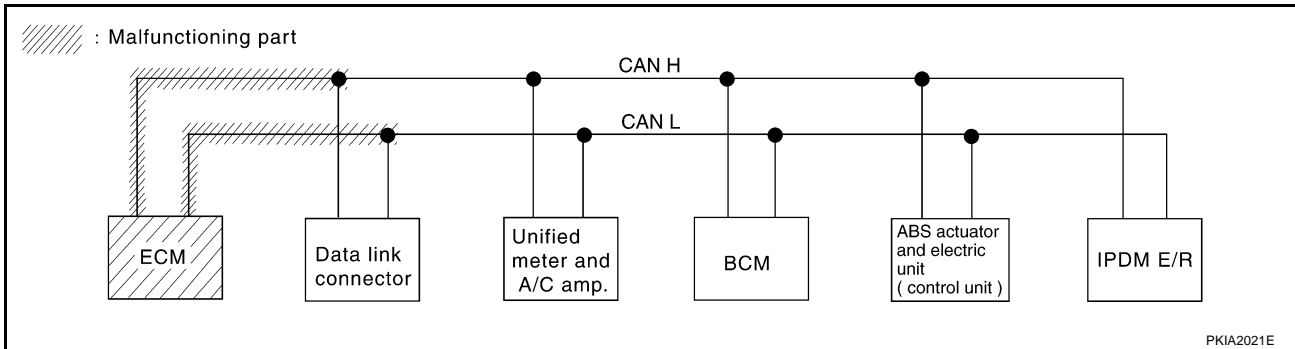
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-56, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	METER/M&A	BCM/SEC	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW ^N ✓	—	UNKW ^N ✓	UNKW ^N ✓	UNKW ^N ✓	UNKW ^N ✓
METER A/C AMP	No indication	—	UNKW ^N	UNKW ^N ✓	—	UNKW ^N	UNKW ^N	—
BCM	—	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	—	—

PKIA8282E



PKIA2021E

CAN SYSTEM (TYPE 2)

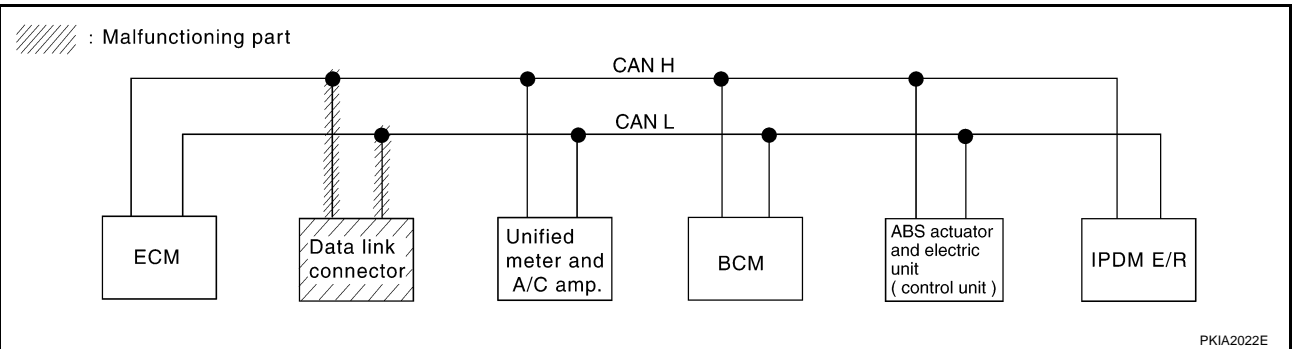
[CAN]

Case 5

Check data link connector circuit. Refer to [LAN-57, "Data Link Connector Circuit Check"](#) .

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

PKIA8283E



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

LAN

CAN SYSTEM (TYPE 2)

[CAN]

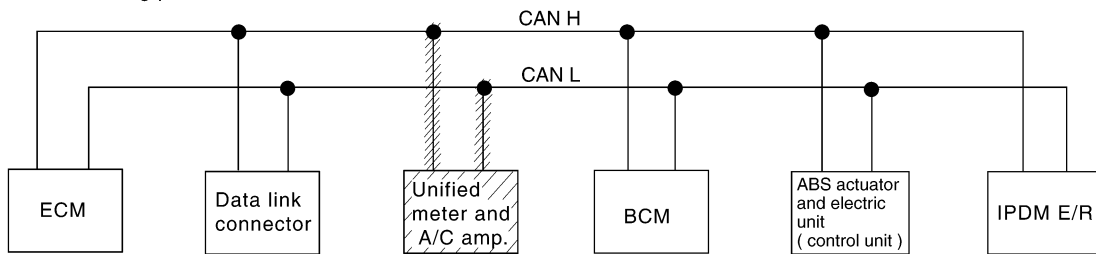
Case 6

Check unified meter and A/C amp. circuit. Refer to [LAN-57, "Unified Meter and A/C Amp. Circuit Check"](#) .

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

PKIA8284E

//// : Malfunctioning part



PKIA2023E

CAN SYSTEM (TYPE 2)

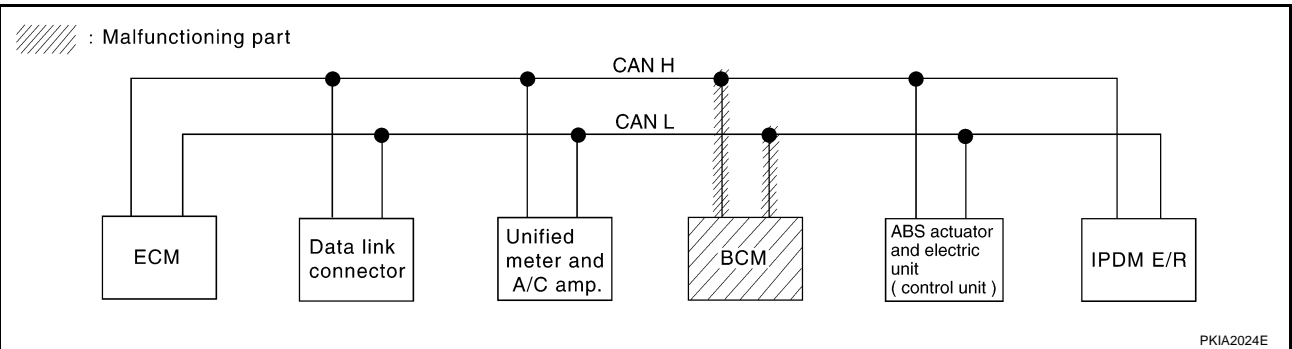
[CAN]

Case 7

Check BCM circuit. Refer to [LAN-58. "BCM Circuit Check"](#) .

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

PKIA8285E



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

LAN

CAN SYSTEM (TYPE 2)

[CAN]

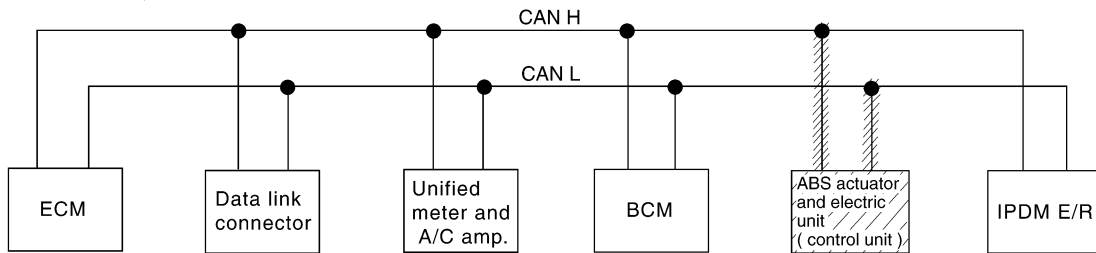
Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-58, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

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

PKIA826E

//// : Malfunctioning part



PKIA2025E

CAN SYSTEM (TYPE 2)

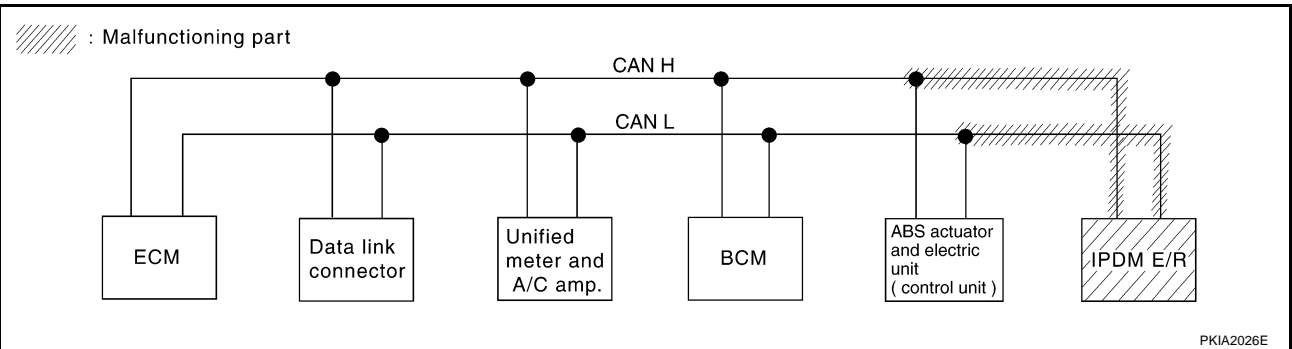
[CAN]

Case 9

Check IPDM E/R circuit. Refer to [LAN-59, "IPDM E/R Circuit Check"](#) .

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

PKIA8287E



Case 10

Check CAN communication circuit. Refer to [LAN-60, "CAN Communication Circuit Check"](#) .

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

PKIA8288E

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

CAN SYSTEM (TYPE 2)

[CAN]

Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-62, "IPDM E/R Ignition Relay Circuit Check"](#) .

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

PKIA8289E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-62, "IPDM E/R Ignition Relay Circuit Check"](#) .

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

PKIA8290E

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

AKS00A9B

1. CHECK HARNESS FOR OPEN CIRCUIT

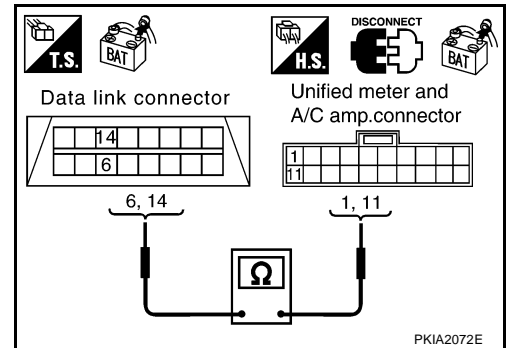
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector and unified meter and A/C amp. connector.
4. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P).

6 (L) – 1 (L) : Continuity should exist.

14 (P) – 11 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-42, "Work Flow"](#).
- NG >> Repair harness.

**Circuit Check Between Unified Meter and A/C Amp. and BCM**

AKS00A9C

1. CHECK HARNESS FOR OPEN CIRCUIT

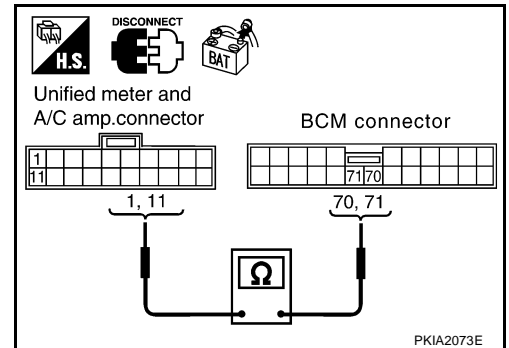
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following connectors.
 - ECM connector
 - Unified meter and A/C amp. connector
 - BCM connector
4. Check continuity between unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P) and BCM harness connector M3 terminals 70 (L), 71 (P).

1 (L) – 70 (L) : Continuity should exist.

11 (P) – 71 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-42, "Work Flow"](#).
- NG >> Repair harness.

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

AKS00A9D

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection (connector side and harness side).
 - Harness connector M15
 - Harness connector E108

OK or NG

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

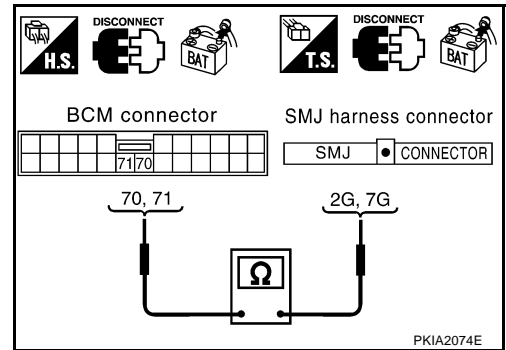
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector and harness connector M15.
2. Check continuity between BCM harness connector M3 terminals 70 (L), 71 (P) and harness connector M15 terminals 2G (L), 7G (P).

70 (L) – 2G (L) : Continuity should exist.
71 (P) – 7G (P) : Continuity should exist.

OK or NG

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



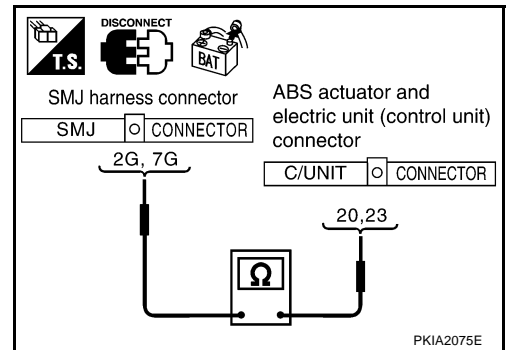
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E108 terminals 2G (L), 7G (P) and ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L), 23 (P).

2G (L) – 20 (L) : Continuity should exist.
7G (P) – 23 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-42, "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 connector for damage, bend and loose connection (control module side and harness side).
 - ECM connector
 - Harness connector F102
 - Harness connector M72

OK or NG

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

AKS00A9E

2. CHECK HARNESS FOR OPEN CIRCUIT

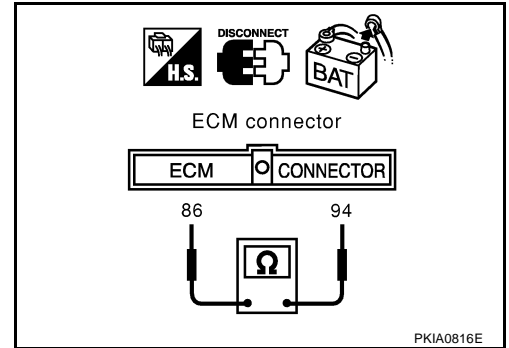
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P)

: Approx. 108 – 132Ω

OK or NG

- OK >> Replace ECM.
 NG >> Repair harness between ECM 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

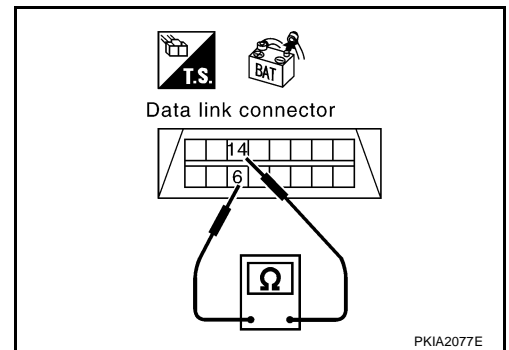
Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – 14 (P)

: Approx. 54 – 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-42, "Work Flow"](#) .
 NG >> Repair harness between data link connector and unified meter and A/C amp.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

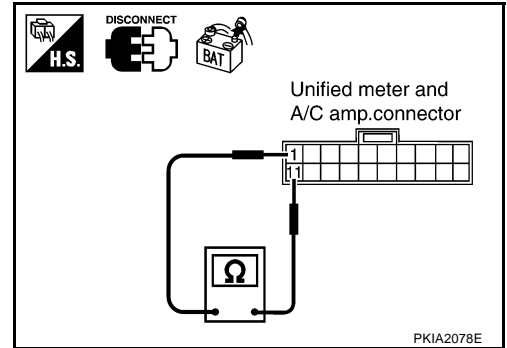
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect unified meter and A/C amp. connector.
2. Check resistance between unified meter and A/C amp. harness connector M48 terminals 1 (L) and 11 (P).

1 (L) – 11 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
 NG >> Repair harness between unified meter and A/C amp. and BCM.



AKS00A9H

BCM Circuit Check

1. CHECK CONNECTOR

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

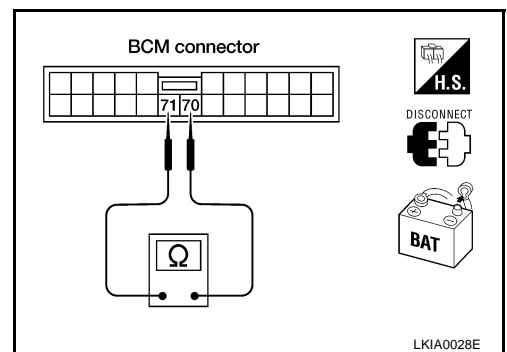
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M3 terminals 70 (L) and 71 (P).

70 (L) – 71 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace BCM.
 NG >> Repair harness between BCM and harness connector M15.



AKS00A9I

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 the 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.

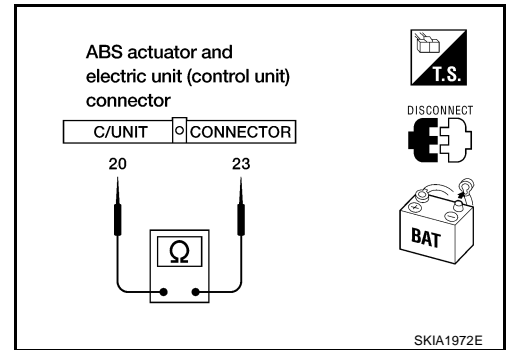
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L) and 23 (P).

20 (L) – 23 (P) : Approx. 54 – 66Ω

OK or NG

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



AKS00A9J

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

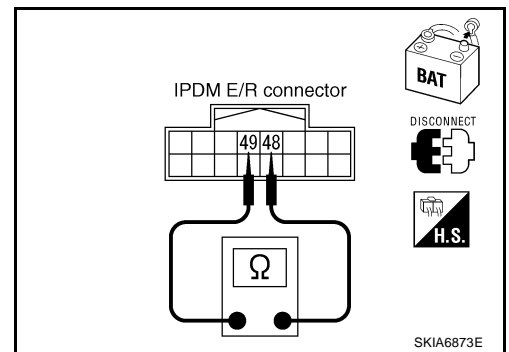
2. CHECK HARNESS FOR OPEN CIRCUIT

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

48 (L) – 49 (P) : Approx. 108 – 132Ω

OK or NG

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



SKIA6873E

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

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

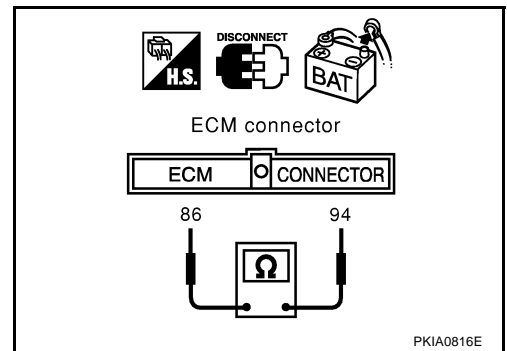
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and harness connector F102.
2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> Repair harness between ECM and harness connector F102.



3. CHECK HARNESS FOR SHORT CIRCUIT

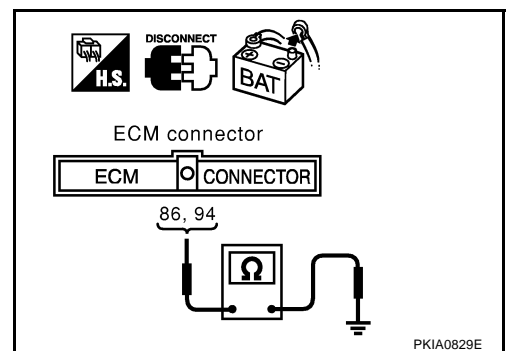
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – ground : Continuity should not exist.

86 (P) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness between ECM and harness connector F102.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
 - Unified meter and A/C amp. connector
 - BCM connector
 - Harness connector M15
2. Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

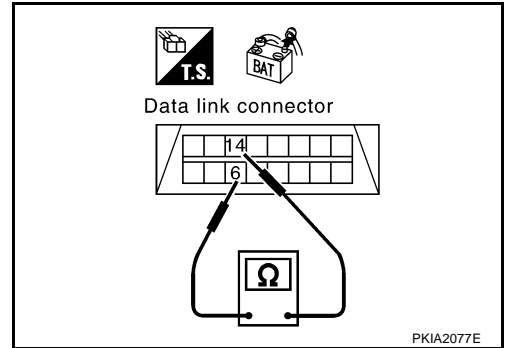
6 (L) – 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and harness connector M15



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

6 (L) – ground : Continuity should not exist.

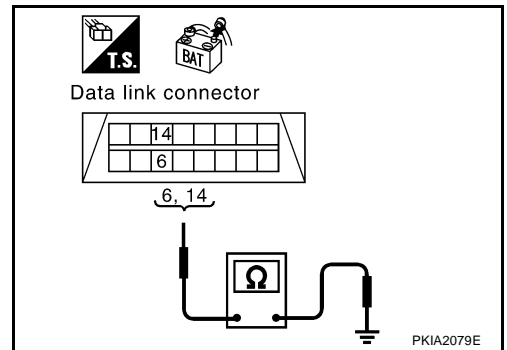
14 (P) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and harness connector M15



6. CHECK HARNESS FOR SHORT CIRCUIT

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

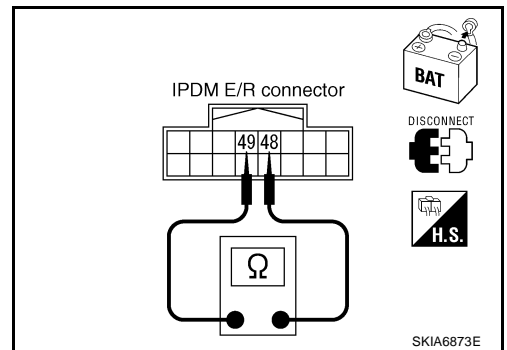
48 (L) – 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

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

- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E108



7. CHECK HARNESS FOR SHORT CIRCUIT

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

48 (L) – ground : Continuity should not exist.

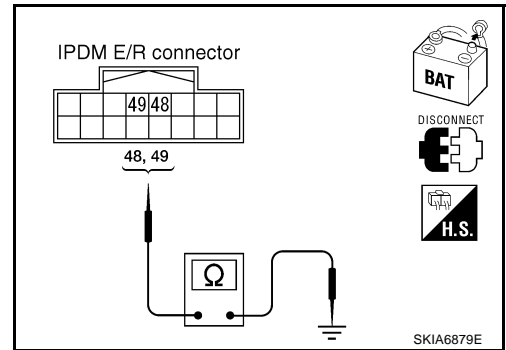
49 (P) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

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

- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E108



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-62, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-42, "Work Flow"](#).

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

IPDM E/R Ignition Relay Circuit Check

AKS00A9L

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

- IPDM E/R power supply circuit. Refer to [PG-27, "IPDM E/R Power/Ground Circuit Inspection"](#).
- Ignition power supply circuit. Refer to [PG-11, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#).

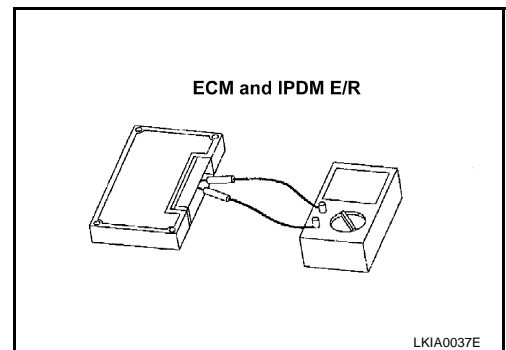
Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS00A9M

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

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



CAN SYSTEM (TYPE 3)

PFP:23710

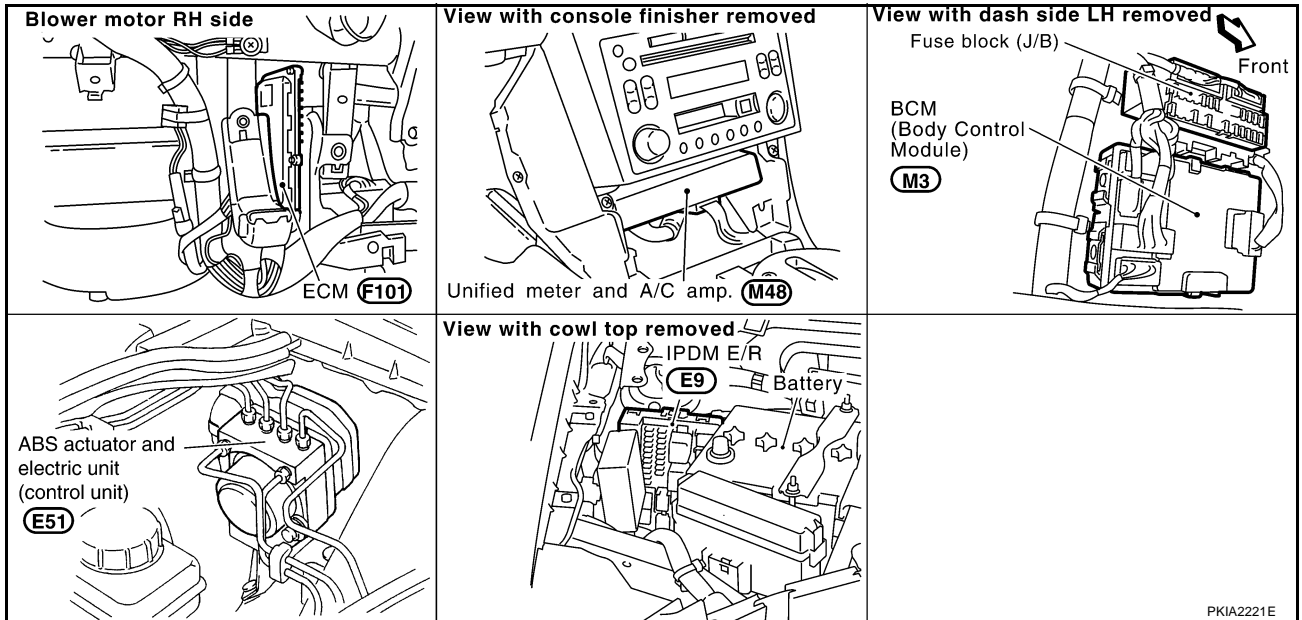
System Description

AKS009DC

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

AKS009DD



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

LAN

CAN SYSTEM (TYPE 3)

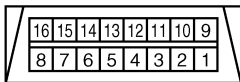
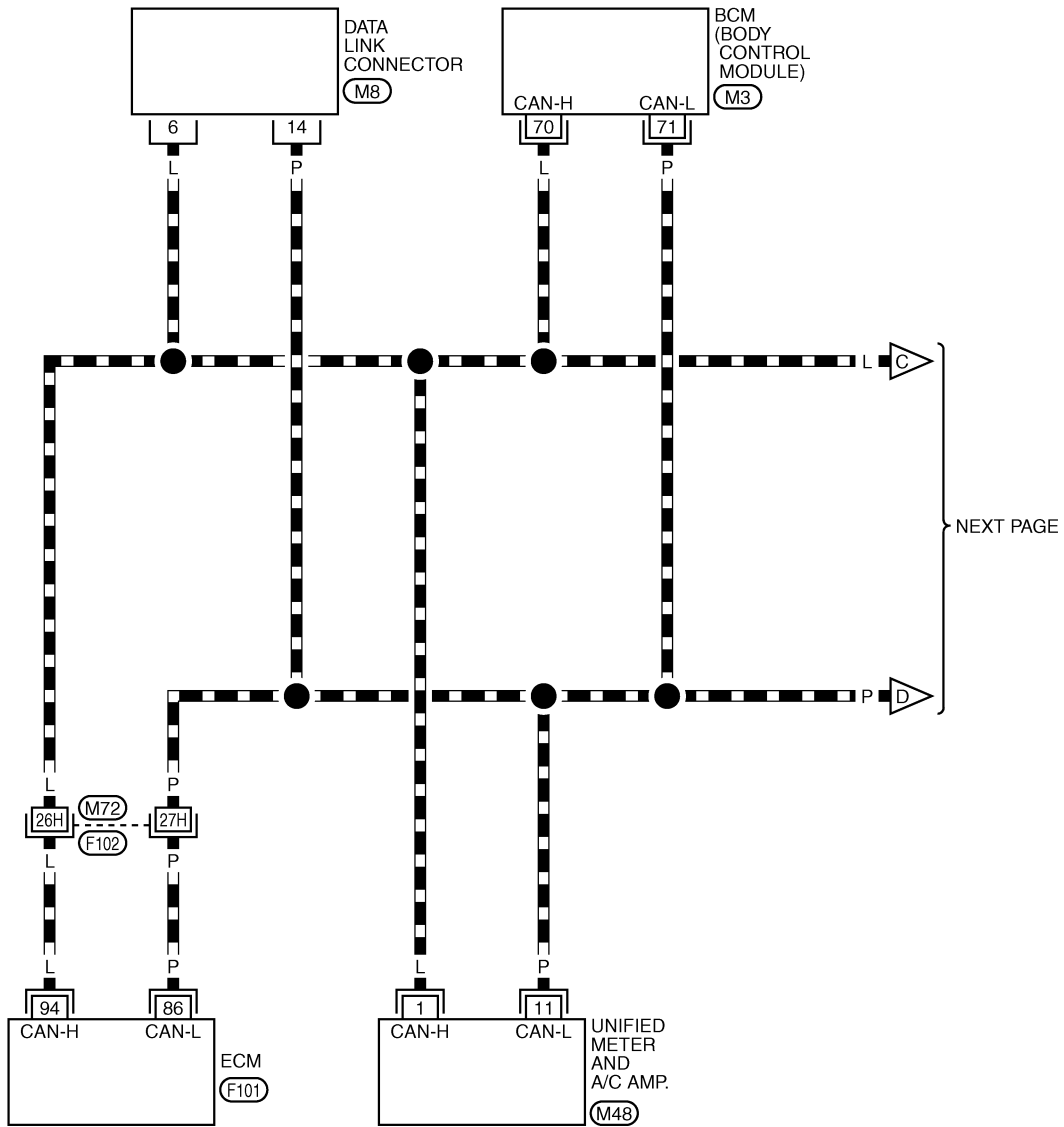
[CAN]

AKS009DE

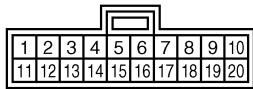
Wiring Diagram — CAN —

LAN-CAN-03

▬ : DATA LINE



M8
W



M48
GY



REFER TO THE FOLLOWING.

(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(M3), (F101) -ELECTRICAL UNITS

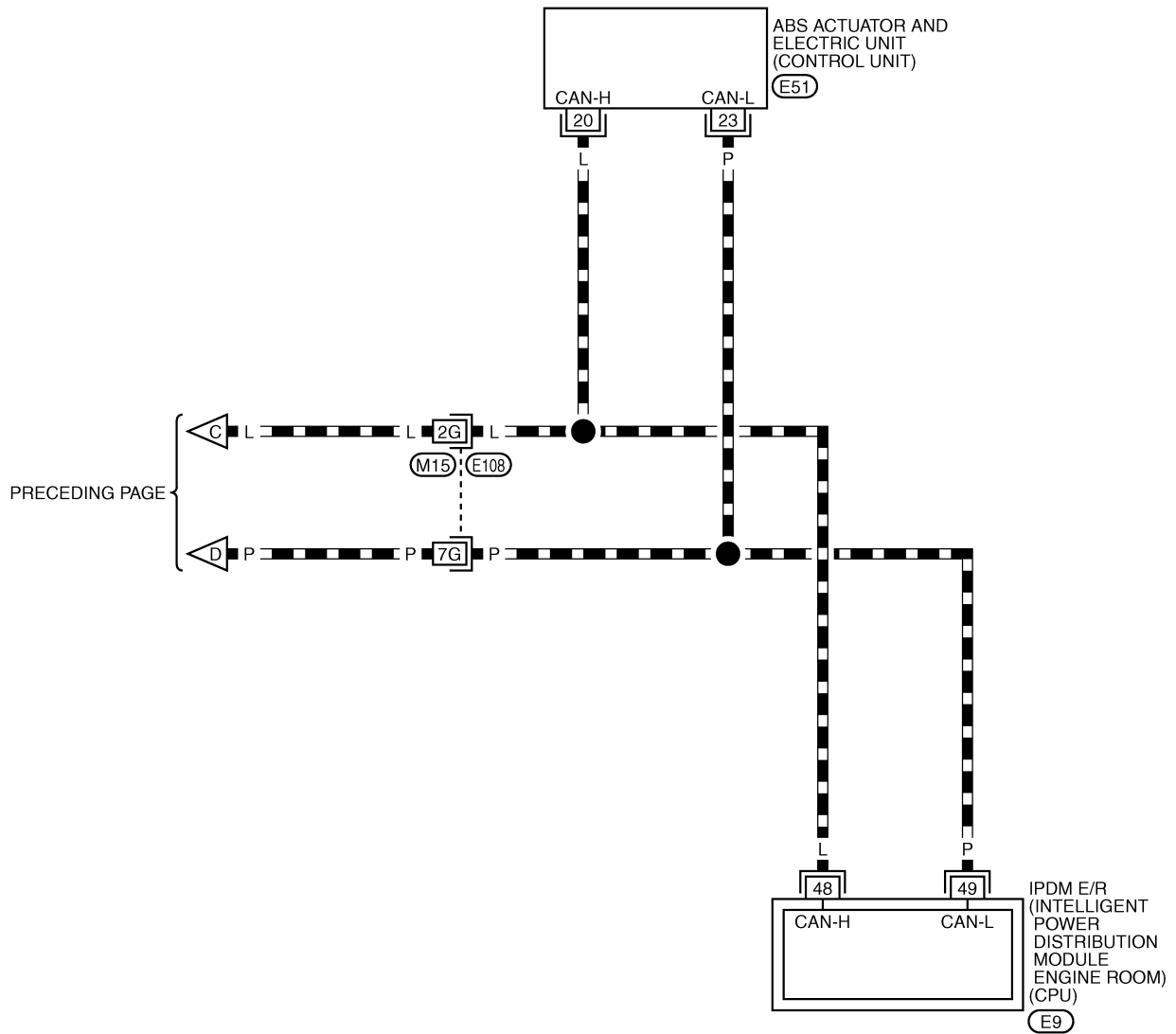
TKWT1760E

CAN SYSTEM (TYPE 3)

[CAN]

LAN-CAN-04

DATA LINE



52	51	50	49	48	47	46	45
60	59	58	57	56	55	54	53

E9
W



REFER TO THE FOLLOWING.

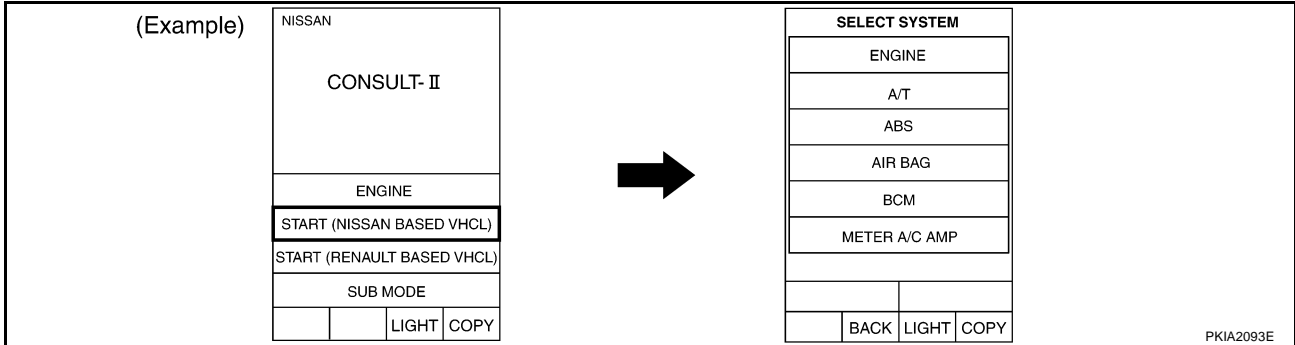
E108 -SUPER MULTIPLE JUNCTION (SMJ)

E51 -ELECTRICAL UNITS

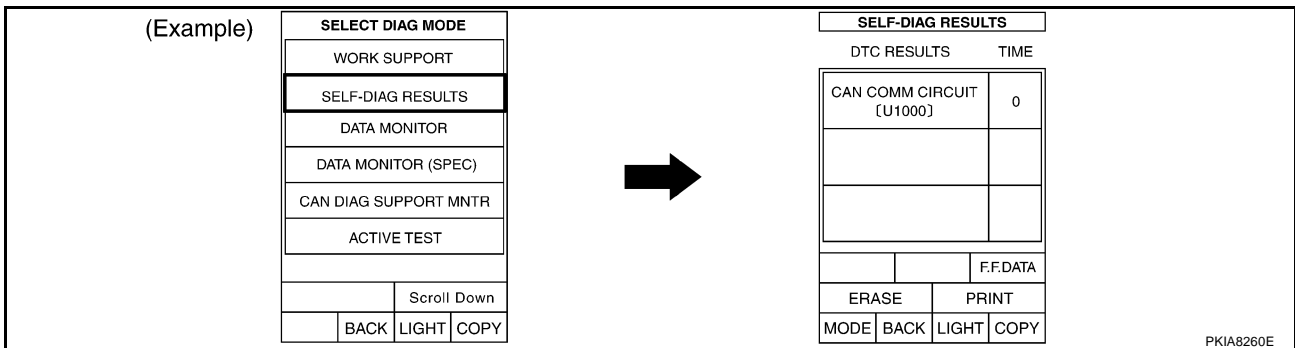
TKWT1555E

Work Flow

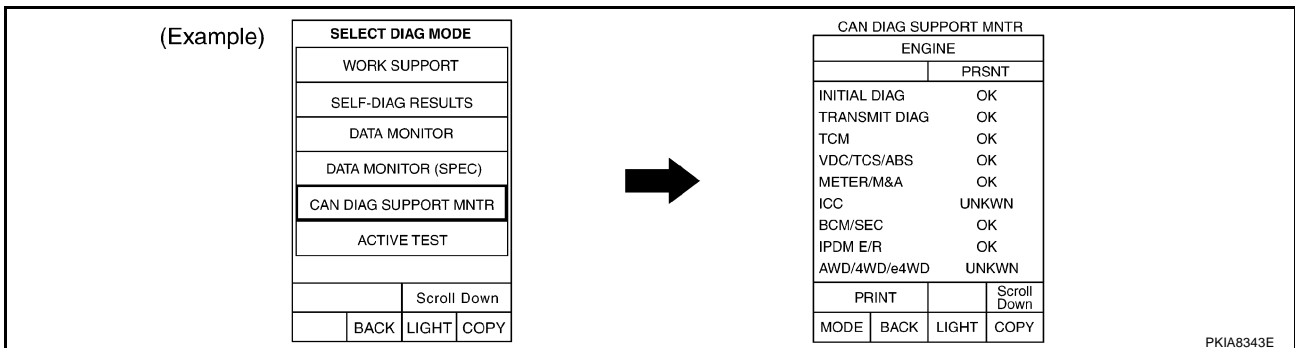
- When there are no indications of "METER A/C AMP" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "METER A/C AMP", "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-67, "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-67, "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-69, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 3)

[CAN]

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.

Check sheet table

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

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

CAN SYSTEM (TYPE 3)

[CAN]

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
METER A/C AMP
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
METER A/C AMP
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

PKIA8292E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

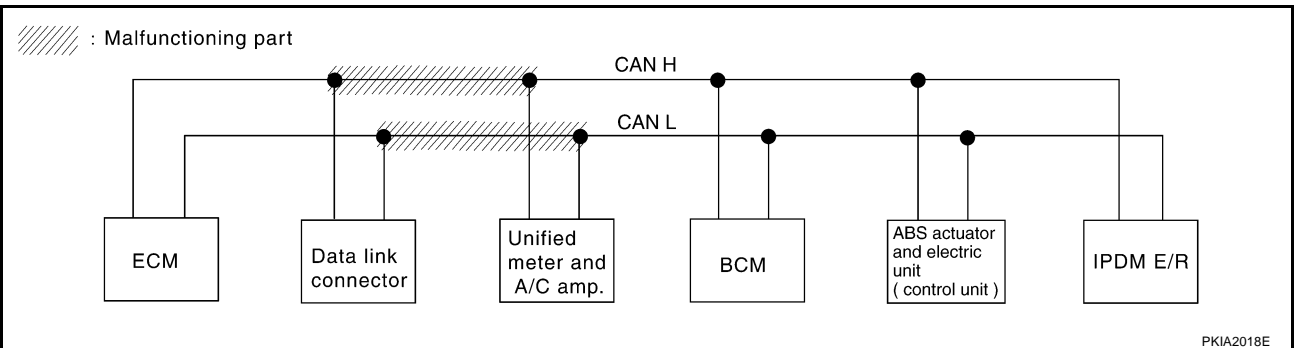
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between data link connector and unified meter and A/C amp. Refer to [LAN-79, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."](#)

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

PKIA8293E



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

LAN

CAN SYSTEM (TYPE 3)

[CAN]

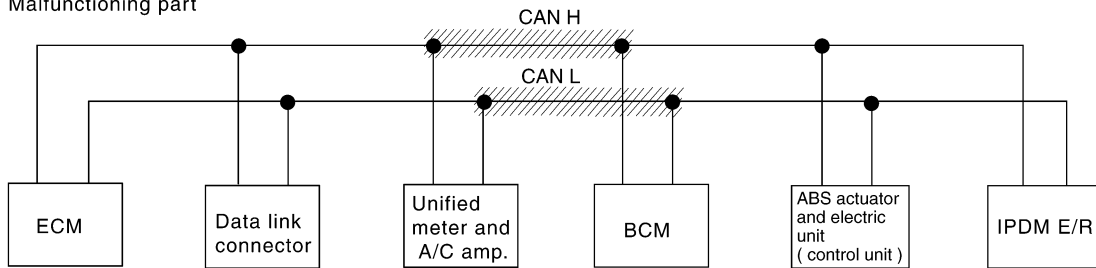
Case 2

Check harness between unified meter and A/C amp. and BCM. Refer to [LAN-79, "Circuit Check Between Unified Meter and A/C Amp. and BCM"](#) .

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

PKIA8294E

//// : Malfunctioning part



PKIA2019E

CAN SYSTEM (TYPE 3)

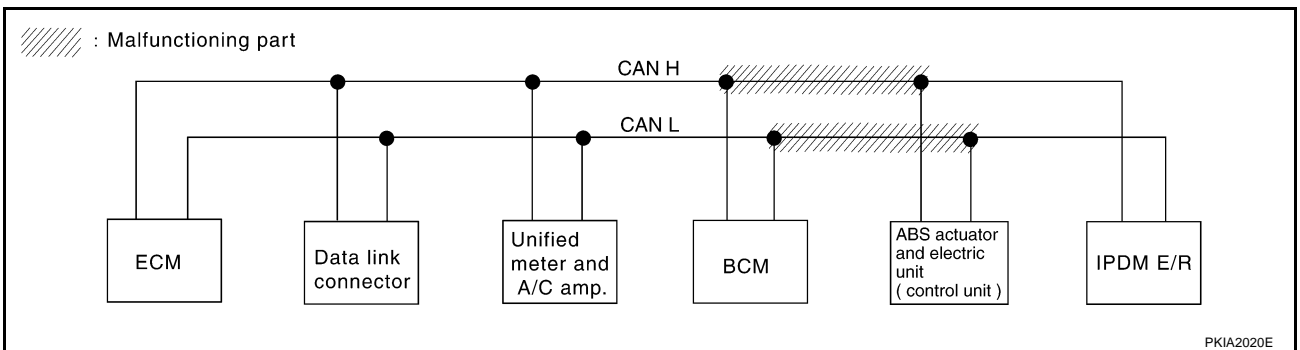
[CAN]

Case 3

Check harness between BCM and ABS actuator and electric unit (control unit). Refer to [LAN-79, "Circuit Check Between BCM and ABS Actuator and Electric Unit \(Control Unit\)"](#).

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

PKIA8295E



PKIA2020E

LAN

CAN SYSTEM (TYPE 3)

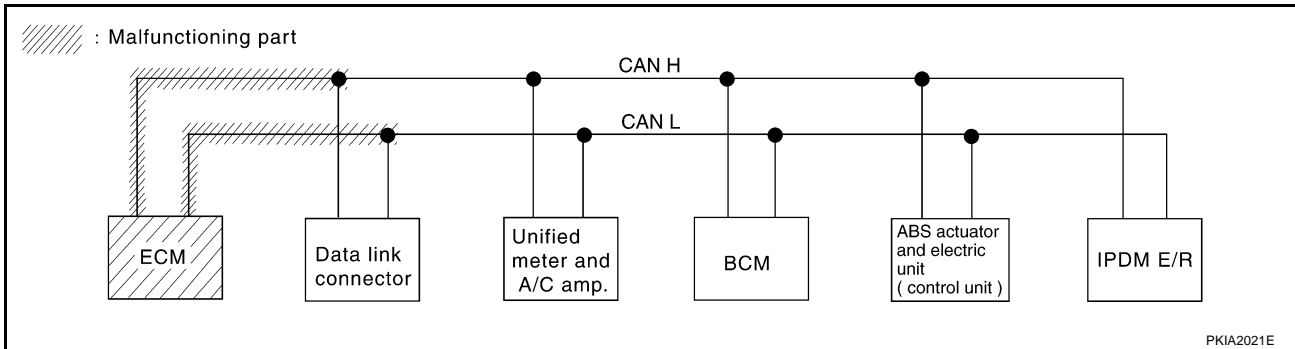
[CAN]

Case 4

Check ECM circuit. Refer to [LAN-80, "ECM Circuit Check"](#) .

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

PKIA8296E



PKIA2021E

CAN SYSTEM (TYPE 3)

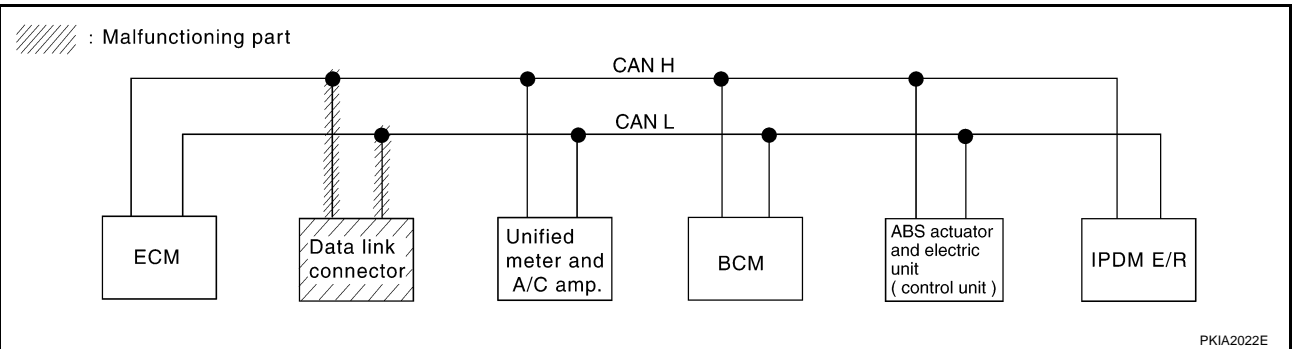
[CAN]

Case 5

Check data link connector circuit. Refer to [LAN-81, "Data Link Connector Circuit Check"](#) .

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

PKIA8297E



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

LAN

CAN SYSTEM (TYPE 3)

[CAN]

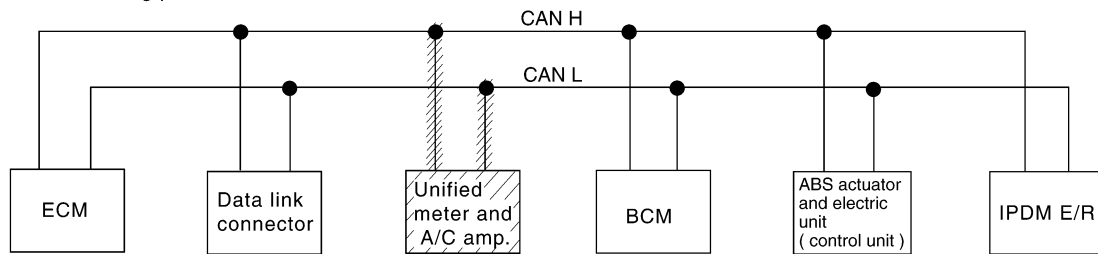
Case 6

Check unified meter and A/C amp. circuit. Refer to [LAN-81, "Unified Meter and A/C Amp. Circuit Check"](#) .

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

PKIA8298E

//// : Malfunctioning part



PKIA2023E

CAN SYSTEM (TYPE 3)

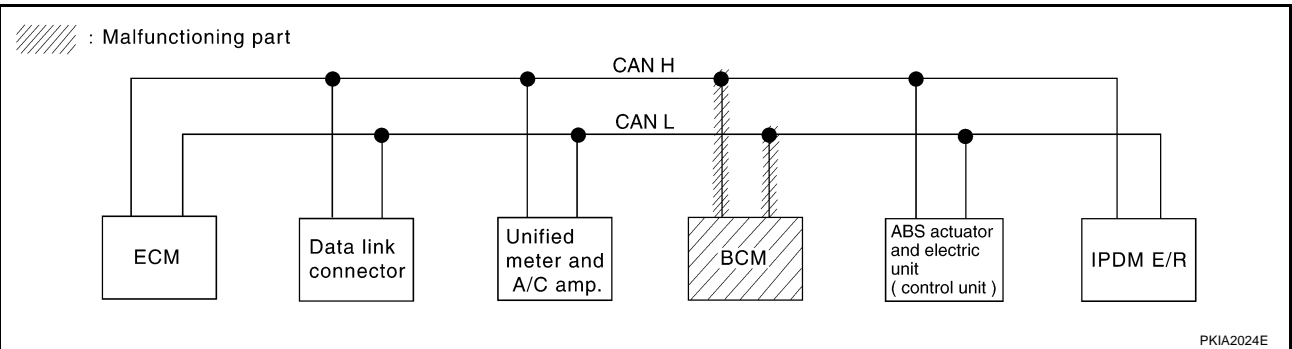
[CAN]

Case 7

Check BCM circuit. Refer to [LAN-82. "BCM Circuit Check"](#) .

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

PKIA8299E



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

LAN

CAN SYSTEM (TYPE 3)

[CAN]

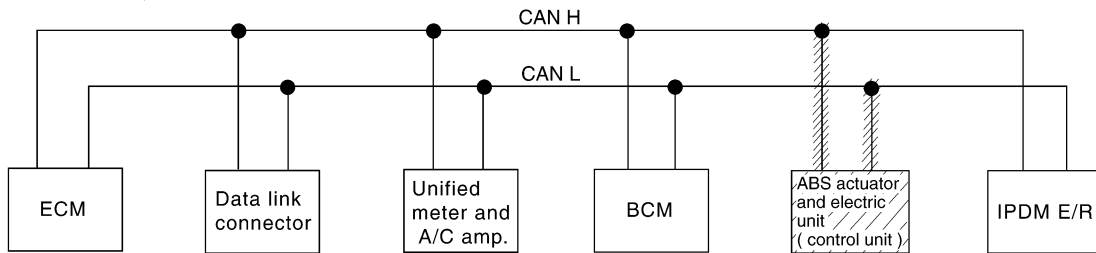
Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to [LAN-82, "ABS Actuator and Electric Unit \(Control Unit\) Circuit Check"](#) .

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

PKIA8300E

//// : Malfunctioning part



PKIA2025E

CAN SYSTEM (TYPE 3)

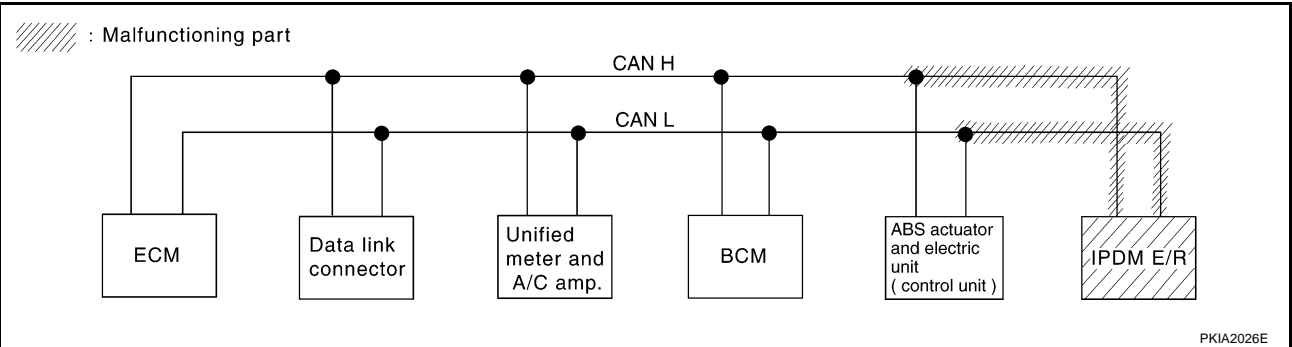
[CAN]

Case 9

Check IPDM E/R circuit. Refer to [LAN-83, "IPDM E/R Circuit Check"](#) .

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

PKIA8301E



Case 10

Check CAN communication circuit. Refer to [LAN-84, "CAN Communication Circuit Check"](#) .

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

PKIA8302E

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

LAN

CAN SYSTEM (TYPE 3)

[CAN]

Case 11

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	METER/M&A	BCM/SEC	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW	—	UNKW	UNKW	—	UNKW
METER A/C AMP	No indication	—	UNKW	UNKW	—	UNKW	UNKW	—
BCM	—	NG	UNKW	UNKW	UNKW	—	—	UNKW
ABS	—	NG	UNKW	UNKW	—	—	—	—
IPDM E/R	No indication	—	UNKW	UNKW	—	UNKW	—	—

PKIA8303E

Case 12

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR						
		Initial diagnosis	Transmit diagnosis	Receive diagnosis				
				ECM	METER/M&A	BCM/SEC	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKW	—	UNKW	UNKW	—	UNKW
METER A/C AMP	No indication	—	UNKW	UNKW	—	UNKW	UNKW	—
BCM	—	NG	UNKW	UNKW	UNKW	—	—	UNKW
ABS	—	NG	UNKW	UNKW	—	—	—	—
IPDM E/R	No indication	—	UNKW	UNKW	—	UNKW	—	—

PKIA8304E

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

AKS00A90

1. CHECK HARNESS FOR OPEN CIRCUIT

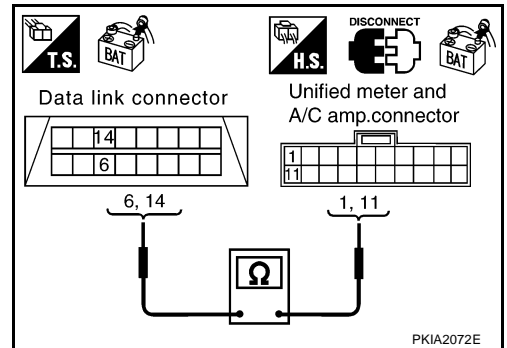
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector and unified meter and A/C amp. connector.
4. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P).

6 (L) – 1 (L) : Continuity should exist.

14 (P) – 11 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-66, "Work Flow"](#).
- NG >> Repair harness.

**Circuit Check Between Unified Meter and A/C Amp. and BCM**

AKS00A90

1. CHECK HARNESS FOR OPEN CIRCUIT

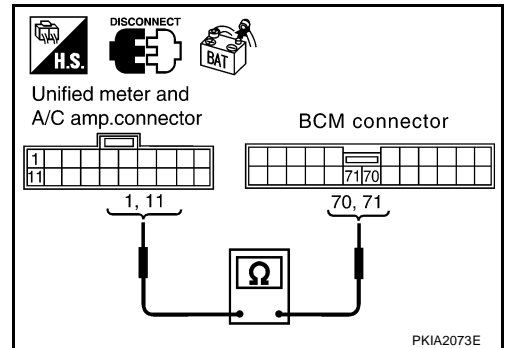
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following connectors.
 - ECM connector
 - Unified meter and A/C amp. connector
 - BCM connector
4. Check continuity between unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P) and BCM harness connector M3 terminals 70 (L), 71 (P).

1 (L) – 70 (L) : Continuity should exist.

11 (P) – 71 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-66, "Work Flow"](#).
- NG >> Repair harness.

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

AKS00A90

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection (connector side and harness side).
 - Harness connector M15
 - Harness connector E108

OK or NG

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

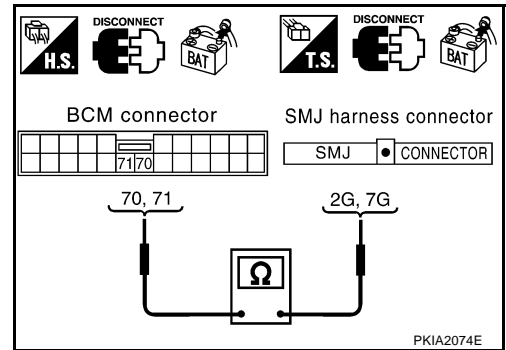
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector and harness connector M15.
2. Check continuity between BCM harness connector M3 terminals 70 (L), 71 (P) and harness connector M15 terminals 2G (L), 7G (P).

70 (L) – 2G (L) : Continuity should exist.
71 (P) – 7G (P) : Continuity should exist.

OK or NG

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



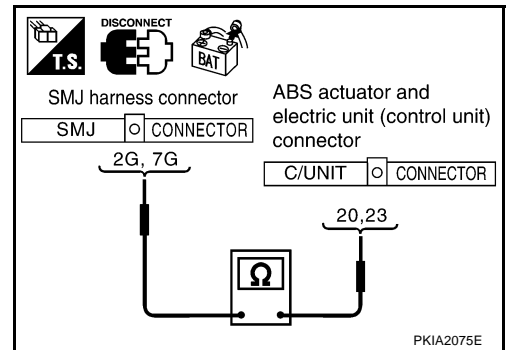
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E108 terminals 2G (L), 7G (P) and ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L), 23 (P).

2G (L) – 20 (L) : Continuity should exist.
7G (P) – 23 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-66, "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 connector for damage, bend and loose connection (control module side and harness side).
 - ECM connector
 - Harness connector F102
 - Harness connector M72

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

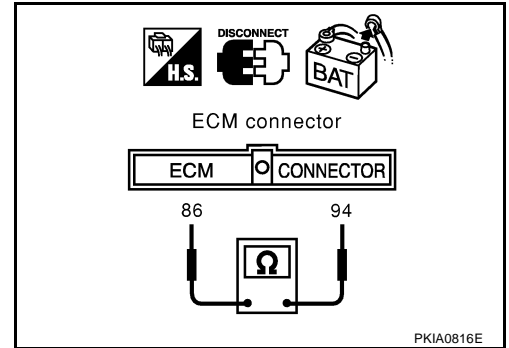
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P)

: Approx. 108 – 132Ω

OK or NG

- OK >> Replace ECM.
 NG >> Repair harness between ECM and data link connector.



PKIA0816E

AKS00A9S

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

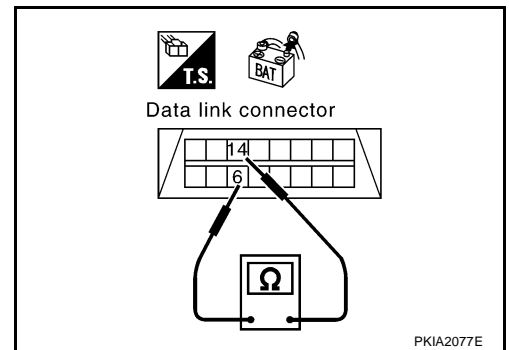
Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – 14 (P)

: Approx. 54 – 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-66, "Work Flow"](#) .
 NG >> Repair harness between data link connector and unified meter and A/C amp.



PKIA2077E

AKS00A9T

Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

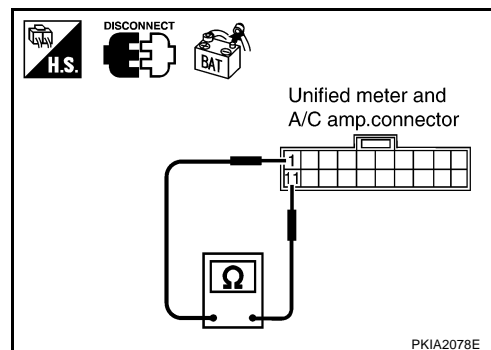
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect unified meter and A/C amp. connector.
2. Check resistance between unified meter and A/C amp. harness connector M48 terminals 1 (L) and 11 (P).

1 (L) – 11 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
 NG >> Repair harness between unified meter and A/C amp. and BCM.



AKS00A9U

BCM Circuit Check

1. CHECK CONNECTOR

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

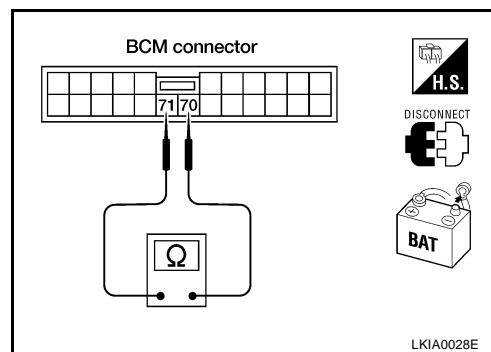
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M3 terminals 70 (L) and 71 (P).

70 (L) – 71 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace BCM.
 NG >> Repair harness between BCM and harness connector M15.



AKS00A9V

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 the 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

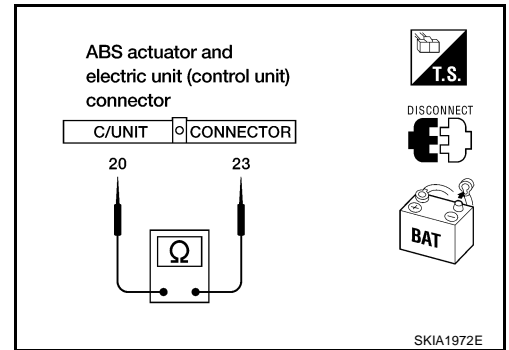
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E51 terminals 20 (L) and 23 (P).

20 (L) – 23 (P)

: Approx. 54 – 66Ω

OK or NG

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



AKS00A9W

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

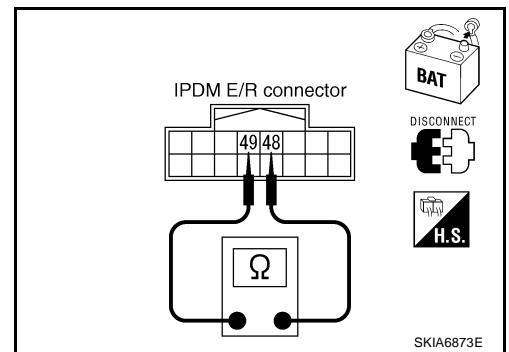
1. Disconnect IPDM E/R connector.
2. Check resistance between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

48 (L) – 49 (P)

: Approx. 108 – 132Ω

OK or NG

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



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

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

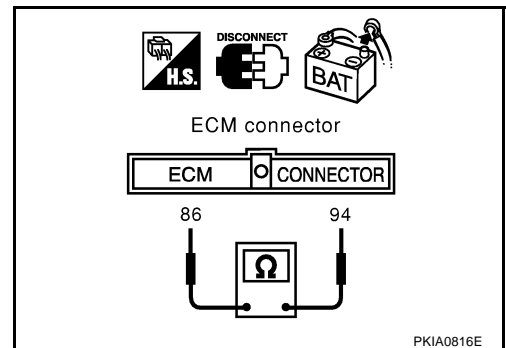
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and harness connector F102.
2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> Repair harness between ECM and harness connector F102.



3. CHECK HARNESS FOR SHORT CIRCUIT

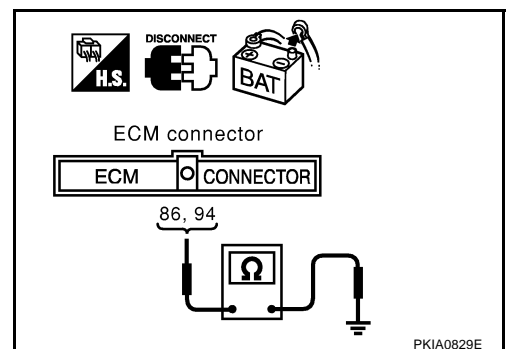
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – ground : Continuity should not exist.

86 (P) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness between ECM and harness connector F102.



4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
 - Unified meter and A/C amp. connector
 - BCM connector
 - Harness connector M15
- Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

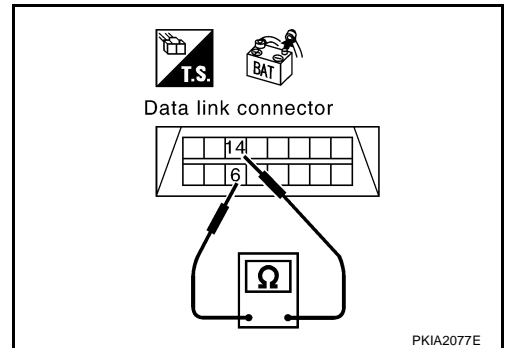
6 (L) – 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and harness connector M15



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

6 (L) – ground : Continuity should not exist.

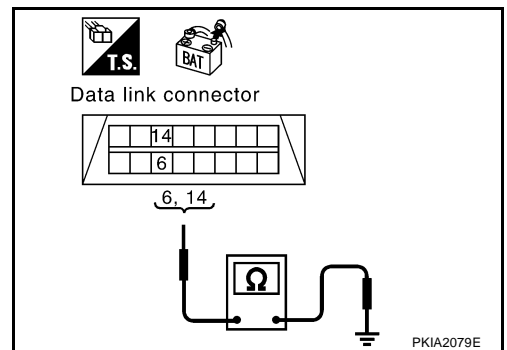
14 (P) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and harness connector M15



6. CHECK HARNESS FOR SHORT CIRCUIT

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

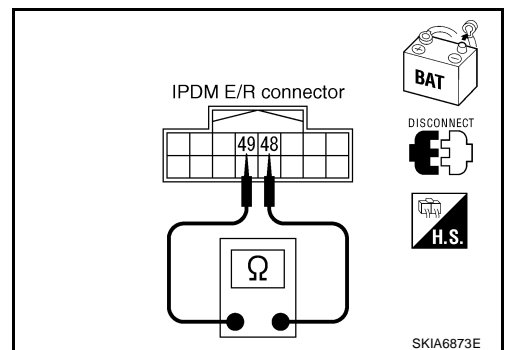
48 (L) – 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

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

- Harness between IPDM E/R and ABS actuator and electric unit (control unit)
- Harness between IPDM E/R and harness connector E108



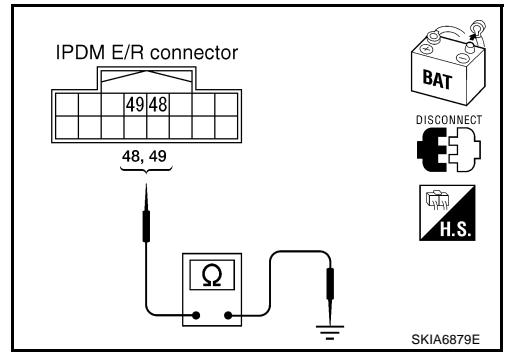
7. CHECK HARNESS FOR SHORT CIRCUIT

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

- 48 (L) – ground : Continuity should not exist.**
- 49 (P) – ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 8.
- NG >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between IPDM E/R and ABS actuator and electric unit (control unit)
 - Harness between IPDM E/R and harness connector E108



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-86, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#) .

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-66, "Work Flow"](#) .
- NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS00A9Y

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

- IPDM E/R power supply circuit. Refer to [PG-27, "IPDM E/R Power/Ground Circuit Inspection"](#) .
- Ignition power supply circuit. Refer to [PG-11, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START" "](#) .

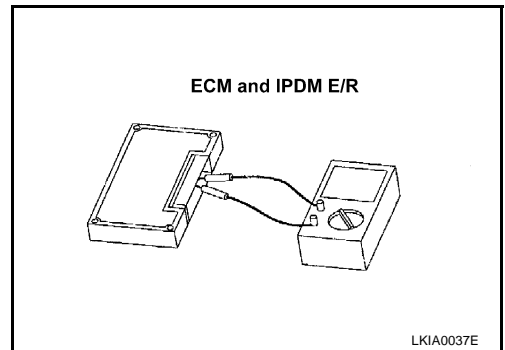
Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS00A9Z

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

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



CAN SYSTEM (TYPE 4)

PFP:23710

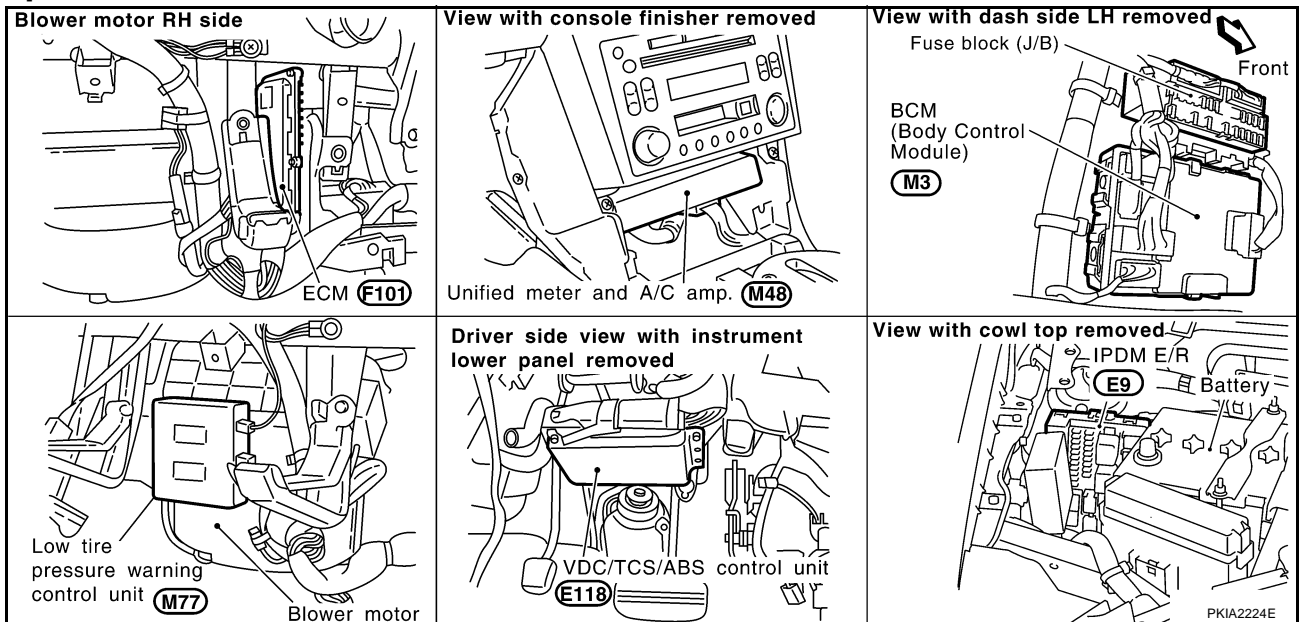
System Description

AKS009DT

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

AKS009DU



A
B
C
D
E
F
G
H
I
J

LAN

L
M

CAN SYSTEM (TYPE 4)

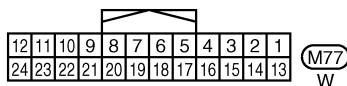
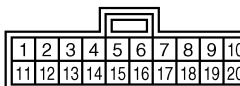
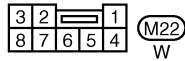
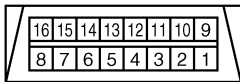
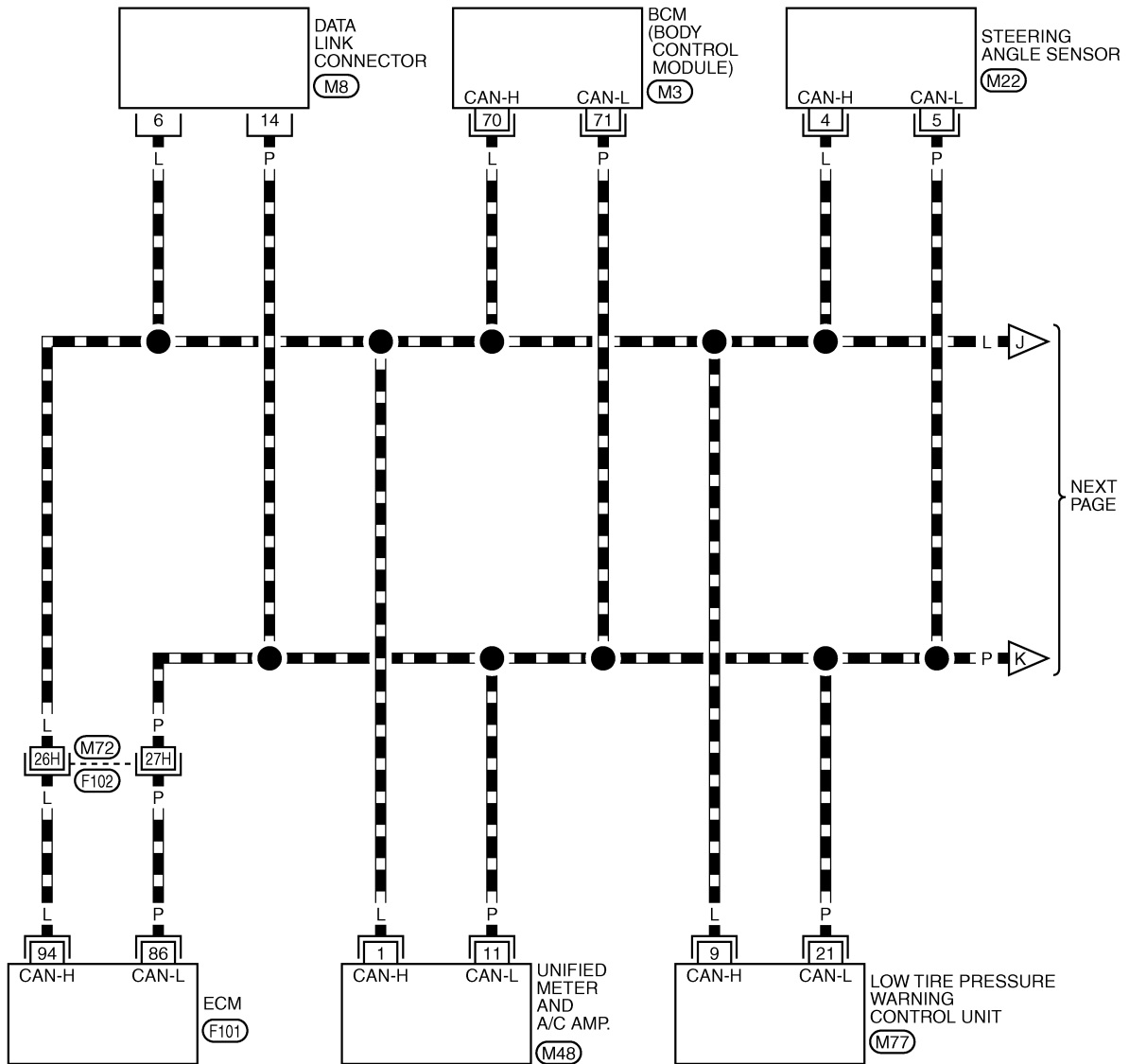
[CAN]

AKS009DV

Wiring Diagram — CAN —

LAN-CAN-05

▬▬▬▬ : DATA LINE



REFER TO THE FOLLOWING.

(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(M3), (F101) -ELECTRICAL UNITS

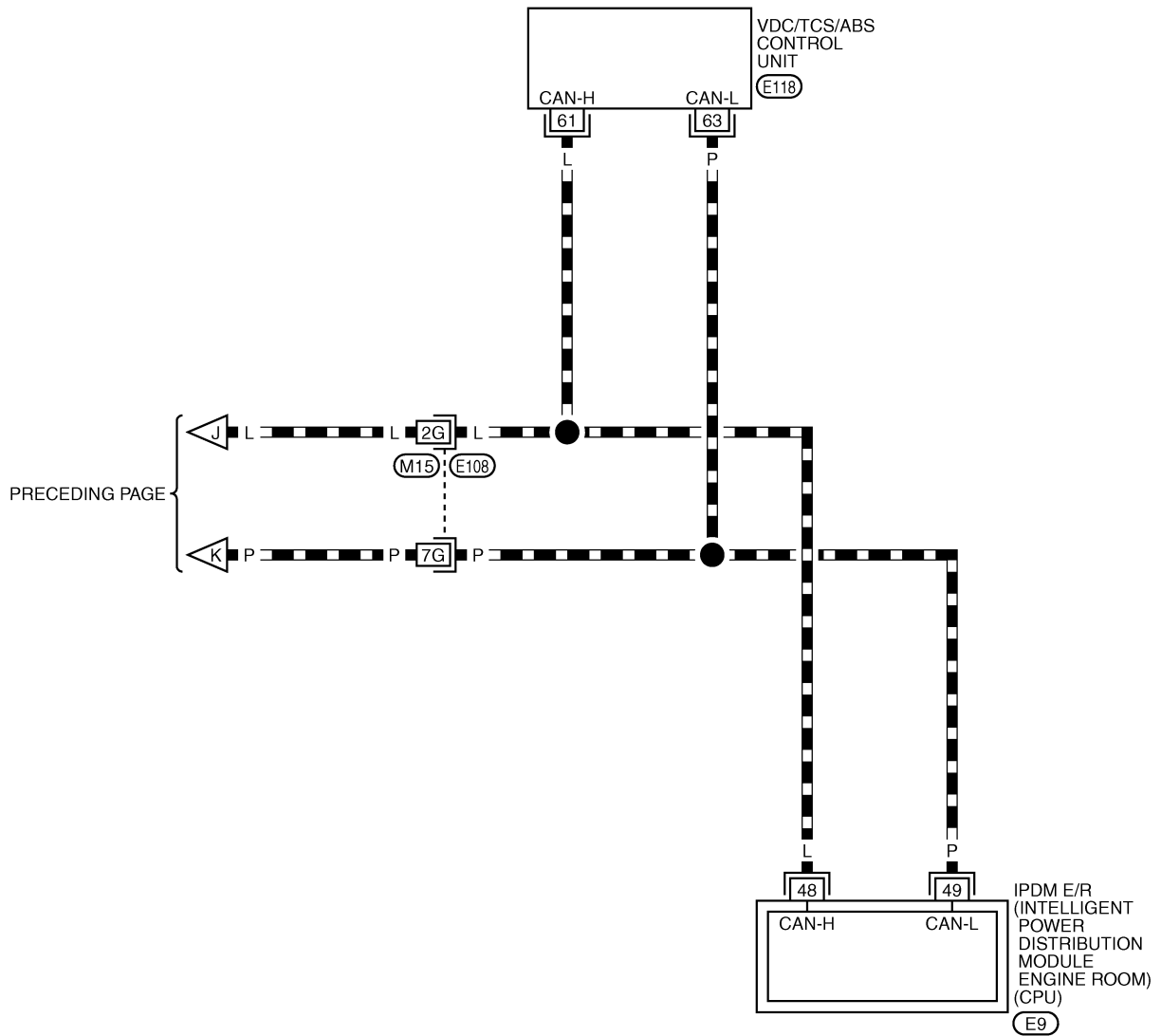
TKWT1763E

CAN SYSTEM (TYPE 4)

[CAN]

LAN-CAN-06

▬ : DATA LINE



52	51	50	49	48	47	46	45
60	59	58	57	56	55	54	53

E9
W



REFER TO THE FOLLOWING.

E108 -SUPER MULTIPLE JUNCTION (SMJ)

E118 -ELECTRICAL UNITS

TKWT1558E

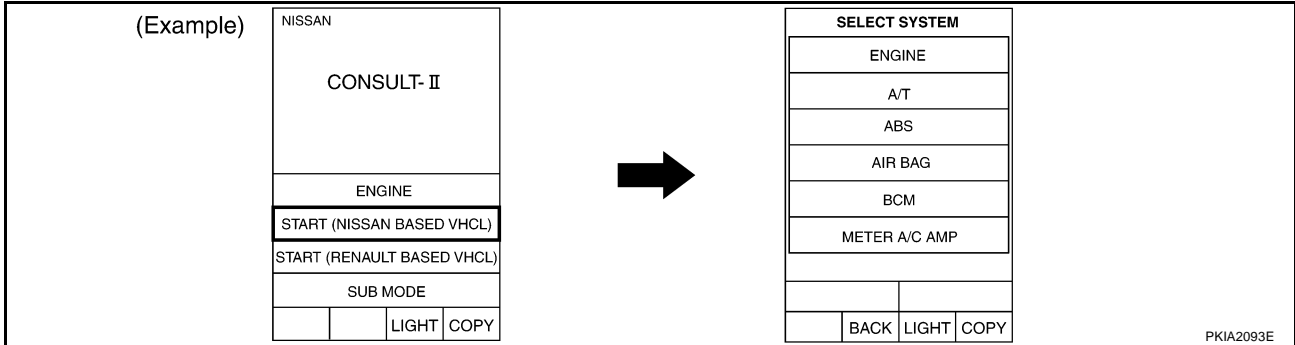
CAN SYSTEM (TYPE 4)

[CAN]

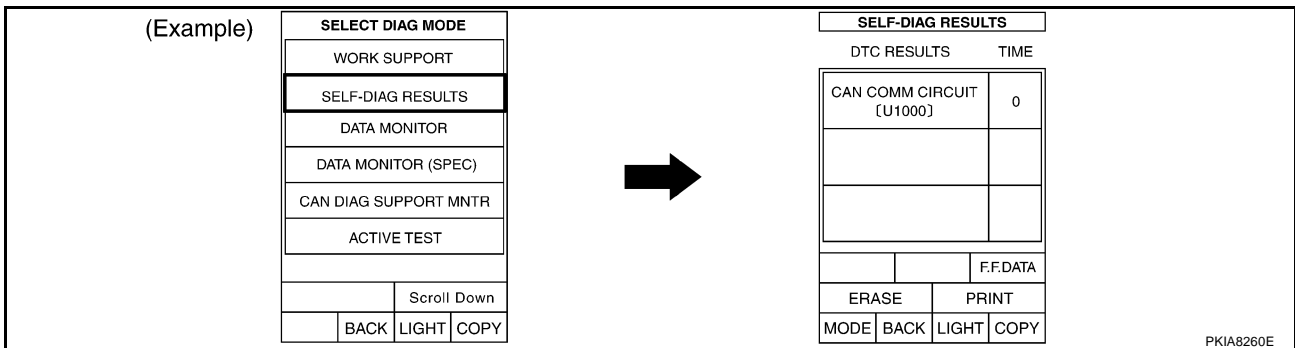
AKS00AA0

Work Flow

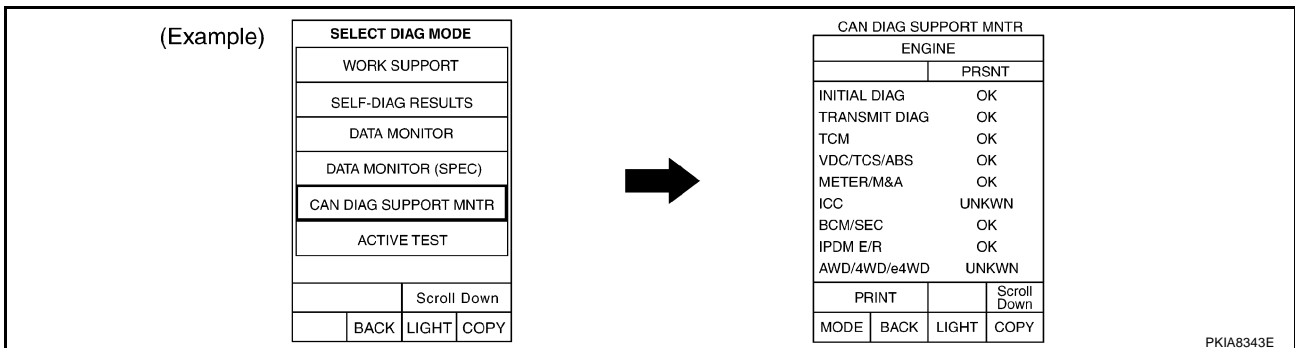
- When there are no indications of "METER A/C AMP" or "AIR PRESSURE MONITOR" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".



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



- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "METER A/C AMP", "BCM", "AIR PRESSURE MONITOR", "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-91, "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-91, "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-93, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

CAN SYSTEM (TYPE 4)

[CAN]

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.

Check sheet table

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

Symptoms :

Attach copy of
SELECT SYSTEM

Attach copy of
SELECT SYSTEM

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

LAN

CAN SYSTEM (TYPE 4)

[CAN]

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
METER A/C AMP
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE
MONITOR
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
METER A/C AMP
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

Attach copy of
AIR PRESSURE
MONITOR
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR

PKIA8306E

CAN SYSTEM (TYPE 4)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

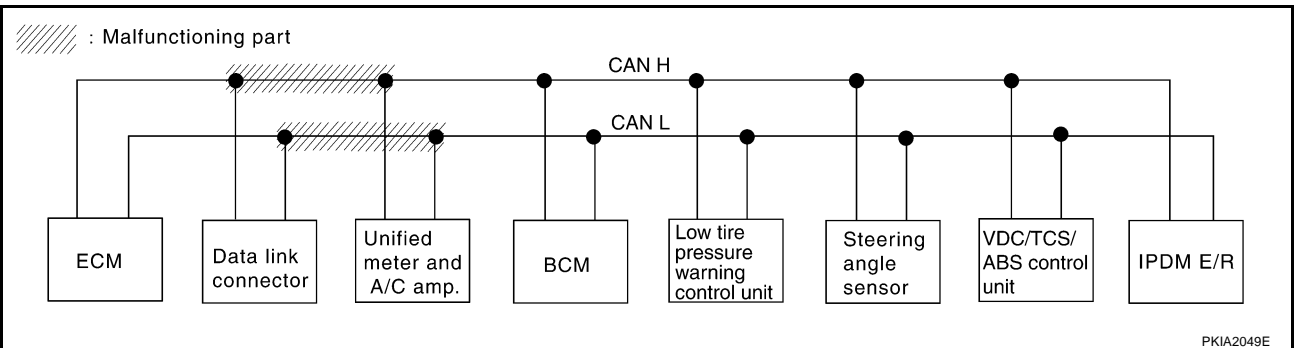
If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

Case 1

Check harness between data link connector and unified meter and A/C amp. Refer to [LAN-107, "Circuit Check Between Data Link Connector and Unified Meter and A/C Amp."](#)

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓
METER A/C AMP	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN ✓	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication ✓	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8307E



LAN

CAN SYSTEM (TYPE 4)

[CAN]

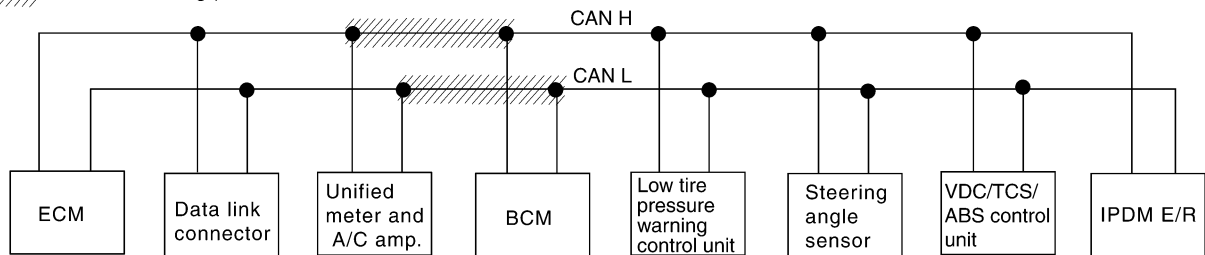
Case 2

Check harness between unified meter and A/C amp. and BCM. Refer to [LAN-107, "Circuit Check Between Unified Meter and A/C Amp. and BCM"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	—
BCM	—	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication ✓	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8308E

/// : Malfunctioning part



PKIA2050E

CAN SYSTEM (TYPE 4)

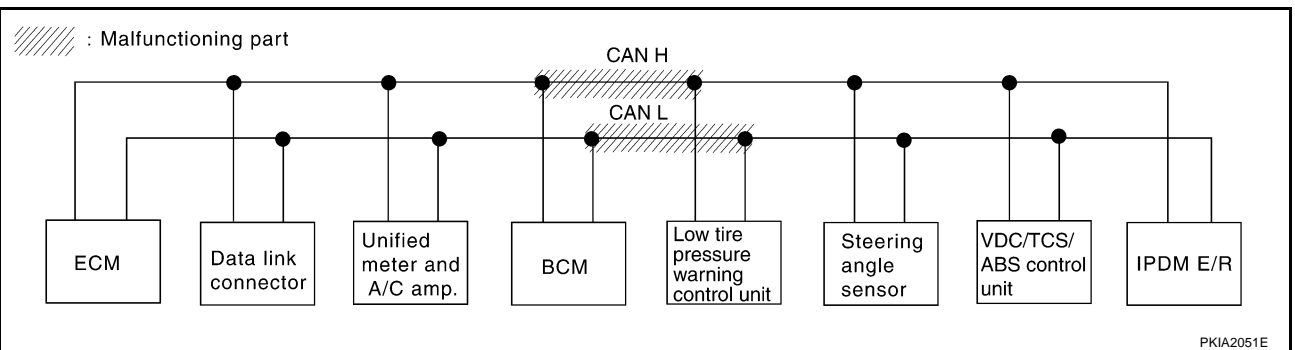
[CAN]

Case 3

Check harness between BCM and Low Tire Pressure Warning Control Unit. Refer to [LAN-108, "Circuit Check Between BCM and Low Tire Pressure Warning Control Unit"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN ✓
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN ✓	—	UNKWN ✓	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN ✓
AIR PRESSURE MONITOR	No indication ✓	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA6309E



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

LAN

CAN SYSTEM (TYPE 4)

[CAN]

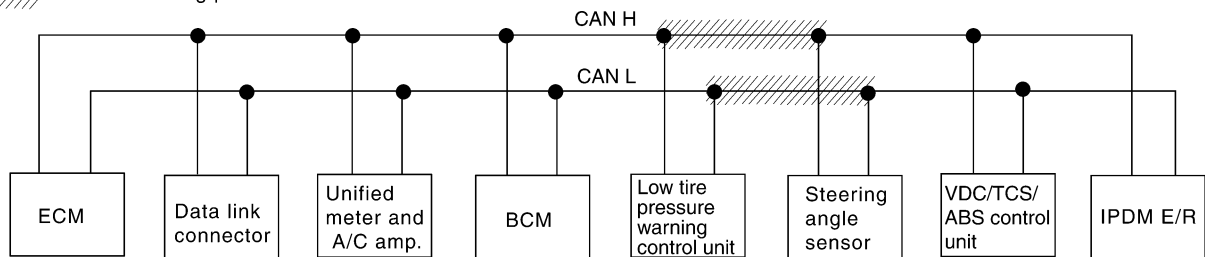
Case 4

Check harness between Low Tire Pressure Warning Control Unit and steering angle sensor. Refer to [LAN-108, "Circuit Check Between Low Tire Pressure Warning Control Unit and Steering Angle Sensor"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN ✓
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN ✓	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN ✓
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8310E

//// : Malfunctioning part



PKIA2052E

CAN SYSTEM (TYPE 4)

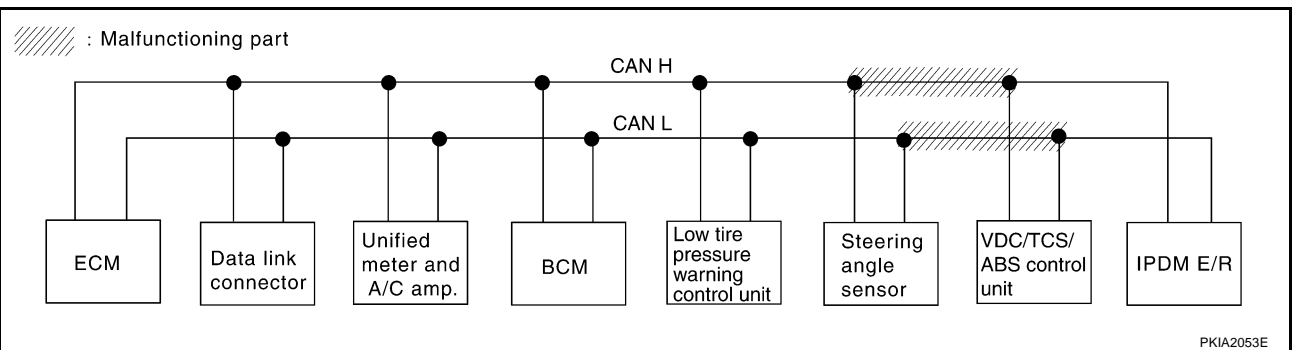
[CAN]

Case 5

Check harness between steering angle sensor and VDC/TCS/ABS control unit. Refer to [LAN-109, "Circuit Check Between Steering Angle Sensor and VDC/TCS/ABS Control Unit"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN ✓
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN ✓	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN ✓
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN ✓	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8311E



PKIA2053E

LAN

CAN SYSTEM (TYPE 4)

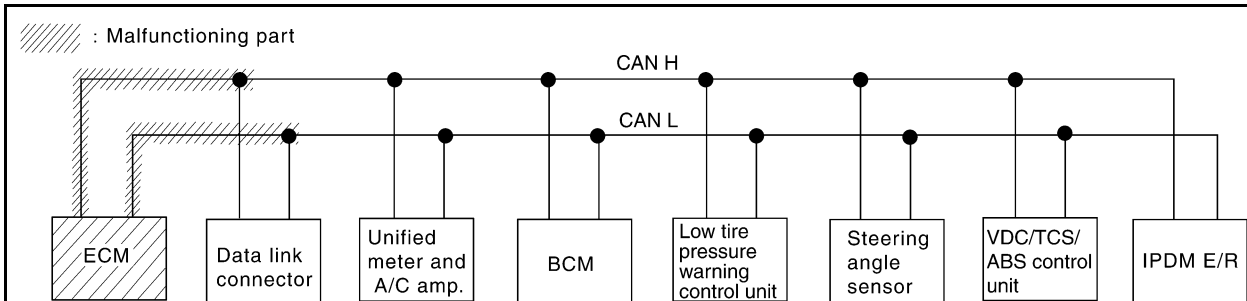
[CAN]

Case 6

Check ECM circuit. Refer to [LAN-109, "ECM Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKW ^N ✓	—	UNKW ^N ✓	UNKW ^N ✓	—	—	UNKW ^N ✓	UNKW ^N ✓	
METER A/C AMP	No indication	—	UNKW ^N	UNKW ^N ✓	—	UNKW ^N	UNKW ^N	—	UNKW ^N	—	
BCM	—	NG	UNKW ^N	UNKW ^N ✓	UNKW ^N	—	—	—	—	UNKW ^N	
AIR PRESSURE MONITOR	No indication	NG	UNKW ^N	—	UNKW ^N	—	—	—	—	—	
ABS	—	NG	UNKW ^N	UNKW ^N ✓	—	—	—	UNKW ^N	—	—	
IPDM E/R	No indication	—	UNKW ^N	UNKW ^N ✓	—	UNKW ^N	—	—	—	—	

PKIA8312E



PKIA2054E

CAN SYSTEM (TYPE 4)

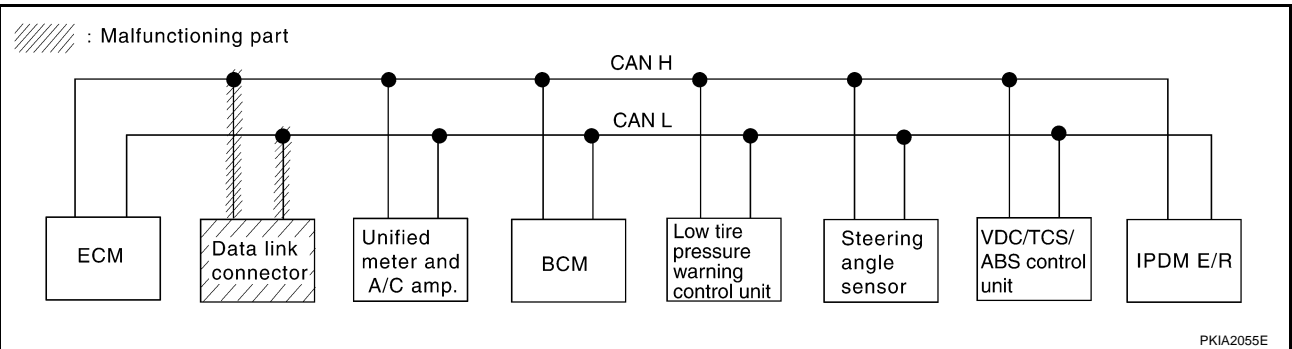
[CAN]

Case 7

Check data link connector circuit. Refer to [LAN-110, "Data Link Connector Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	UNKWN
METER A/C AMP	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication ✓	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8313E



LAN

CAN SYSTEM (TYPE 4)

[CAN]

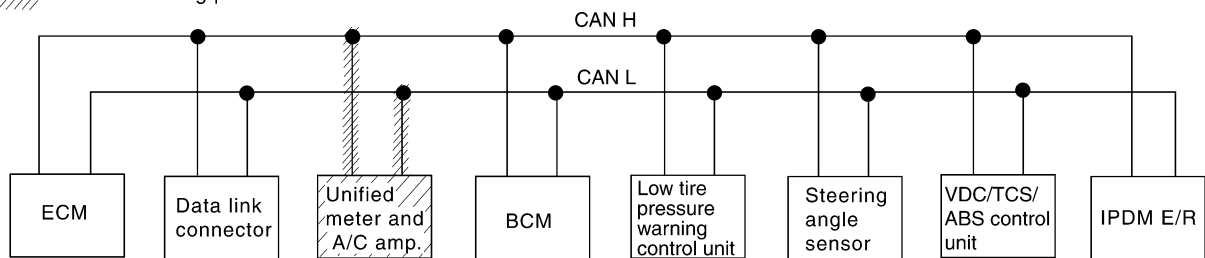
Case 8

Check unified meter and A/C amp. circuit. Refer to [LAN-110, "Unified Meter and A/C Amp. Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN ✓	UNKWN	—	—	UNKWN	UNKWN
METER A/C AMP	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	UNKWN ✓	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN ✓	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8314E

▨ : Malfunctioning part



PKIA2056E

CAN SYSTEM (TYPE 4)

[CAN]

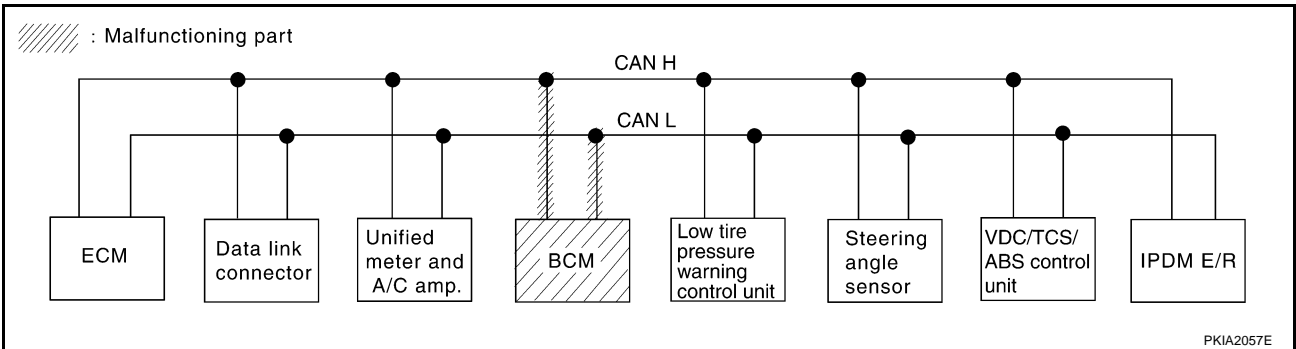
Case 9

Check BCM circuit. Refer to [LAN-111, "BCM Circuit Check"](#) .

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

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN ✓	—	—	UNKWN	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN ✓	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN ✓
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN ✓	—	—	—	—

PKIA8315E



LAN

CAN SYSTEM (TYPE 4)

[CAN]

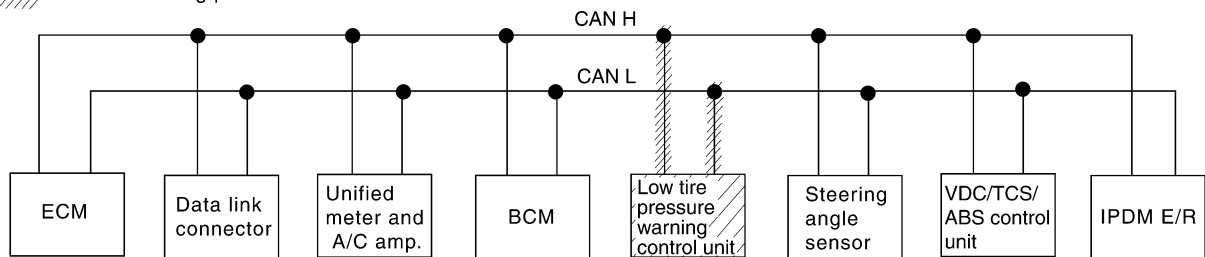
Case 10

Check Low Tire Pressure Warning Control Unit circuit. Refer to [LAN-111, "Low Tire Pressure Warning Control Unit Circuit Check"](#).

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis							
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R	
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	UNKWN	
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—	
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN	
AIR PRESSURE MONITOR	No indication ✓	NG	UNKWN	—	UNKWN	—	—	—	—	—	
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—	
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—	

PKIA8316E

//// : Malfunctioning part



PKIA2058E

CAN SYSTEM (TYPE 4)

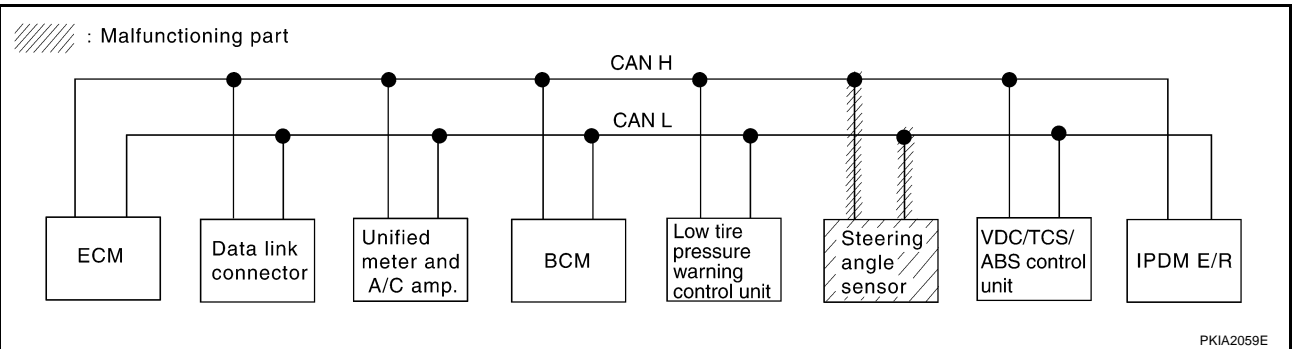
[CAN]

Case 11

Check steering angle sensor circuit. Refer to [LAN-112, "Steering Angle Sensor Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8317E



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

LAN

CAN SYSTEM (TYPE 4)

[CAN]

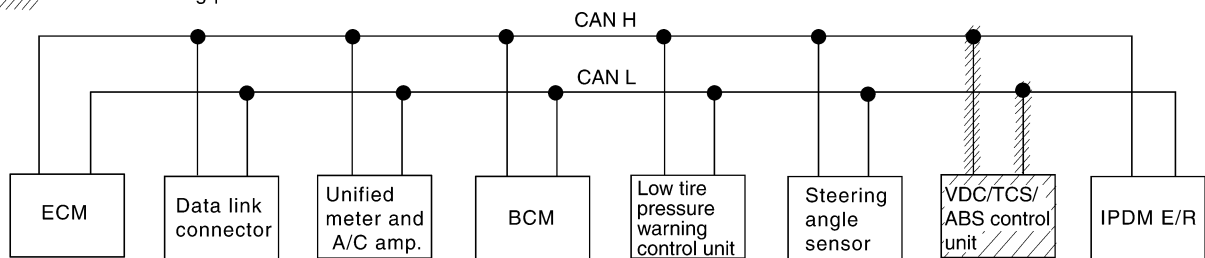
Case 12

Check VDC/TCS/ABS control unit circuit. Refer to [LAN-112, "VDC/TCS/ABS Control Unit Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN ✓	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG ✓	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8318E

//// : Malfunctioning part



PKIA2060E

CAN SYSTEM (TYPE 4)

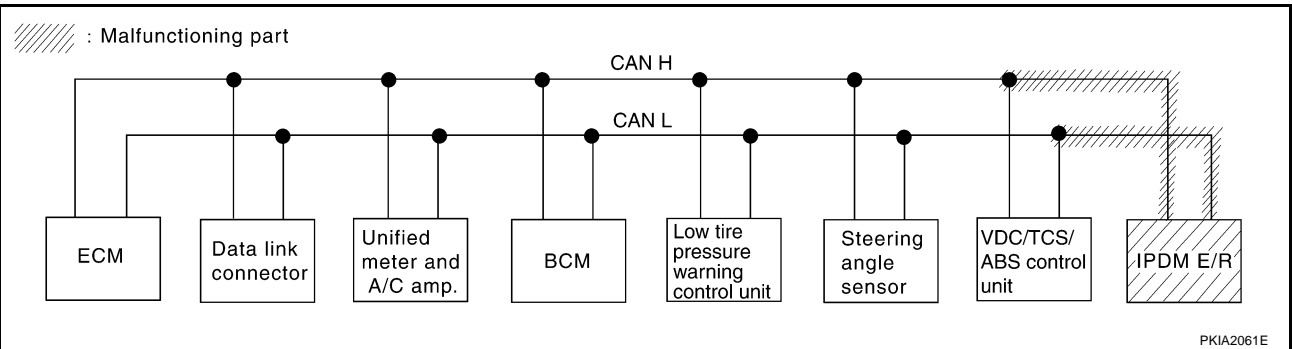
[CAN]

Case 13

Check IPDM E/R circuit. Refer to [LAN-113, "IPDM E/R Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8319E



Case 14

Check CAN communication circuit. Refer to [LAN-114, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	UNKWN ✓
METER A/C AMP	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	—	—	—	UNKWN ✓
AIR PRESSURE MONITOR	No indication ✓	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG ✓	UNKWN ✓	UNKWN ✓	—	—	—	UNKWN ✓	—	—
IPDM E/R	No indication ✓	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8320E

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

LAN

CAN SYSTEM (TYPE 4)

[CAN]

Case 15

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to [LAN-116. "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN ✓	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN	—	—	—	UNKWN	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8321E

Case 16

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to [LAN-116. "IPDM E/R Ignition Relay Circuit Check"](#) .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	METER /M&A	BCM/SEC	TIRE-P	STRG	VDC/TCS /ABS	IPDM E/R
ENGINE	—	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	UNKWN
METER A/C AMP	No indication	—	UNKWN	UNKWN	—	UNKWN	UNKWN	—	UNKWN	—
BCM	—	NG	UNKWN	UNKWN	UNKWN	—	—	—	—	UNKWN
AIR PRESSURE MONITOR	No indication	NG	UNKWN	—	UNKWN	—	—	—	—	—
ABS	—	NG	UNKWN	UNKWN ✓	—	—	—	UNKWN ✓	—	—
IPDM E/R	No indication	—	UNKWN	UNKWN	—	UNKWN	—	—	—	—

PKIA8322E

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

AKS00AA1

1. CHECK HARNESS FOR OPEN CIRCUIT

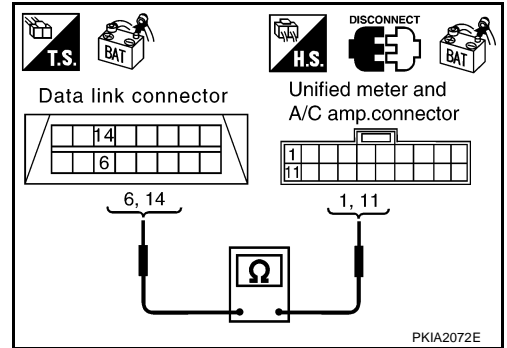
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector and unified meter and A/C amp. connector.
4. Check continuity between data link connector M8 terminals 6 (L), 14 (P) and unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P).

6 (L) – 1 (L) : Continuity should exist.

14 (P) – 11 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-90, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Unified Meter and A/C Amp. and BCM

AKS00AA2

1. CHECK HARNESS FOR OPEN CIRCUIT

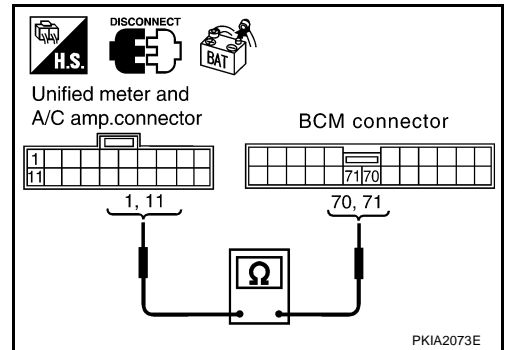
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following connectors.
 - ECM connector
 - Unified meter and A/C amp. connector
 - BCM connector
4. Check continuity between unified meter and A/C amp. harness connector M48 terminals 1 (L), 11 (P) and BCM harness connector M3 terminals 70 (L), 71 (P).

1 (L) – 70 (L) : Continuity should exist.

11 (P) – 71 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-90, "Work Flow"](#).
- NG >> Repair harness.



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

Circuit Check Between BCM and Low Tire Pressure Warning Control Unit

AKS009DZ

1. CHECK HARNESS FOR OPEN CIRCUIT

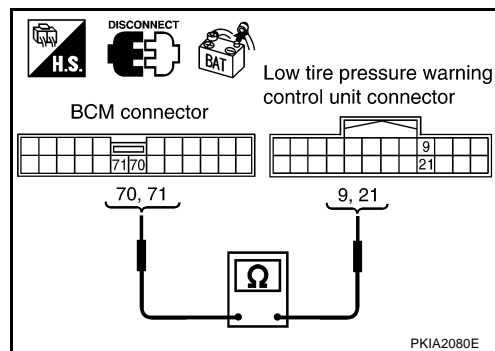
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following connectors.
 - ECM connector
 - BCM connector
 - Low tire pressure warning control unit connector
4. Check continuity between BCM harness connector M3 terminals 70 (L), 71 (P) and low tire pressure warning control unit harness connector M77 terminals 9 (L), 21 (P).

70 (L) – 9 (L) : Continuity should exist.

71 (P) – 21 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-90, "Work Flow"](#).
- NG >> Repair harness.

**Circuit Check Between Low Tire Pressure Warning Control Unit and Steering Angle Sensor**

AKS009E0

1. CHECK HARNESS FOR OPEN CIRCUIT

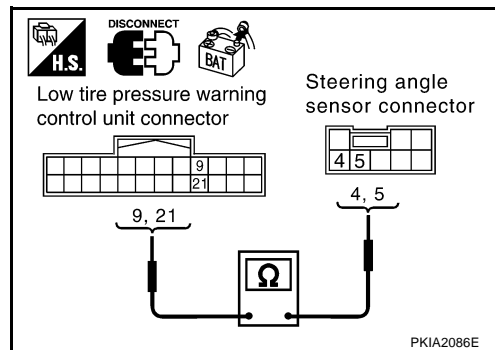
1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect the following connectors.
 - ECM connector
 - Low tire pressure warning control unit connector
 - Steering angle sensor connector
4. Check continuity between Low tire pressure warning control unit harness connector M77 terminals 9 (L), 21 (P) and steering angle sensor harness connector M22 terminals 4 (L), 5 (P).

9 (L) – 4 (L) : Continuity should exist.

21 (P) – 5 (P) : Continuity should exist.

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-90, "Work Flow"](#).
- NG >> Repair harness.



Circuit Check Between Steering Angle Sensor and VDC/TCS/ABS Control Unit

AKS00AA3

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection (connector side and harness side).
 - Harness connector M15
 - Harness connector E108

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

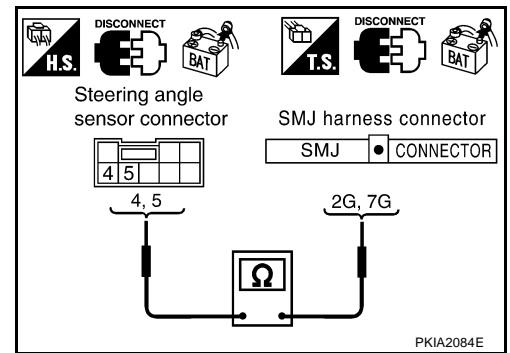
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector and harness connector M15.
2. Check continuity between steering angle sensor harness connector M22 terminals 4 (L), 5 (P) and harness connector M15 terminals 2G (L), 7G (P).

4 (L) – 2G (L) : Continuity should exist.**5 (P) – 7G (P) : Continuity should exist.**OK or NG

OK >> GO TO 3.

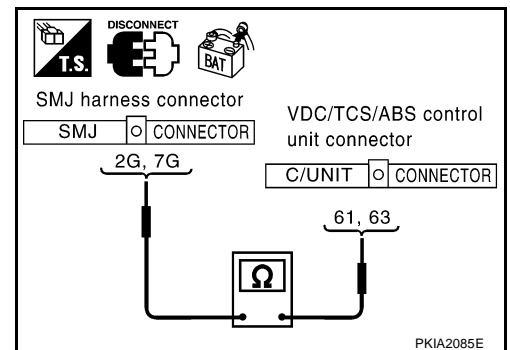
NG >> Repair harness.

**3. CHECK HARNESS FOR OPEN CIRCUIT**

1. Disconnect VDC/TCS/ABS control unit connector.
2. Check continuity between harness connector E108 terminals 2G (L), 7G (P) and VDC/TCS/ABS control unit harness connector E118 terminals 61 (L), 63 (P).

2G (L) – 61 (L) : Continuity should exist.**7G (P) – 63 (P) : Continuity should exist.**OK or NGOK >> Connect all the connectors and diagnose again. Refer to [LAN-90, "Work Flow"](#).

NG >> Repair harness.

**ECM Circuit Check**

AKS00AA4

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection (control module side and harness side).
 - ECM connector
 - Harness connector F102
 - Harness connector M72

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

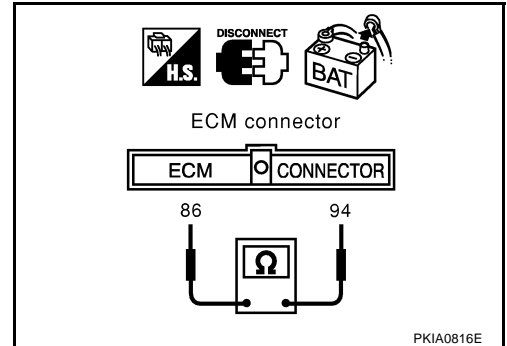
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P)

: Approx. 108 – 132Ω

OK or NG

- OK >> Replace ECM.
 NG >> Repair harness between ECM 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

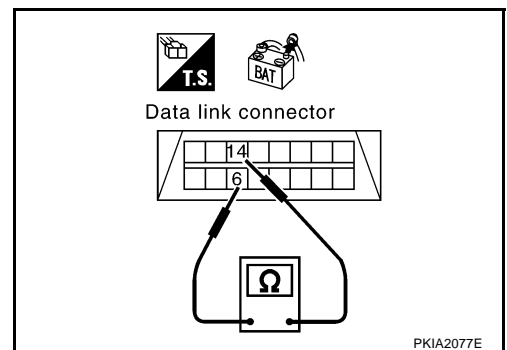
Check resistance between data link connector M8 terminals 6 (L) and 14 (P).

6 (L) – 14 (P)

: Approx. 54 – 66Ω

OK or NG

- OK >> Diagnose again. Refer to [LAN-90, "Work Flow"](#).
 NG >> Repair harness between data link connector and unified meter and A/C amp.



Unified Meter and A/C Amp. Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

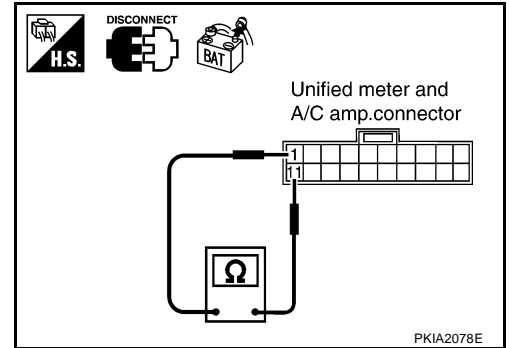
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect unified meter and A/C amp. connector.
2. Check resistance between unified meter and A/C amp. harness connector M48 terminals 1 (L) and 11 (P).

1 (L) – 11 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
 NG >> Repair harness between unified meter and A/C amp. and BCM.



AKS00AA7

BCM Circuit Check

1. CHECK CONNECTOR

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

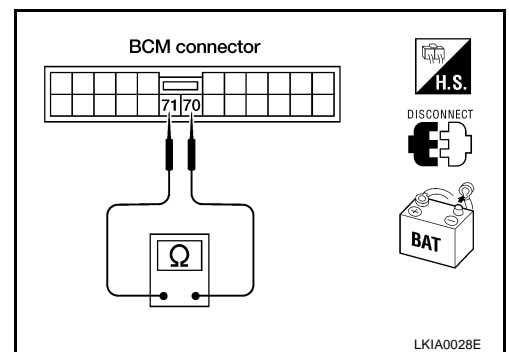
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector.
2. Check resistance between BCM harness connector M3 terminals 70 (L) and 71 (P).

70 (L) – 71 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace BCM.
 NG >> Repair harness between BCM and steering angle sensor.



AKS009E6

Low Tire Pressure Warning Control Unit Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

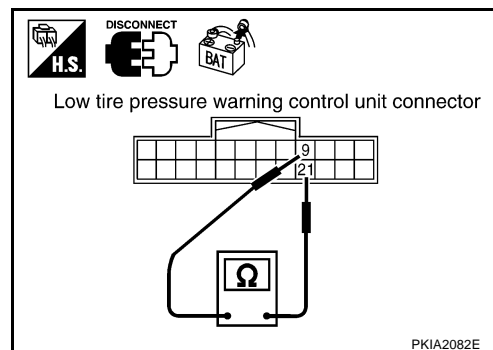
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect low tire pressure warning control unit connector.
2. Check resistance between low tire pressure warning control unit harness connector M77 terminals 9 (L) and 21 (P).

9 (L) – 21 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace low tire pressure warning control unit.
 NG >> Repair harness between low tire pressure warning control unit and steering angle sensor.



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.

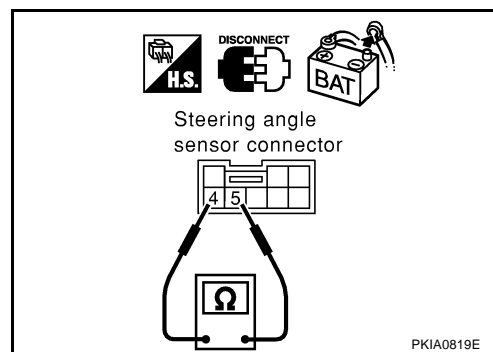
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M22 terminals 4 (L) and 5 (P).

4 (L) – 5 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and harness connector M15.



VDC/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check the terminals and connector of VDC/TCS/ABS 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.

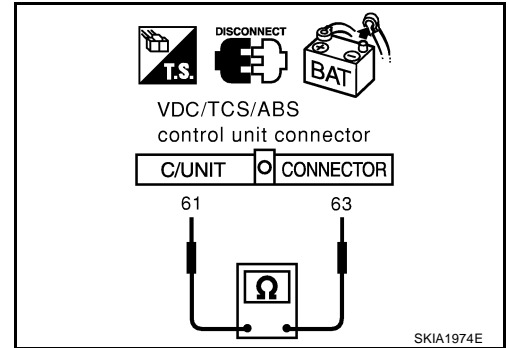
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect VDC/TCS/ABS control unit connector.
2. Check resistance between VDC/TCS/ABS control unit harness connector E118 terminals 61 (L) and 63 (P).

61 (L) – 63 (P) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace VDC/TCS/ABS control unit.
 NG >> Repair harness between VDC/TCS/ABS control unit and IPDM E/R.



AKS00AAA

IPDM E/R Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

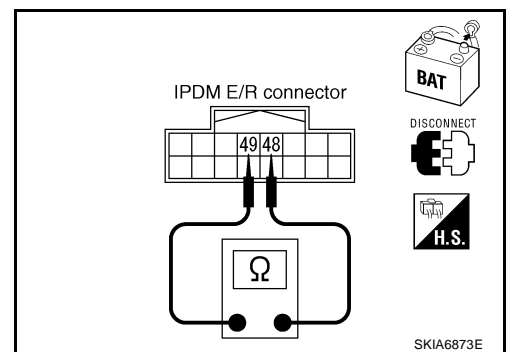
2. CHECK HARNESS FOR OPEN CIRCUIT

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

48 (L) – 49 (P) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace IPDM E/R.
 NG >> Repair harness between IPDM E/R and VDC/TCS/ABS control unit.



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

CAN Communication Circuit Check

1. CHECK CONNECTOR

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

OK or NG

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

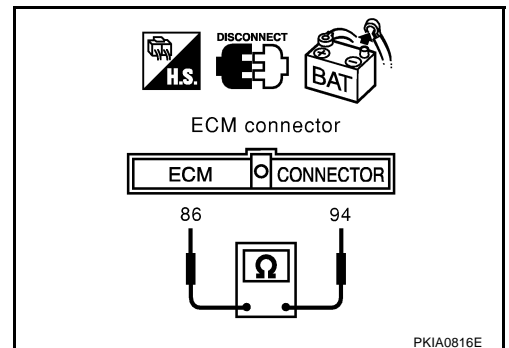
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and harness connector F102.
2. Check continuity between ECM harness connector F101 terminals 94 (L) and 86 (P).

94 (L) – 86 (P) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> Repair harness between ECM and harness connector F102.



3. CHECK HARNESS FOR SHORT CIRCUIT

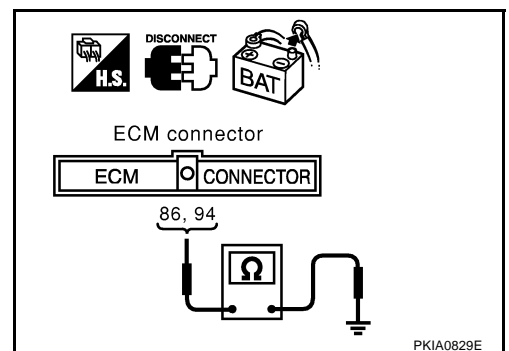
Check continuity between ECM harness connector F101 terminals 94 (L), 86 (P) and ground.

94 (L) – ground : Continuity should not exist.

86 (P) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness between ECM and harness connector F102.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect following connectors.
 - Unified meter and A/C amp. connector
 - BCM connector
 - Low tire pressure warning control unit connector
 - Steering angle sensor connector
 - Harness connector M15
2. Check continuity between data link connector M8 terminals 6 (L) and 14 (P).

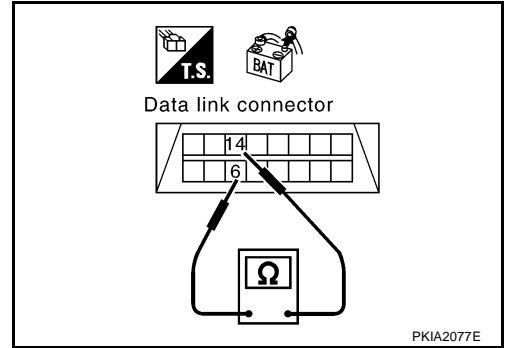
6 (L) – 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and low tire pressure warning control unit
- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M15



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M8 terminals 6 (L), 14 (P) and ground.

6 (L) – ground : Continuity should not exist.

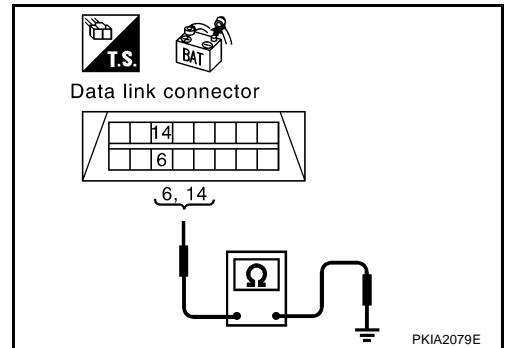
14 (P) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

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

- Harness between data link connector and harness connector M72
- Harness between data link connector and unified meter and A/C amp.
- Harness between data link connector and BCM
- Harness between data link connector and low tire pressure warning control unit
- Harness between data link connector and steering angle sensor
- Harness between data link connector and harness connector M15



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

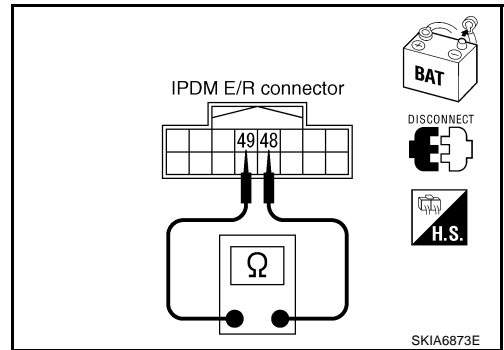
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect VDC/TCS/ABS control unit connector and IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E9 terminals 48 (L) and 49 (P).

48 (L) – 49 (P) : Continuity should not exist.

OK or NG

- OK >> GO TO 7.
 NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between IPDM E/R and VDC/TCS/ABS control unit
 - Harness between IPDM E/R and harness connector E108



7. CHECK HARNESS FOR SHORT CIRCUIT

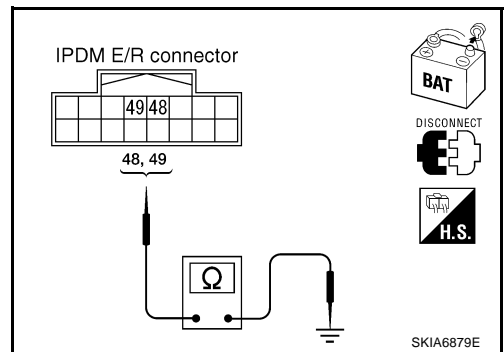
Check continuity between IPDM E/R harness connector E9 terminals 48 (L), 49 (P) and ground.

48 (L) – ground : Continuity should not exist.

49 (P) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
 NG >> Check the following harnesses. If any harness is damaged, repair the harness.
- Harness between IPDM E/R and VDC/TCS/ABS control unit
 - Harness between IPDM E/R and harness connector E108



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-116, "ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION"](#) .

OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-90, "Work Flow"](#) .
 NG >> Replace ECM and/or IPDM E/R.

IPDM E/R Ignition Relay Circuit Check

AKS00AAC

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

- IPDM E/R power supply circuit. Refer to [PG-27, "IPDM E/R Power/Ground Circuit Inspection"](#) .
- Ignition power supply circuit. Refer to [PG-11, "IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START""](#) .

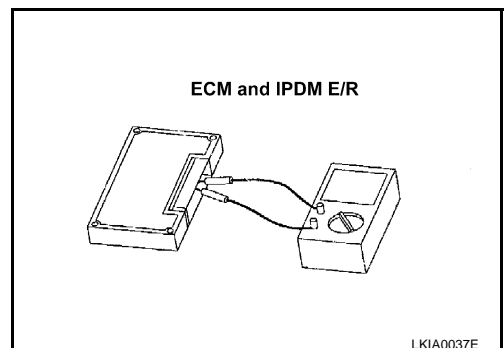
Component Inspection

ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

AKS00AAD

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

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



LKIA0037E