SECTION LAN

LAN SYSTEM

CONTENTS

CAN

PRECAUTIONS

PFP:00001

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

UKS002EC

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

Precautions When Using CONSULT-II

UKS002EE

When connecting CONSULT-II to data link connector, connect them through CONSULT-II CONVERTER.

CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

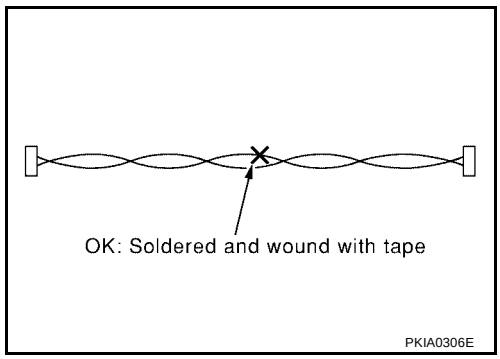
CHECK POINTS FOR USING CONSULT-II

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

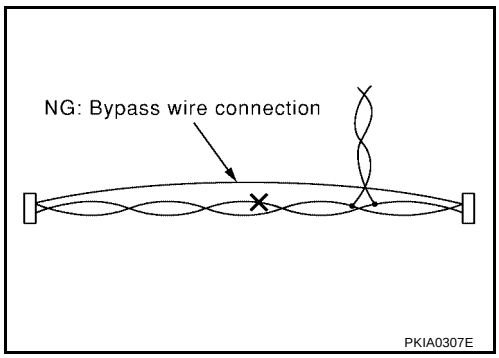
Precautions for CAN System

UKS002ED

- Do not apply voltage of 7.0 V or higher to terminal to be measured.
- Maximum open terminal voltage of tester in use must be less than 7.0 V.
- Before checking harnesses, turn ignition switch OFF and disconnect negative battery terminal.
- Area to be repaired must be soldered and wrapped with tape. Make sure that fraying of twisted wire is within 110 mm (4.33 in).



- Do not make a bypass connection to repaired area. (If the circuit is bypassed, characteristics of twisted wire will be lost.)



CAN COMMUNICATION

PFP:23710

System Description

UKS002EG

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

UKS002EH

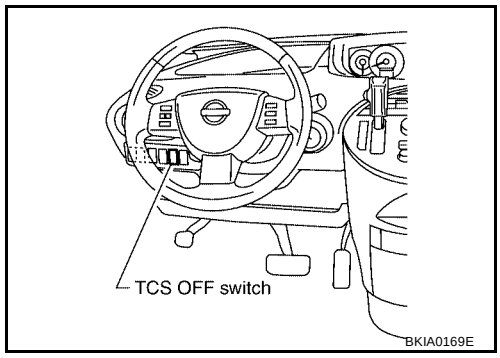
Refer to the following table to determine CAN system type.

Axle	2WD				
Engine	VQ35DE				
Transmission	4 A/T	5 A/T			
Brake control	TCS	TCS		VDC	
Navigation system			X		X
Automatic drive positioner				X	X
CAN system type	1	2	3	4	5
CAN system trouble diagnosis	LAN-15	LAN-42	LAN-69	LAN-96	LAN-126

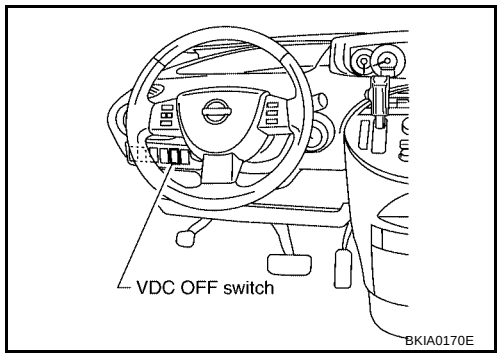
X: Applicable

NOTE:
Confirming the presence of the following items helps to identify CAN system type.

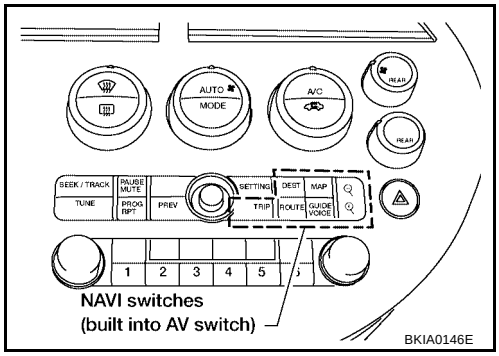
- Models with TCS



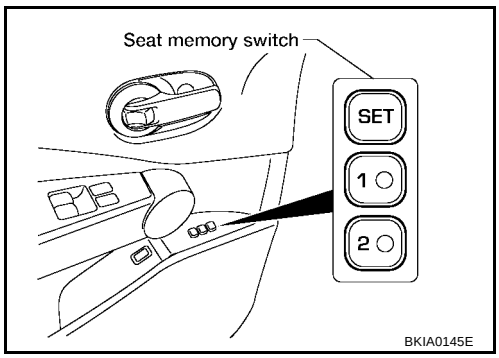
- Models with VDC



- Models with navigation system



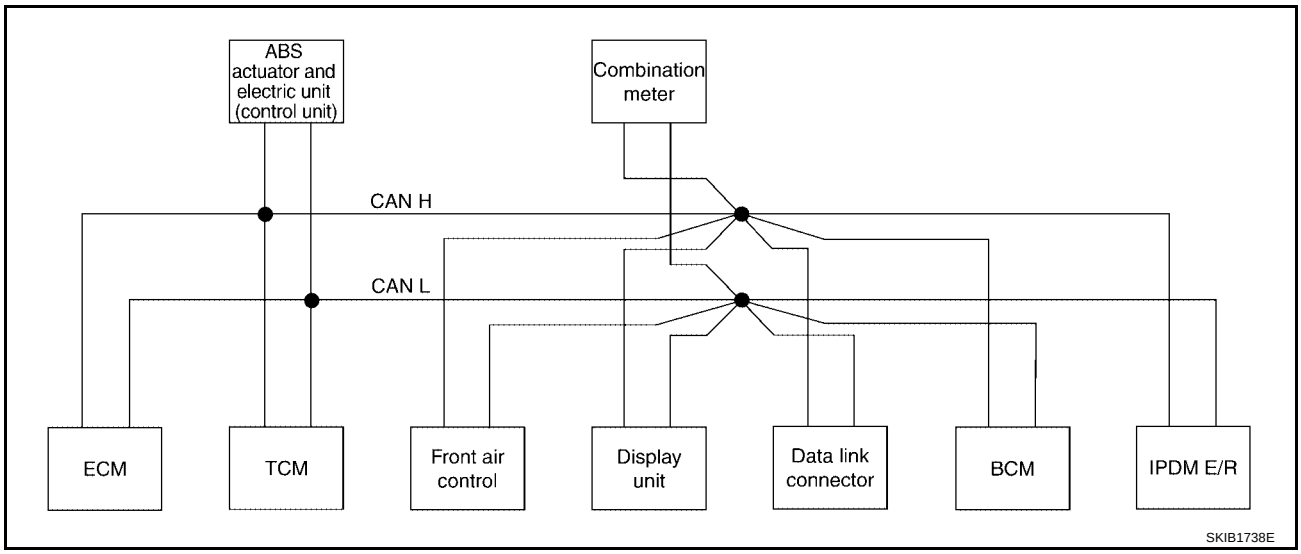
- Models with automatic drive positioner



TYPE 1

System diagram

- Type 1



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display unit	BCM	Combi-nation meter	IPDM E/R
Engine speed signal	T		R	R	R		R	
Engine coolant temperature signal	T			R			R	
Ignition switch signal						T		R
Ignition power supply confirmation signal						R		T
Fuel consumption monitor signal	T						R	
					R		T	
A/C switch signal	R			R		T		
A/C compressor request signal	T							R
Blower fan motor switch signal	R					T		
A/C switch/indicator signal				R	T			
				T	R			
Cooling fan speed request signal	T							R
Cooling fan speed signal	R							T
Position light request signal						T	R	R
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal						T	R	R
High beam status signal	R							T
Front fog light request signal						T		R
Vehicle speed signal			T	R			R	
	R				R	R	T	
Sleep wake up signal						T	R	R

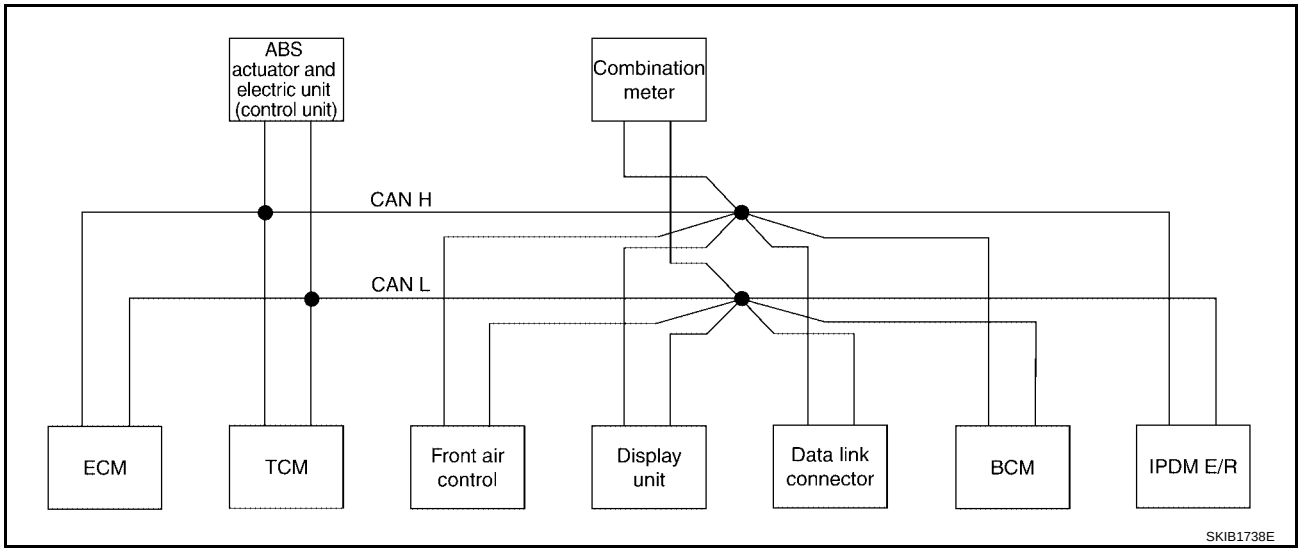
Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display unit	BCM	Combi-nation meter	IPDM E/R
IPDM E/R wake up sleep request signal						R		T
IPDM E/R refuse to sleep signal						R		T
BCM wake up request signal						R		T
Door switch signal					R	T	R	R
Turn indicator signal						T	R	
Cornering lamp request signal						T		R
Oil pressure switch signal							R	T
Buzzer output signal						T	R	
Fuel level sensor signal	R						T	
ASCD SET indicator signal	T						R	
ASCD CRUISE indicator signal	T						R	
Malfunction indicator lamp signal	T						R	
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal				R	R	T		R
Rear window defogger control signal	R							T
Horn chirp signal						T		R
ABS warning lamp signal			T				R	
Brake warning lamp signal			T				R	
System setting signal					T	R		
					R	T		
Distance to empty signal					R		T	
A/T self-diagnosis signal	R	T						
Engine and A/T integrated control signal	T	R						
	R	T						
Accelerator pedal position signal	T		R					
Closed throttle position signal	T	R						
Wide open throttle position signal	T	R						
P range signal		T	R					
Stop lamp switch signal		R					T	
Input shaft revolution signal	R	T						
Output shaft revolution signal	R	T						
ASCD operation signal	T	R						
ASCD OD cancel request signal	T	R						
SLIP indicator lamp signal			T				R	
O/D OFF indicator lamp signal		T					R	
A/T position indicator lamp signal		T					R	
A/T shift schedule change demand signal		R	T					
Overdrive control switch signal		R					T	
Tire pressure signal						T	R	

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display unit	BCM	Combi-nation meter	IPDM E/R
Tire pressure data signal					R	T		
Seat belt buckle switch signal						R	T	

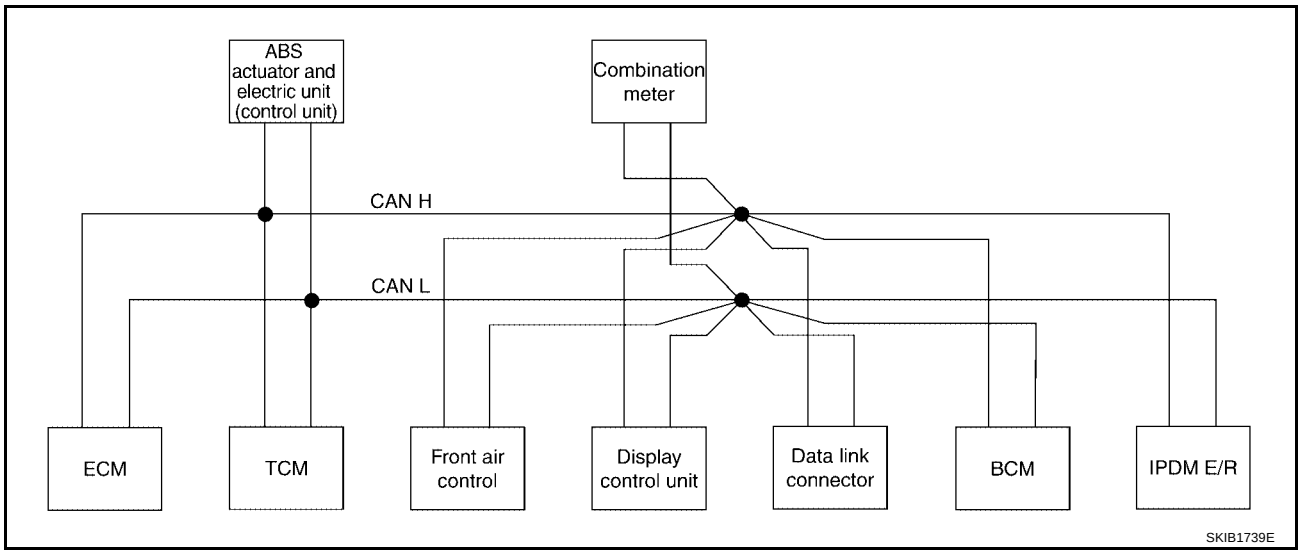
TYPE 2/TYPE 3

System diagram

- Type 2



- Type 3



Input/output signal chart

T: Transmit R: Receive

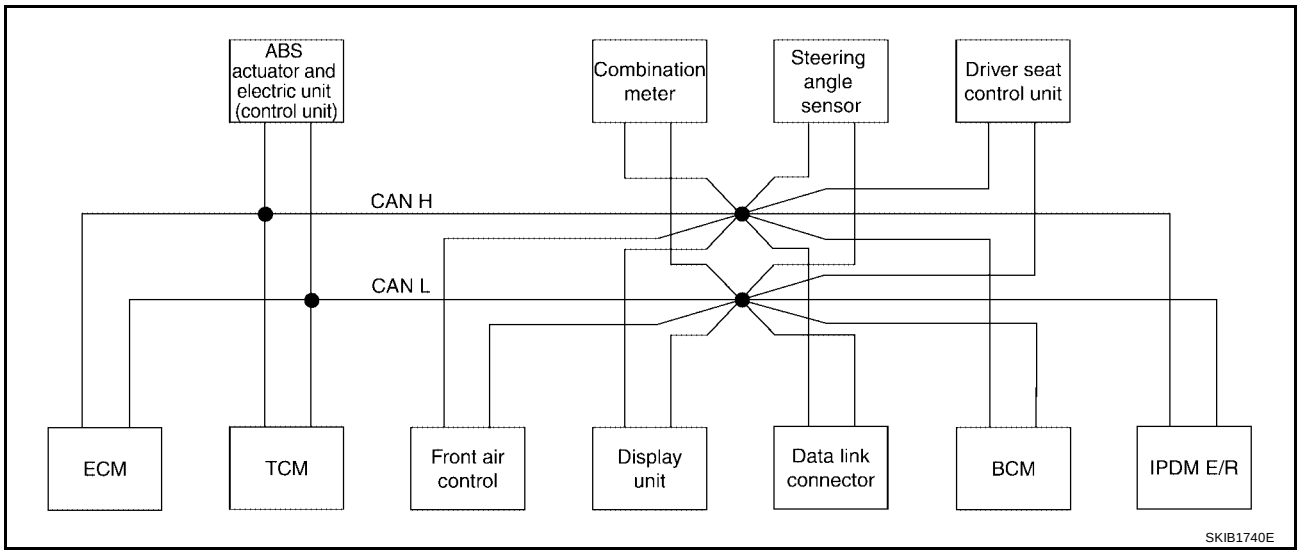
Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display control unit	Display unit	BCM	Combination meter	IPDM E/R
Engine speed signal	T	R	R	R	R	R		R	
Engine coolant temperature signal	T	R		R				R	
Ignition switch signal							T		R
Ignition power supply confirmation signal							R		T
ABS operation signal		R	T						
Fuel consumption monitor signal	T							R	
					R	R		T	
A/C switch signal	R			R			T		
A/C compressor request signal	T								R
Blower fan motor switch signal	R						T		
A/C switch/indicator signal				R	T	T			
				T	R	R			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal							T	R	R
Low beam request signal							T		R
Low beam status signal	R								T
High beam request signal							T	R	R
High beam status signal	R								T
Front fog light request signal							T		R
Vehicle speed signal			T	R				R	
	R	R			R	R	R	T	
Sleep wake up signal							T	R	R
IPDM E/R wake up sleep request signal							R		T
IPDM E/R refuse to sleep signal							R		T
BCM wake up request signal							R		T
Door switch signal					R	R	T	R	R
Turn indicator signal							T	R	
Cornering lamp request signal							T		R
Oil pressure switch signal								R	T
Buzzer output signal							T	R	
Fuel level sensor signal	R							T	
ASCD SET indicator signal	T							R	
ASCD CRUISE indicator signal	T							R	
Malfunction indicator lamp signal	T							R	
Front wiper request signal							T		R
Front wiper stop position signal							R		T

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display control unit	Display unit	BCM	Combi-nation meter	IPDM E/R
Rear window defogger switch signal				R	R	R	T		R
Rear window defogger control signal	R								T
Horn chirp signal							T		R
ABS warning lamp signal			T					R	
Brake warning lamp signal			T					R	
System setting signal					T	T	R		
					R	R	T		
Distance to empty signal					R	R		T	
A/T self-diagnosis signal	R	T							
Engine and A/T integrated control signal	T	R							
	R	T							
Accelerator pedal position signal	T	R	R						
P range signal		T	R						
Stop lamp switch signal		R						T	
TCS operation signal		R	T						
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
ASCD operation signal	T	R							
ASCD OD cancel request signal	T	R							
SLIP indicator lamp signal			T					R	
O/D OFF indicator lamp signal		T						R	
A/T position indicator lamp signal		T						R	
A/T shift schedule change demand signal		R	T						
Tire pressure signal							T	R	
Tire pressure data signal					R	R	T		
Seat belt buckle switch signal							R	T	

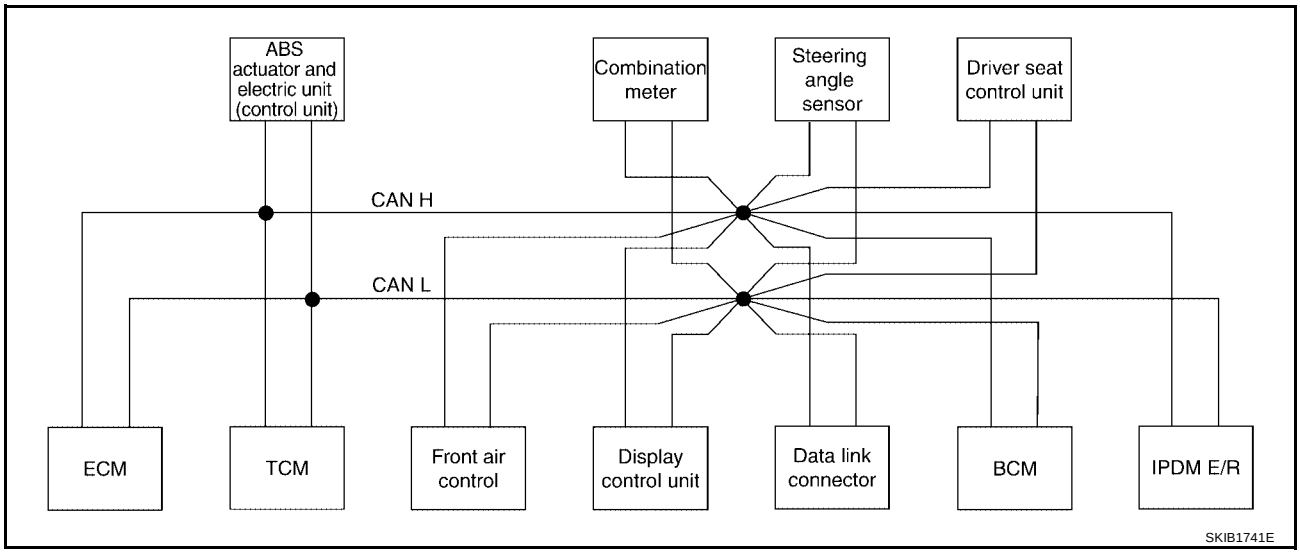
TYPE 4/TYPE 5

System diagram

- Type 4



- Type 5



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display control unit	Display unit	BCM	Combination meter	Steering angle sensor	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R	R	R	R		R			
Engine coolant temperature signal	T	R		R				R			
Key switch signal							T			R	
Ignition switch signal							T			R	R
Ignition power supply confirmation signal							R				T

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display control unit	Display unit	BCM	Combination meter	Steering angle sensor	Driver seat control unit	IPDM E/R
ABS operation signal		R	T								
Fuel consumption monitor signal	T							R			
					R	R		T			
A/C switch signal	R			R			T				
A/C compressor request signal	T										R
Blower fan motor switch signal	R						T				
A/C switch/indicator signal				R	T	T					
				T	R	R					
Cooling fan speed request signal	T										R
Cooling fan speed signal	R										T
Position light request signal							T	R			R
Low beam request signal							T				R
Low beam status signal	R										T
High beam request signal							T	R			R
High beam status signal	R										T
Front fog light request signal							T				R
Vehicle speed signal			T	R				R			
	R	R			R	R	R	T		R	
Sleep wake up signal							T	R			R
IPDM E/R wake up sleep request signal							R				T
IPDM E/R refuse to sleep signal							R				T
BCM wake up request signal							R				T
Door switch signal					R	R	T	R		R	R
Turn indicator signal							T	R			
Cornering lamp request signal							T				R
Key fob ID signal							T			R	
Key fob door unlock signal							T			R	
Oil pressure switch signal								R			T
Buzzer output signal							T	R			
Fuel level sensor signal	R							T			
ASCD SET indicator signal	T							R			
ASCD CRUISE indicator signal	T							R			
Malfunction indicator lamp signal	T							R			
Front wiper request signal							T				R
Front wiper stop position signal							R				T
Rear window defogger switch signal				R	R	R	T				R

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Front air control	Display control unit	Display unit	BCM	Combination meter	Steering angle sensor	Driver seat control unit	IPDM E/R
Rear window defogger control signal	R										T
Horn chirp signal							T				R
ABS warning lamp signal			T					R			
Brake warning lamp signal			T					R			
System setting signal					T	T	R			R	
					R	R	T			T	
Distance to empty signal					R	R		T			
A/T self-diagnosis signal	R	T									
Engine and A/T integrated control signal	T	R									
	R	T									
Accelerator pedal position signal	T	R	R								
P range signal		T	R							R	
R range signal		T								R	
Stop lamp switch signal		R						T			
VDC operation signal		R	T								
Input shaft revolution signal	R	T									
Output shaft revolution signal	R	T									
ASCD operation signal	T	R									
ASCD OD cancel request signal	T	R									
Steering angle sensor signal			R						T		
SLIP indicator lamp signal			T					R			
O/D OFF indicator lamp signal		T						R			
A/T position indicator lamp signal		T						R			
A/T shift schedule change demand signal		R	T								
Tire pressure signal							T	R			
Tire pressure data signal					R	R	T				
Seat belt buckle switch signal							R	T			

CAN SYSTEM (TYPE 1)

PFP:23710

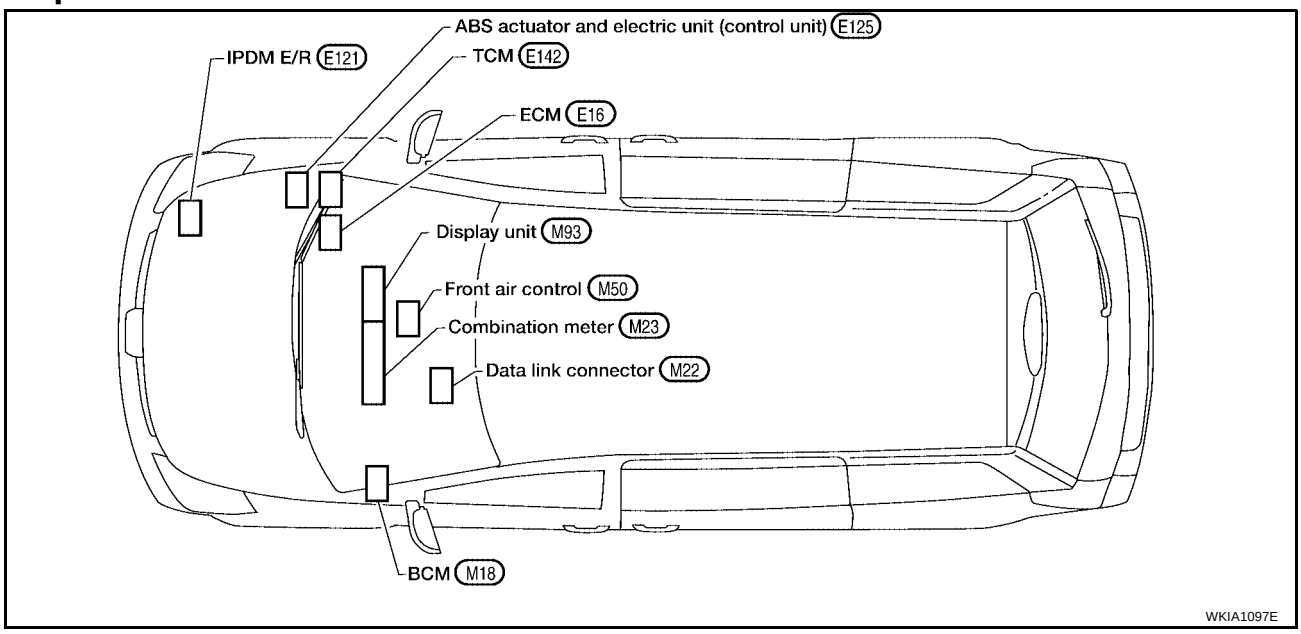
System Description

UKS002EI

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.

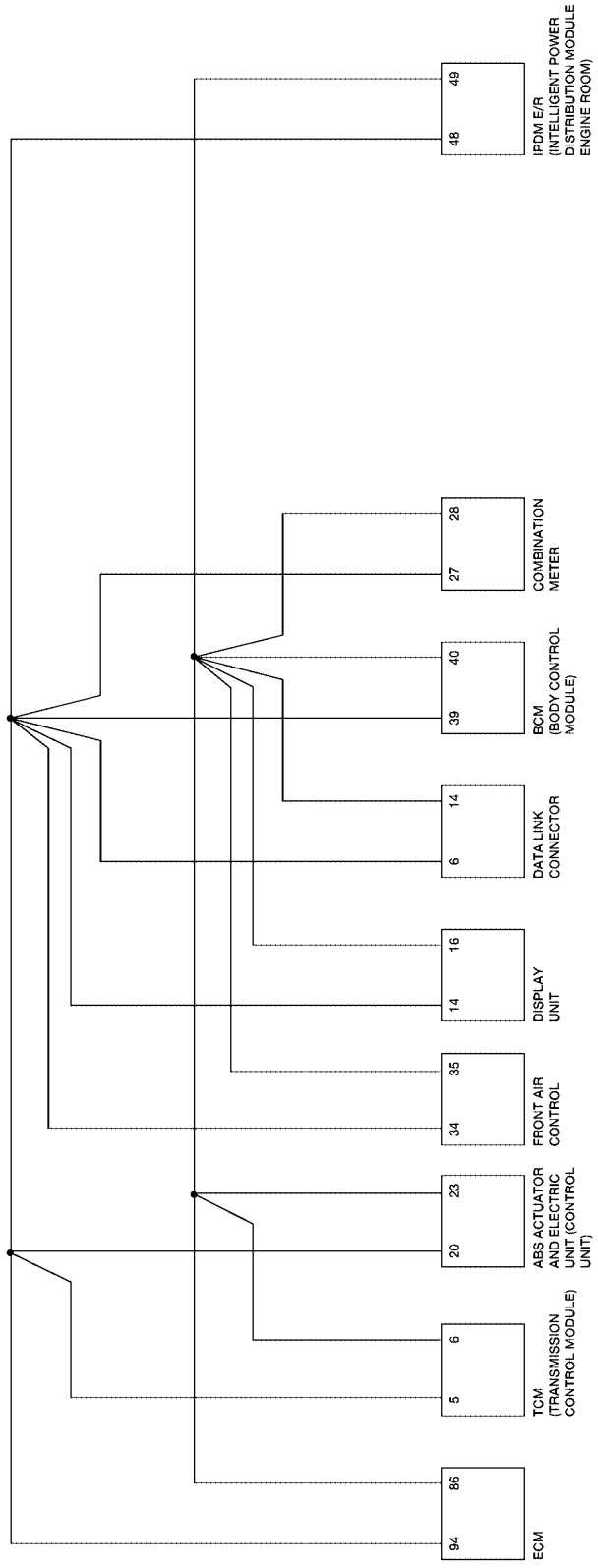
Component Parts and Harness Connector Location

UKS002EJ



Schematic

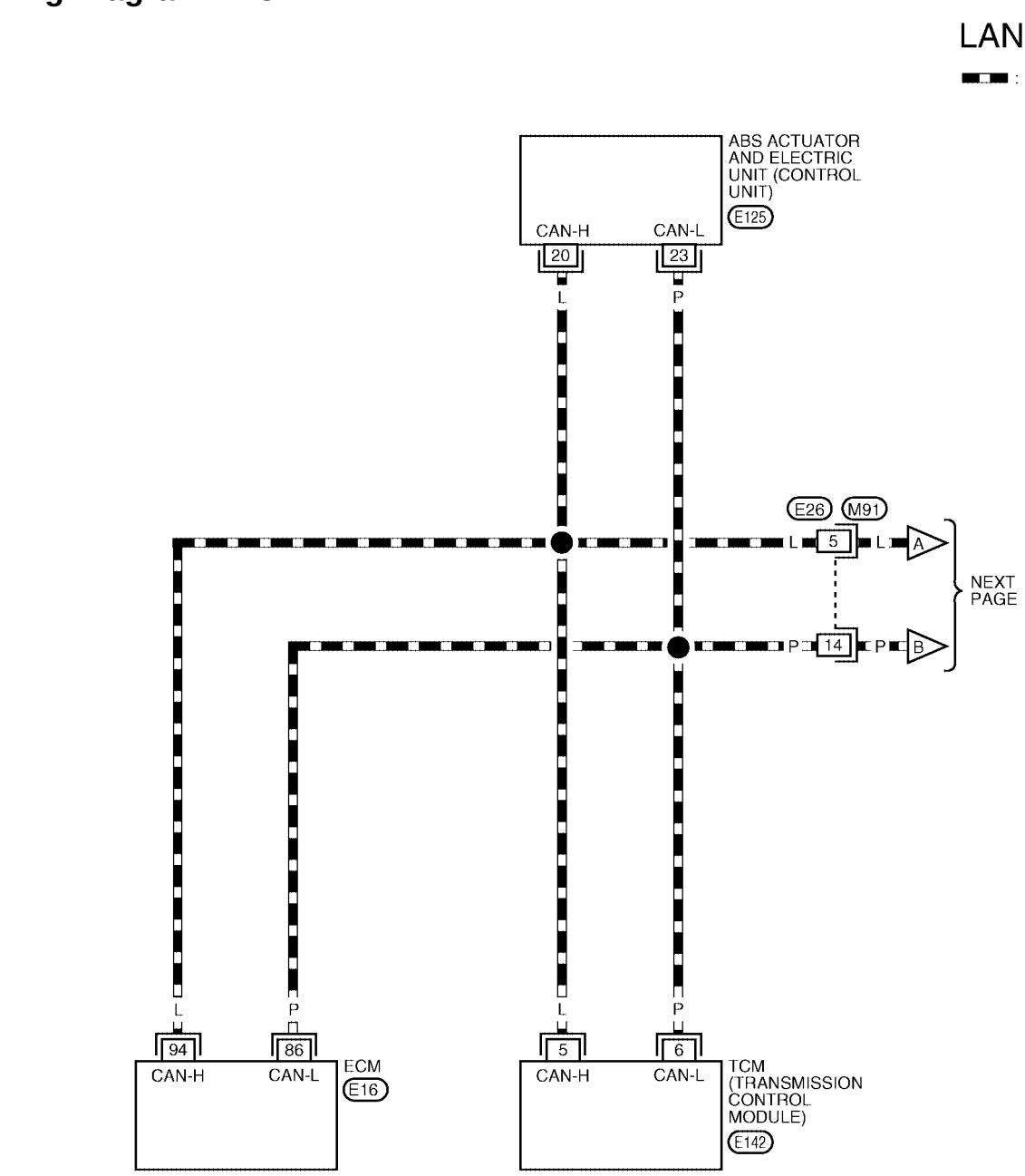
UKS002EK

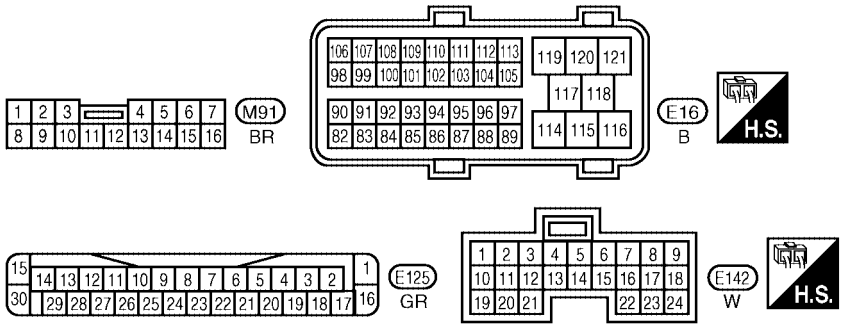


WKWA0599E

Wiring Diagram — CAN —

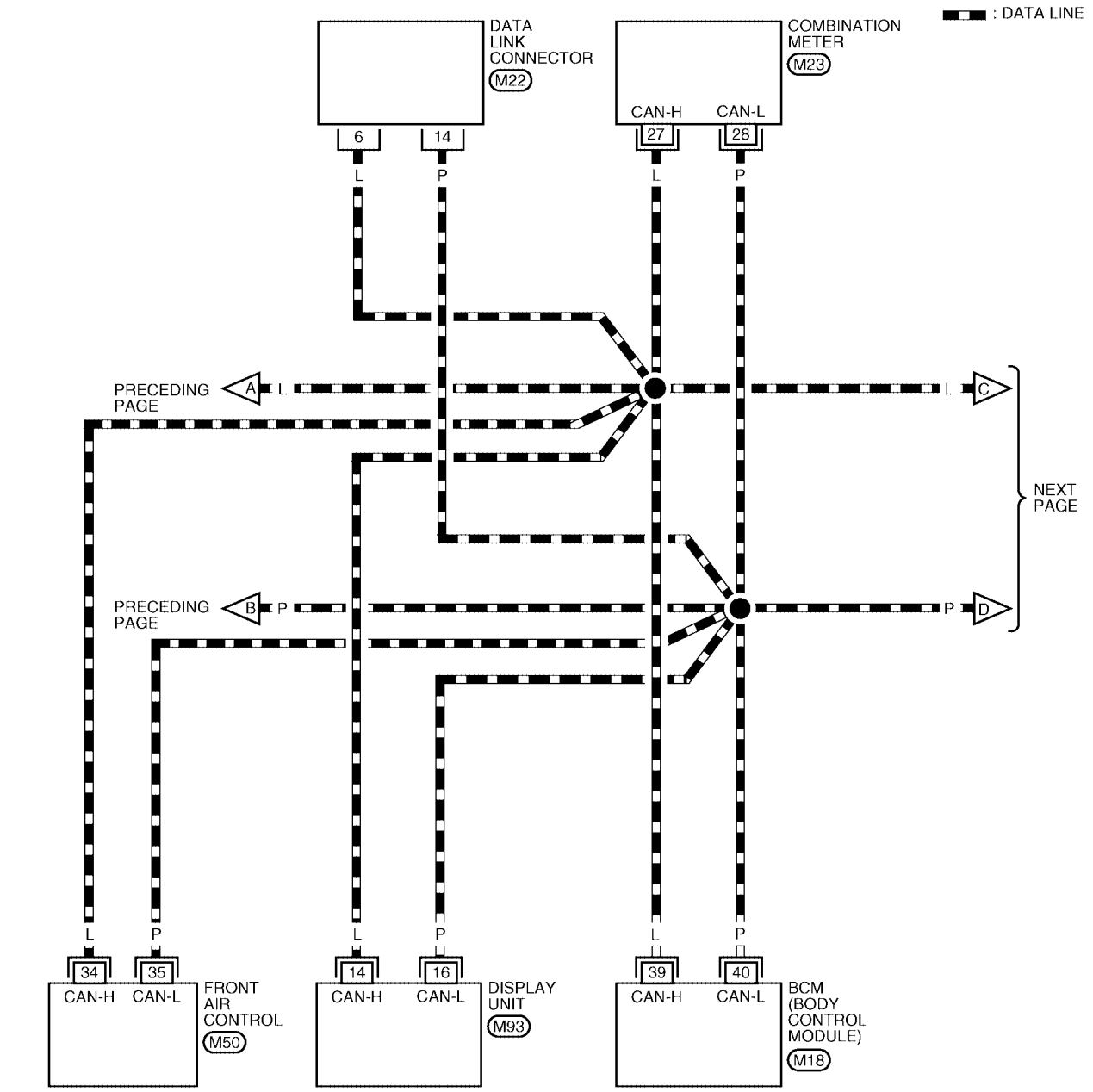
UKS002EL

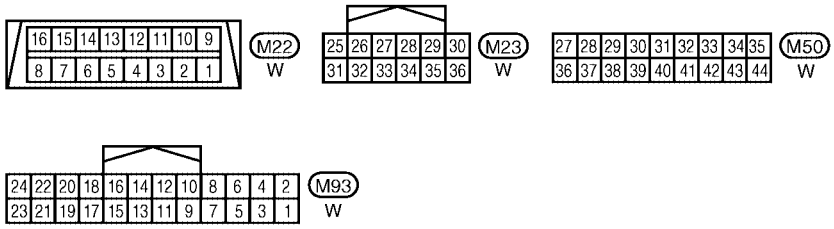




BKWA0332E

LAN-CAN-02

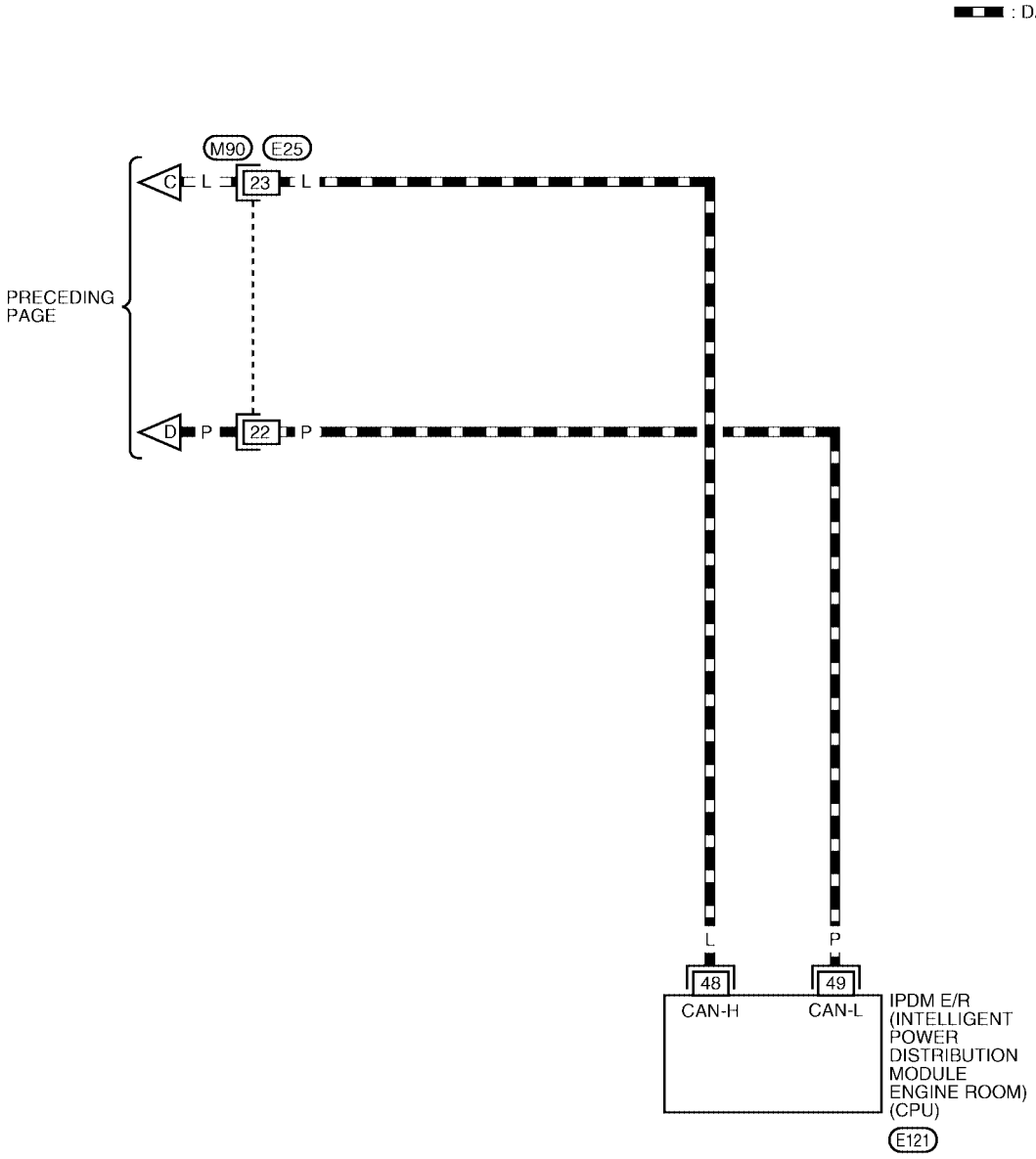


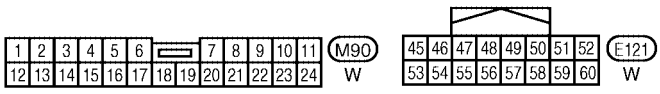


REFER TO THE FOLLOWING.
M18 - ELECTRICAL UNITS

BKWA0333E

LAN-CAN-03



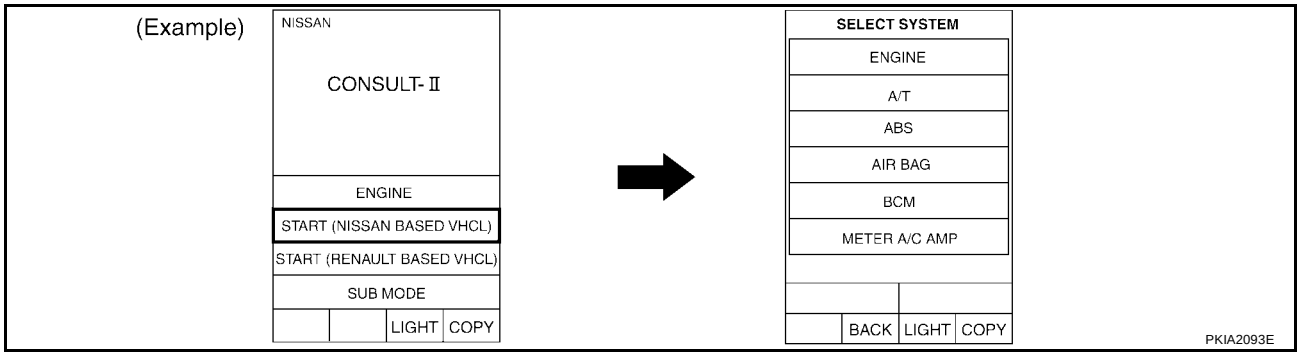


BKWA0334E

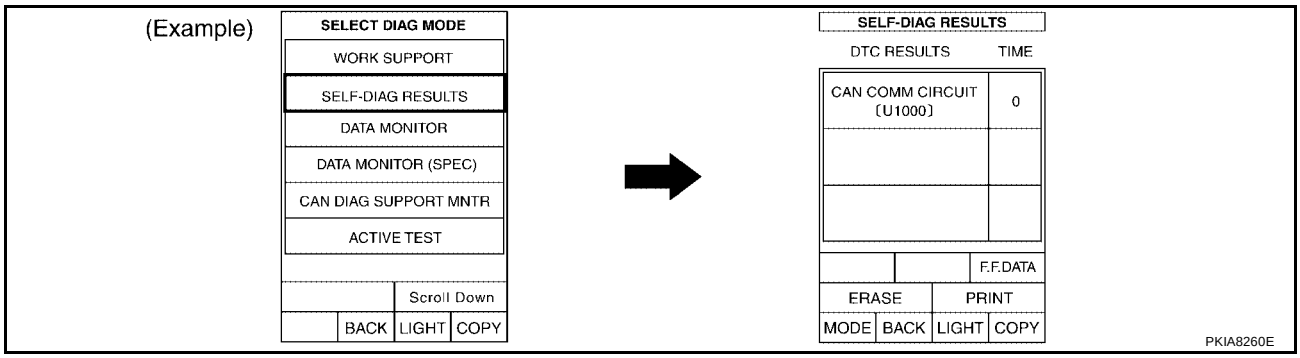
Work Flow

UKS002PL

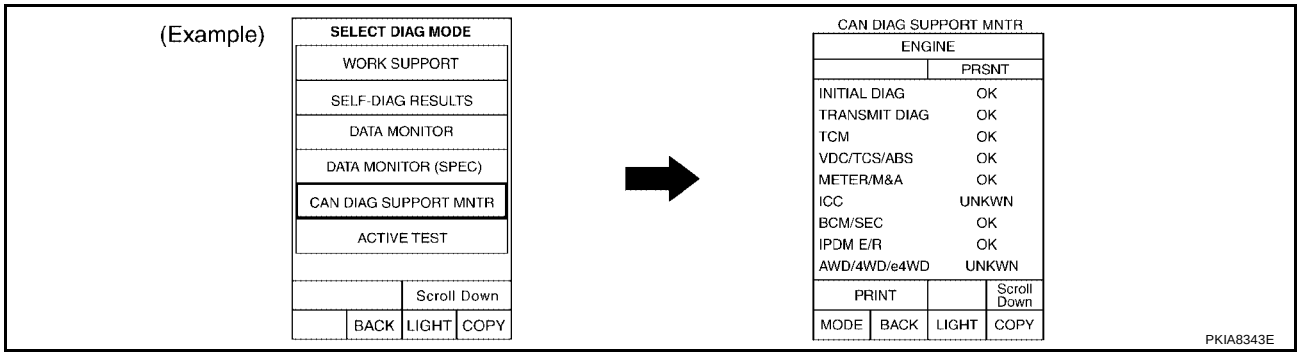
1. When there are no indications of “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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

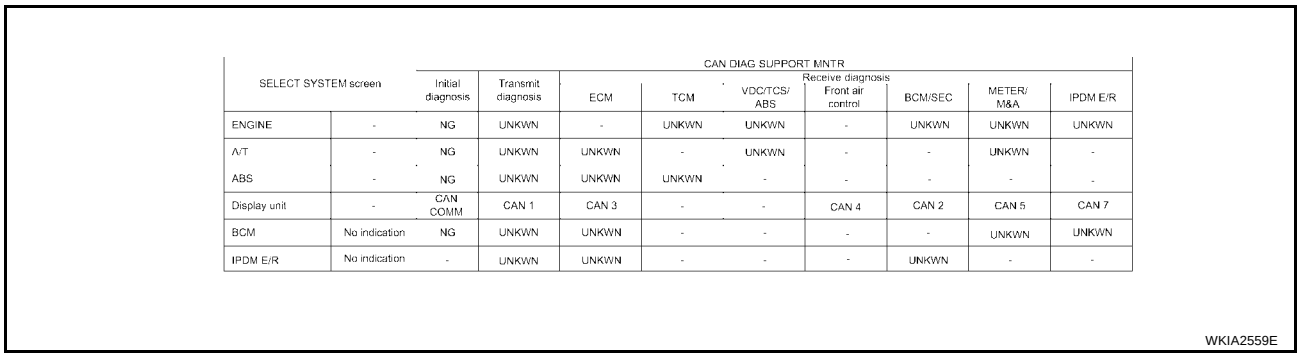


3. Print all the data of “CAN DIAG SUPPORT MNTR” for “ENGINE”, “A/T”, “ABS”, “BCM” and “IPDM E/R” displayed on CONSULT-II.



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet. Refer to LAN-22, "CHECK SHEET" .

5. Based on the indications of “SELECT SYSTEM” and the results of “CAN DIAG SUPPORT MNTR”, put marks onto the items with “No indication”, “NG” or “UNKWN” in the check sheet table.



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

WKIA2559E

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.
  Therefore, it is not necessary to check the status of the “CAN DIAG SUPPORT MNTR” items not in check sheet table.

6. Check CAN communication line of the integrated display system. Refer to AV-109, "AV Communication Line Check" .
7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-22, "CHECK SHEET" .
8. Mark the “NG” or “UNKWN” item of the check sheet table from the result of CAN DIAG MONITOR check sheet.

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG MNTR” for the diagnosed control unit, replace the control unit.
9. According to the Check Sheet Results, start inspection.

CHECK SHEET

NOTE:

If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” 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	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
A/T	-	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 4	CAN 2	CAN 5	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	UNKWN
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

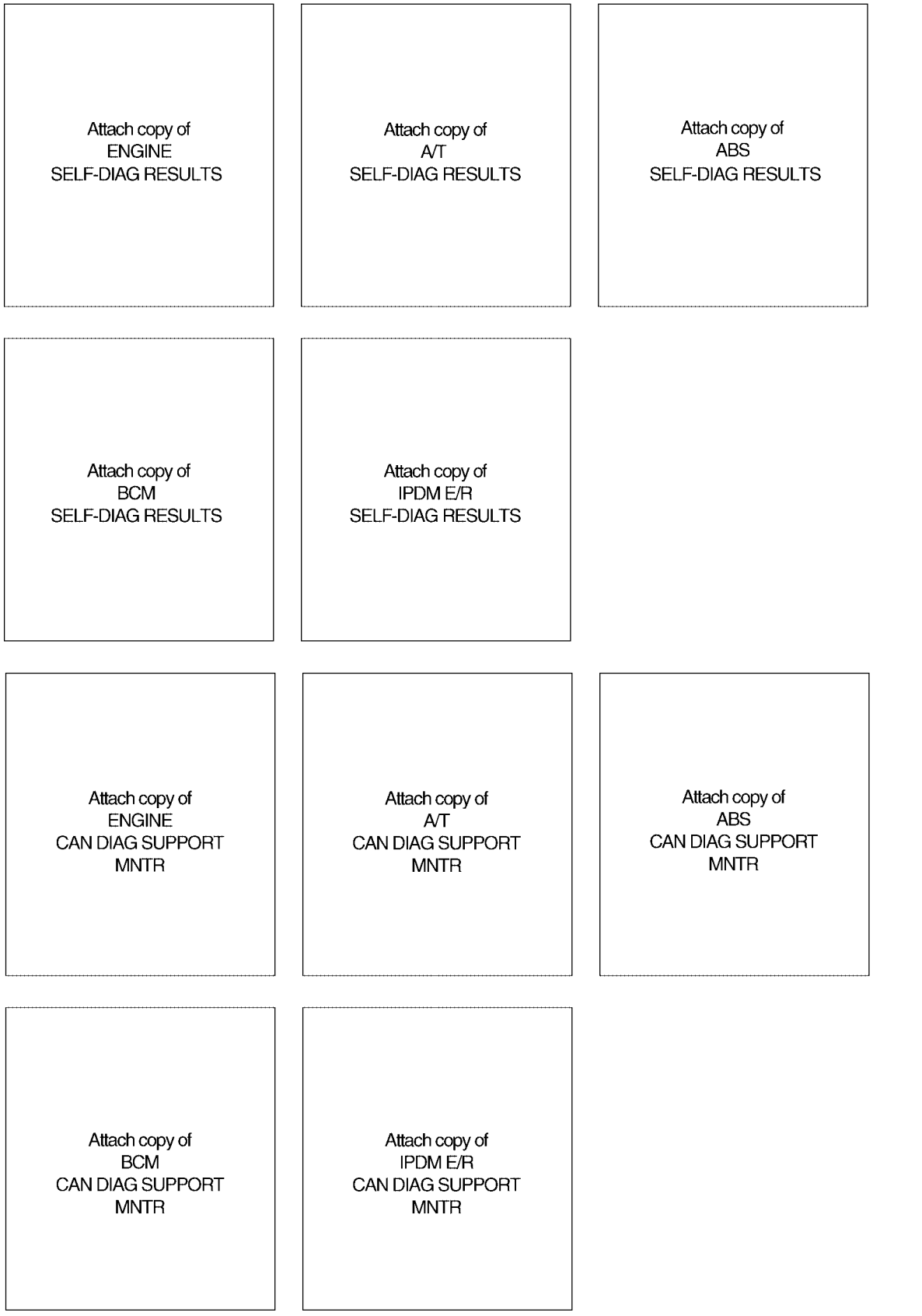
Symptoms:

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

SKIB2092E


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

SKIB2093E

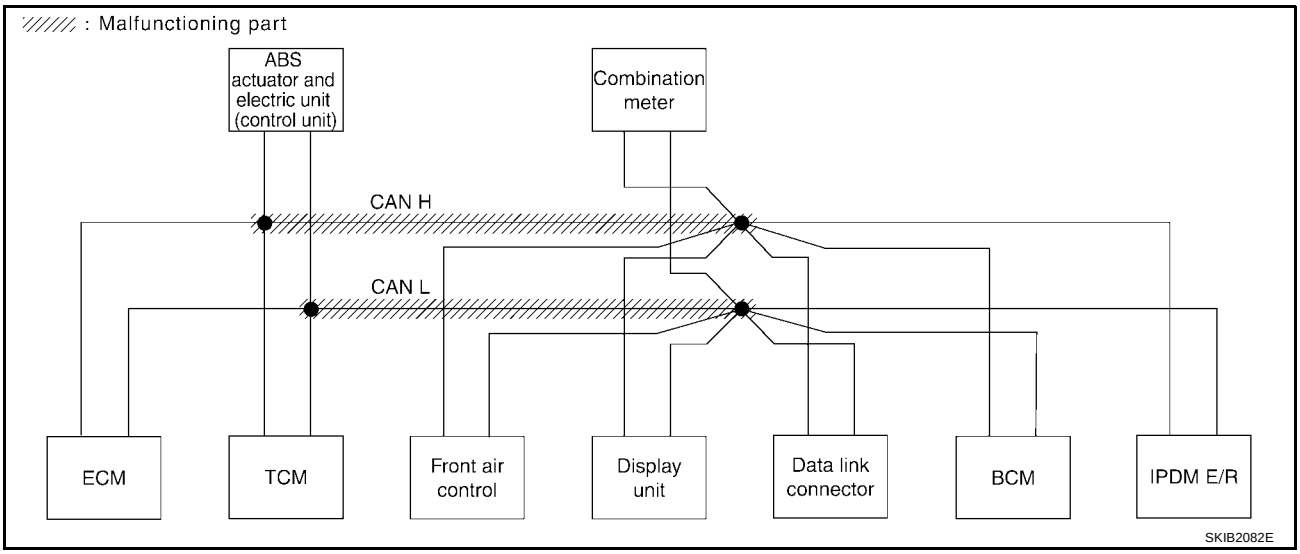
CHECK SHEET RESULTS

Case 1

Check harness between TCM and data link connector. Refer to LAN-35, "Circuit Check Between TCM and Data Link Connector" .

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

WKIA2576E

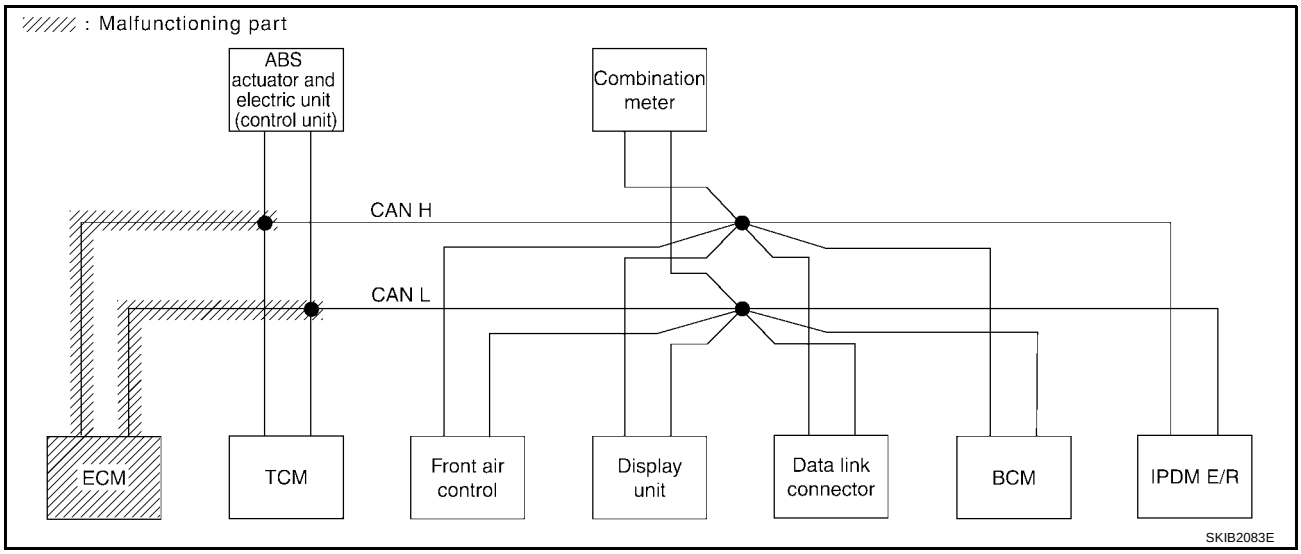


Case 2

Check ECM circuit. Refer to LAN-35, "ECM Circuit Check" .

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

WKIA2577E

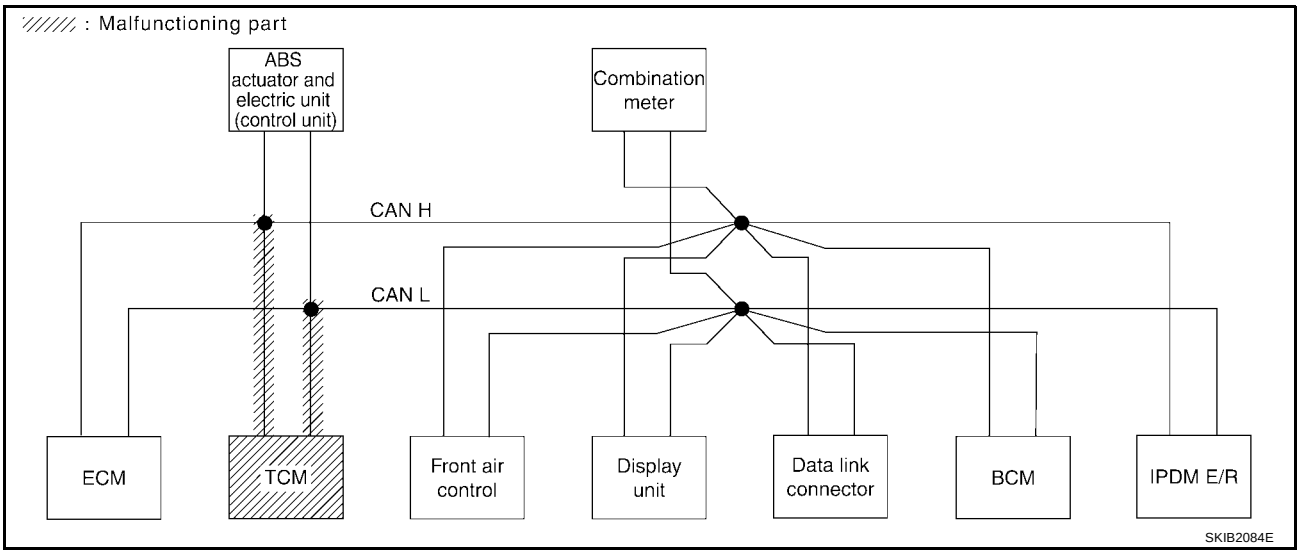


Case 3

Check TCM circuit. Refer to LAN-36, "TCM Circuit Check" .

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

WKIA2579E

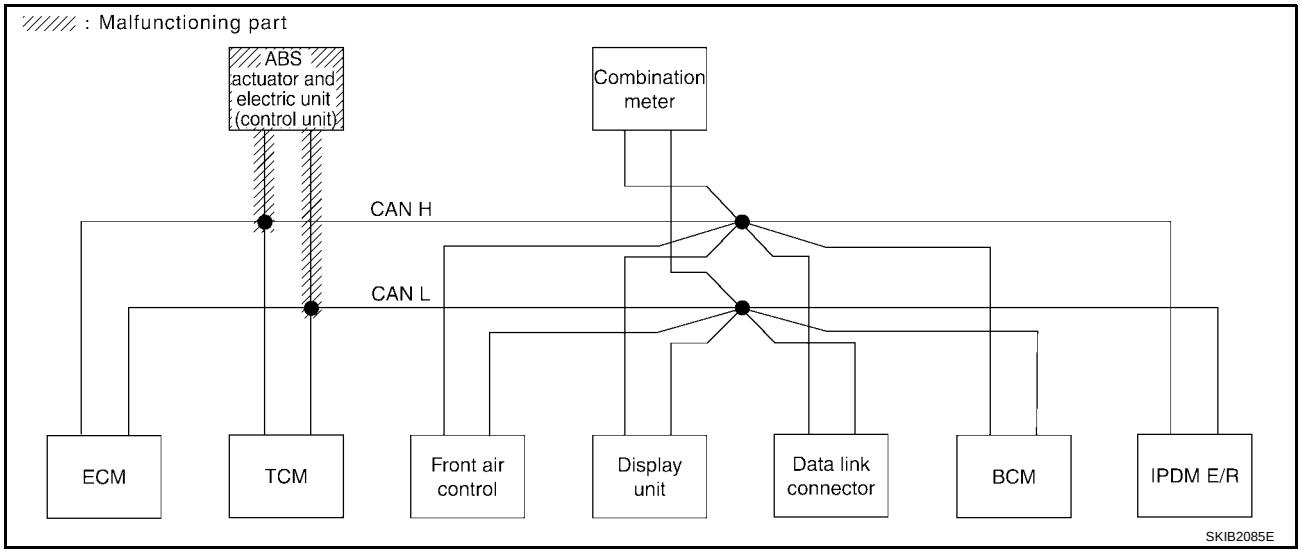


Case 4

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-36, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

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

SKIB2935E



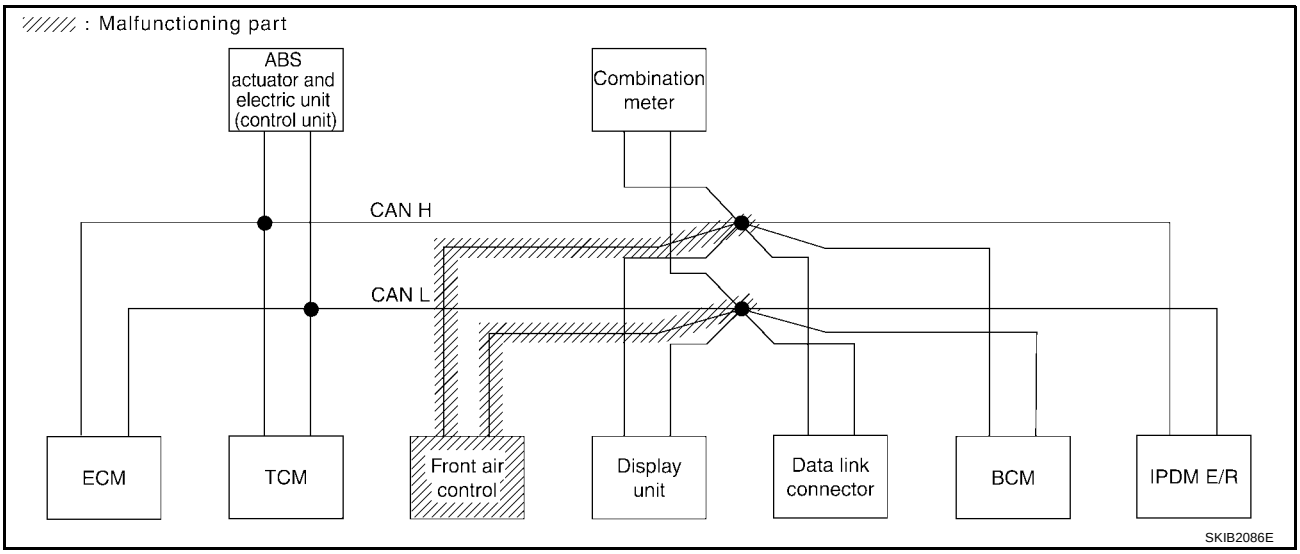
SKIB2085E

Case 5

Check front air control circuit. Refer to LAN-37, "Front Air Control Circuit Check" .

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

WKIA2584E

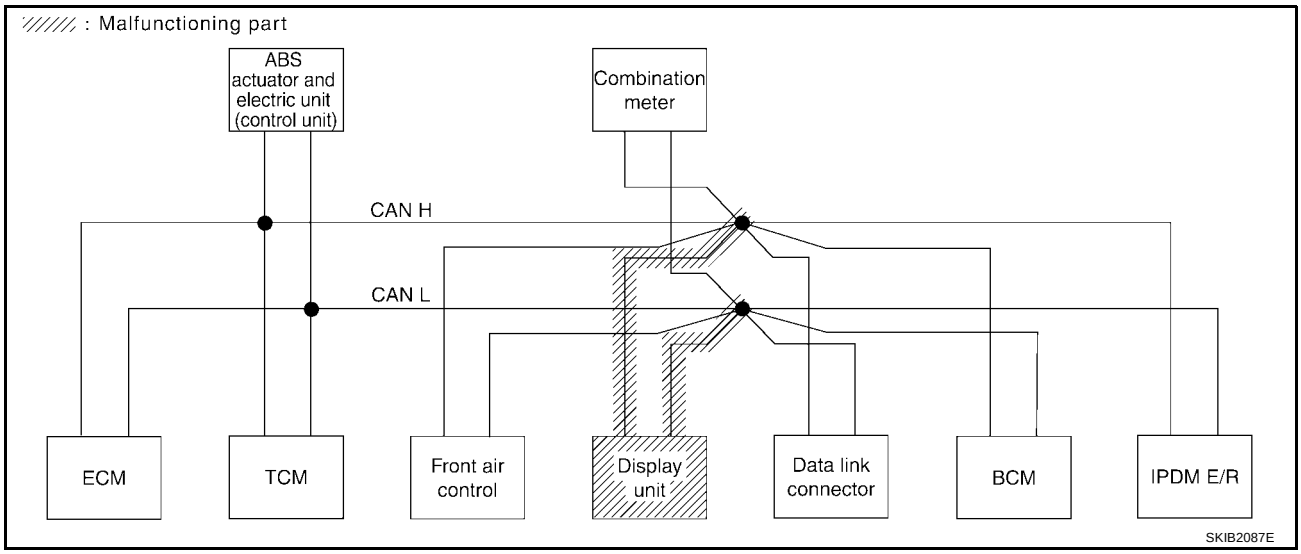


Case 6

Check display unit circuit. Refer to LAN-37, "Display Unit Circuit Check" .

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

WKIA2580E

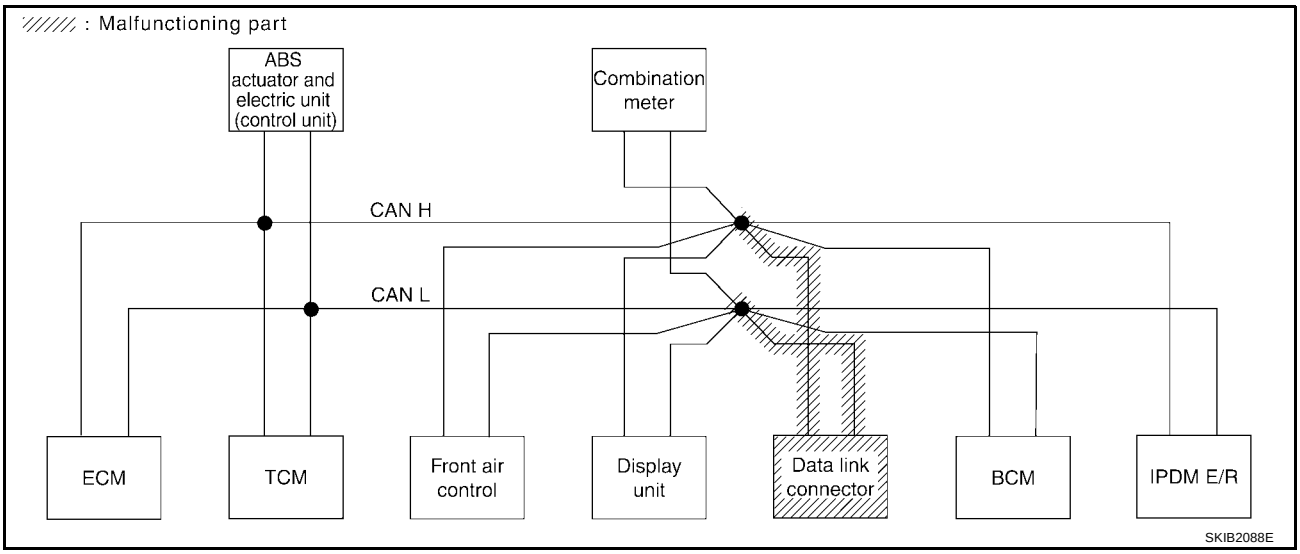


Case 7

Check data link connector circuit. Refer to LAN-38, "Data Link Connector Circuit Check" .

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

WKIA2581E

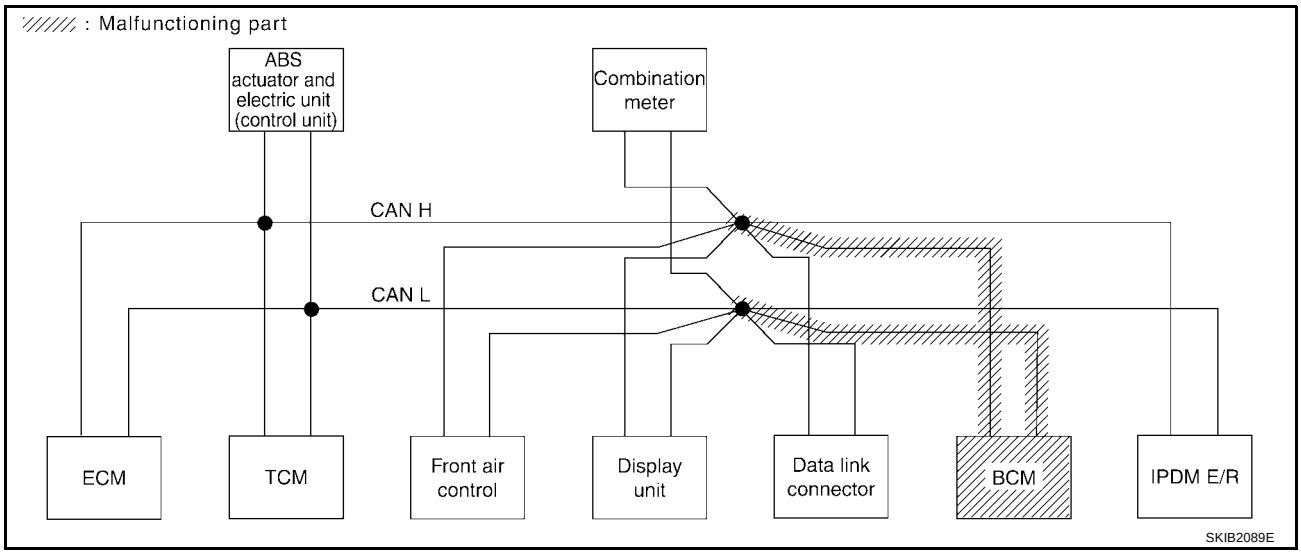


Case 8

Check BCM circuit. Refer to LAN-38, "BCM Circuit Check" .

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

WKIA2582E

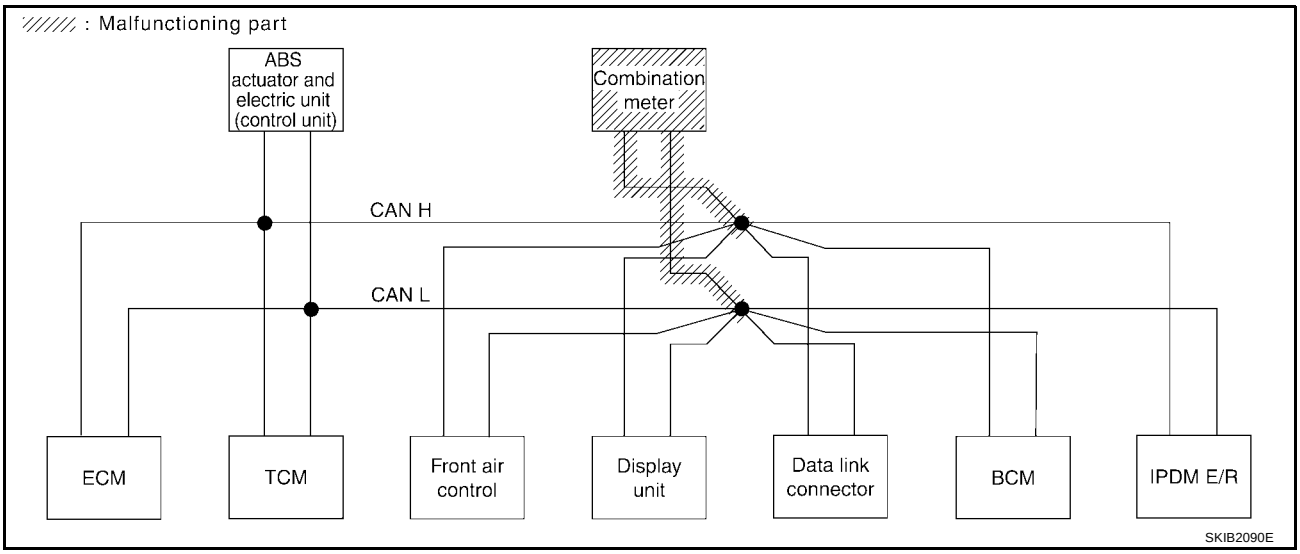


Case 9

Check combination meter circuit. Refer to LAN-39, "Combination Meter Circuit Check" .

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

WKIA2583E

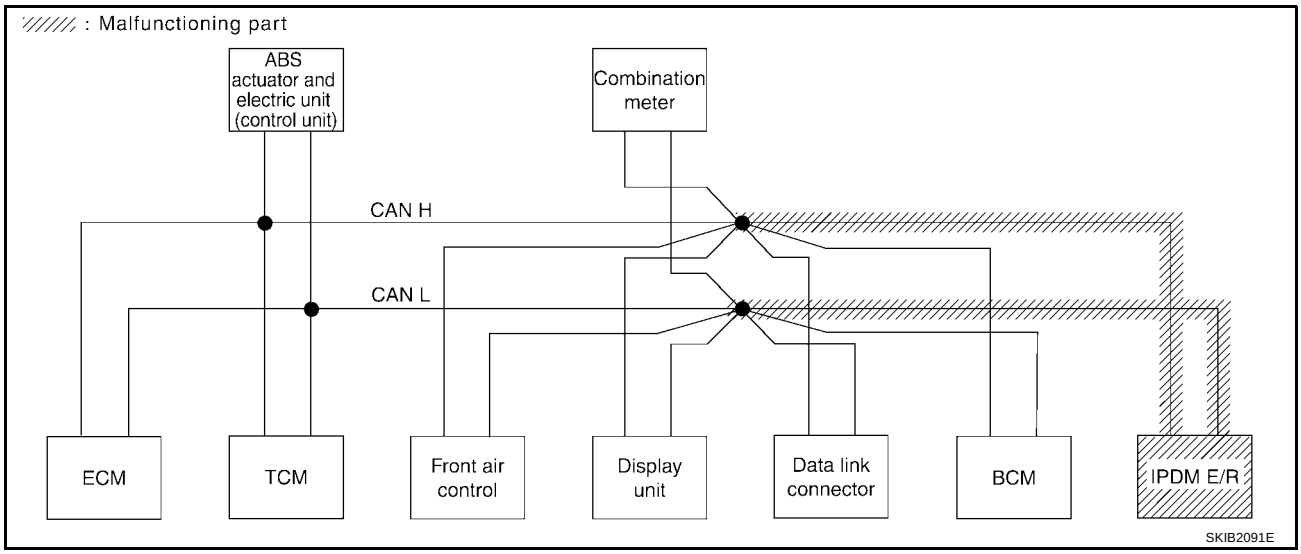


Case 10

Check IPDM E/R circuit. Refer to LAN-39, "IPDM E/R Circuit Check" .

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

WKIA2585E



SKIB2091E

Case 11

Check CAN communication circuit. Refer to LAN-40, "CAN Communication Circuit Check" .

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

SKIB2138E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to LAN-40, "IPDM E/R Ignition Relay Circuit Check" .

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

WKIA2587E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks “ON”. Refer to LAN-40, "IPDM E/R Ignition Relay Circuit Check" .

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

WKIA2588E

Circuit Check Between TCM and Data Link Connector

UKS002EN

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E142 and ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

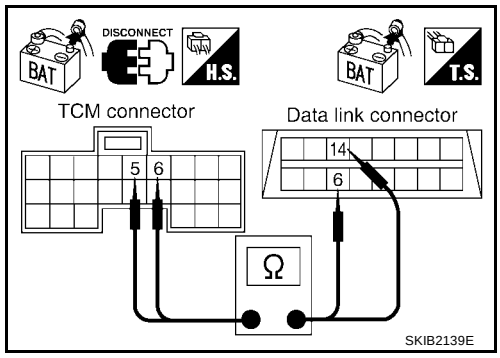
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector E142 terminals 5 (L), 6 (P) and data link connector M22 terminals 6 (L), 14 (P).

5 (L) - 6 (L) : Continuity should exist.
6 (P) - 14 (P) : Continuity should exist.



OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-20, "Work Flow" .
NG >> Repair harness.

ECM Circuit Check

UKS002PM

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

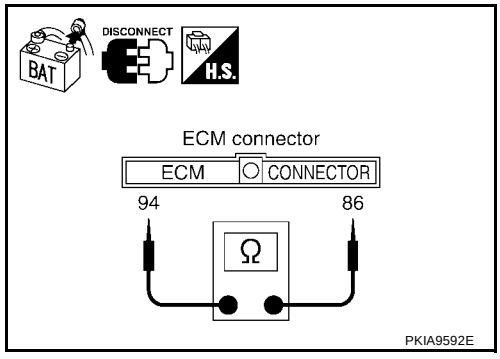
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector E16 terminal 94 (L) and terminal 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132 Ω



OK or NG

OK >> Replace ECM.
NG >> Repair harness between ECM connector E16 and TCM connector E142.

TCM Circuit Check

UKS002EQ

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E142.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

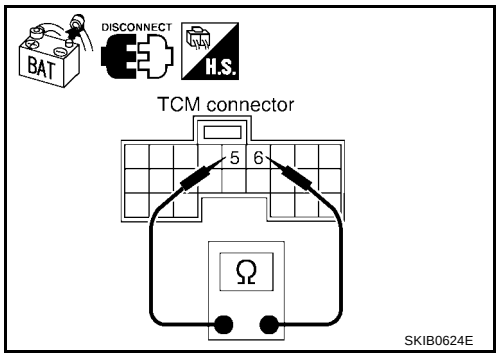
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector E142 terminal 5 (L) and terminal 6 (P).

5 (L) - 6 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.
NG >> Repair harness between TCM connector E142 and ECM connector E16.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS002PN

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ABS actuator and electric unit (control unit) connector E125.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

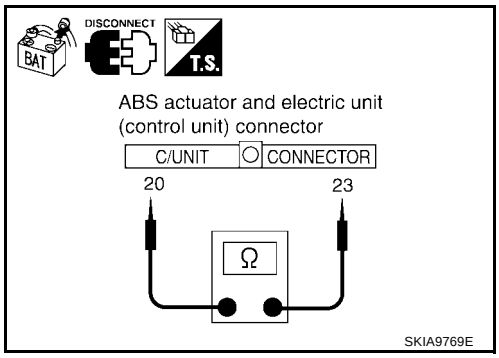
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (P).

20 (L) - 23 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).
NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and ECM connector E16.



Front Air Control Circuit Check

UKS002PO

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect front air control connector M50.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

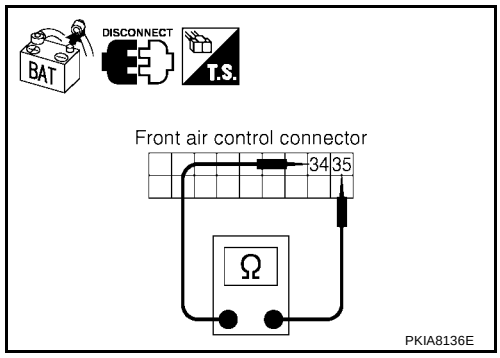
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between front air control connector M50 terminal 34 (L) and terminal 35 (P).

34 (L) - 35 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace front air control.
NG >> Repair harness between front air control connector M50 and data link connector M22.



Display Unit Circuit Check

UKS002PP

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect display unit connector M93.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

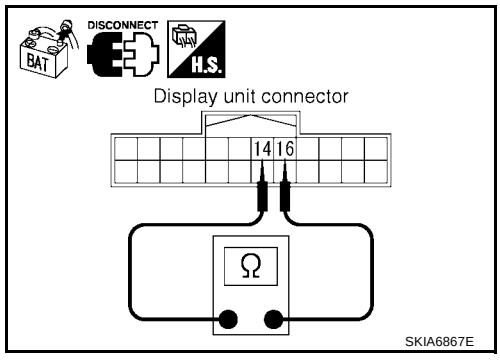
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 14 (L) and terminal 16 (P).

14 (L) - 16 (P) : Approx. 54 - 66Ω

OK or NG

OK >> Replace display unit.
NG >> Repair harness between display unit connector M93 and data link connector M22.



Data Link Connector Circuit Check

UKS002PQ

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

OK or NG

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

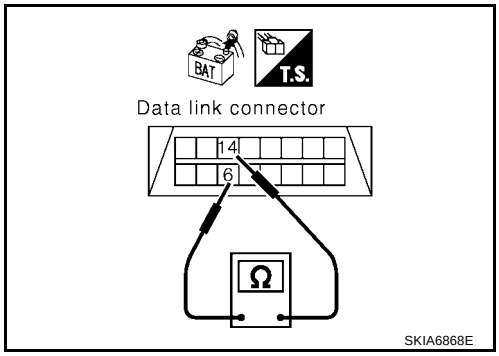
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (P).

6 (L) - 14 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-20, "Work Flow" .
NG >> Repair harness between data link connector M22 and BCM connector M18.



BCM Circuit Check

UKS002PR

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect BCM connector M18.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

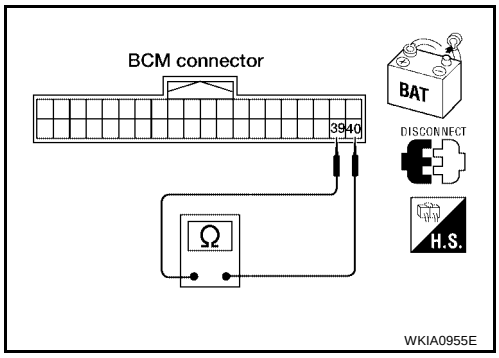
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (P).

39 (L) - 40 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM.
NG >> Repair harness between BCM connector M18 and data link connector M22.



Combination Meter Circuit Check

UKS002PS

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect combination meter connector M23.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

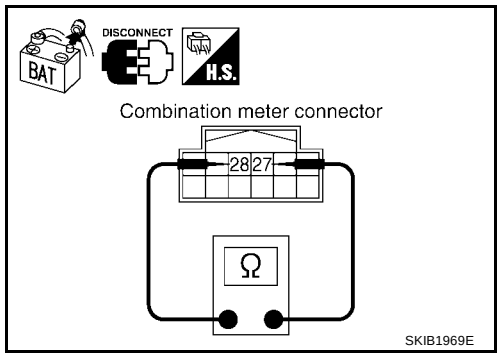
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between combination meter connector M23 terminal 27 (L) and terminal 28 (P).

27 (L) - 28 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.
NG >> Repair harness between combination meter connector M23 and data link connector M22.



IPDM E/R Circuit Check

UKS002PT

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect IPDM E/R connector E121.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

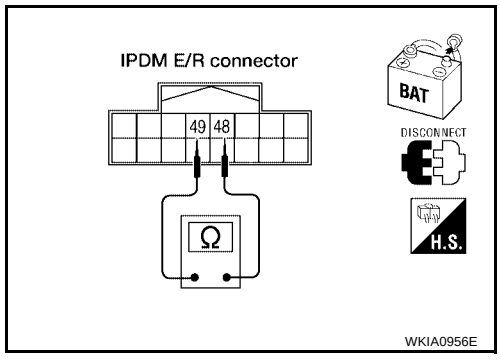
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (P).

48 (L) - 49 (P) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.
NG >> Repair harness between IPDM E/R connector E121 and data link connector M22.



CAN Communication Circuit Check

UKS002PU

1. CONNECTOR INSPECTION

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

- ECM
- TCM (Transmission control module)
- ABS actuator and electric unit (control unit)
- Front air control
- Display unit
- BCM (Body control module)
- Combination meter
- IPDM E/R (Intelligent power distribution module engine room)

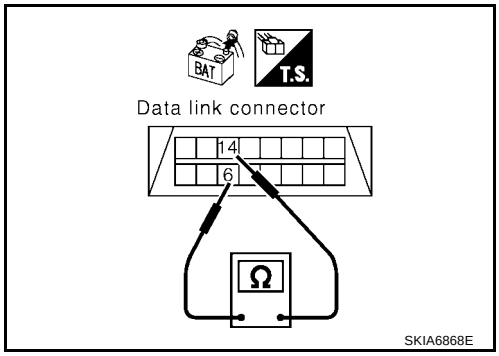
OK or NG

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

2. CHECK HARNESS FOR SHORTED CIRCUITS

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

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



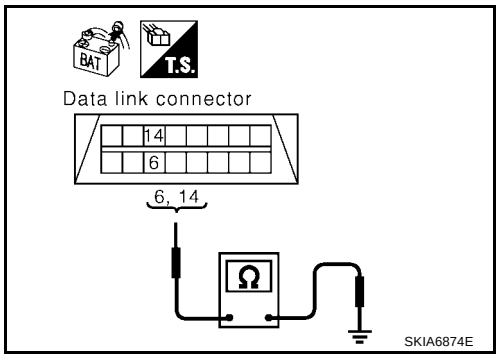
OK or NG

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

3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 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 >> Check ECM and IPDM E/R. Refer to LAN-41, "Component Inspection" .
NG >> Repair the harness.

IPDM E/R Ignition Relay Circuit Check

UKS002PV

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-12, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START" .

Component Inspection

UKS002PW

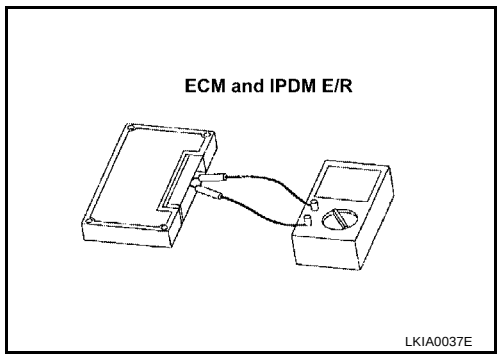
ECM AND IPDM E/R INTERNAL CIRCUIT INSPECTION

- Disconnect ECM and IPDM E/R harness connectors.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 Ω

- Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω



CAN SYSTEM (TYPE 2)

PFP:23710

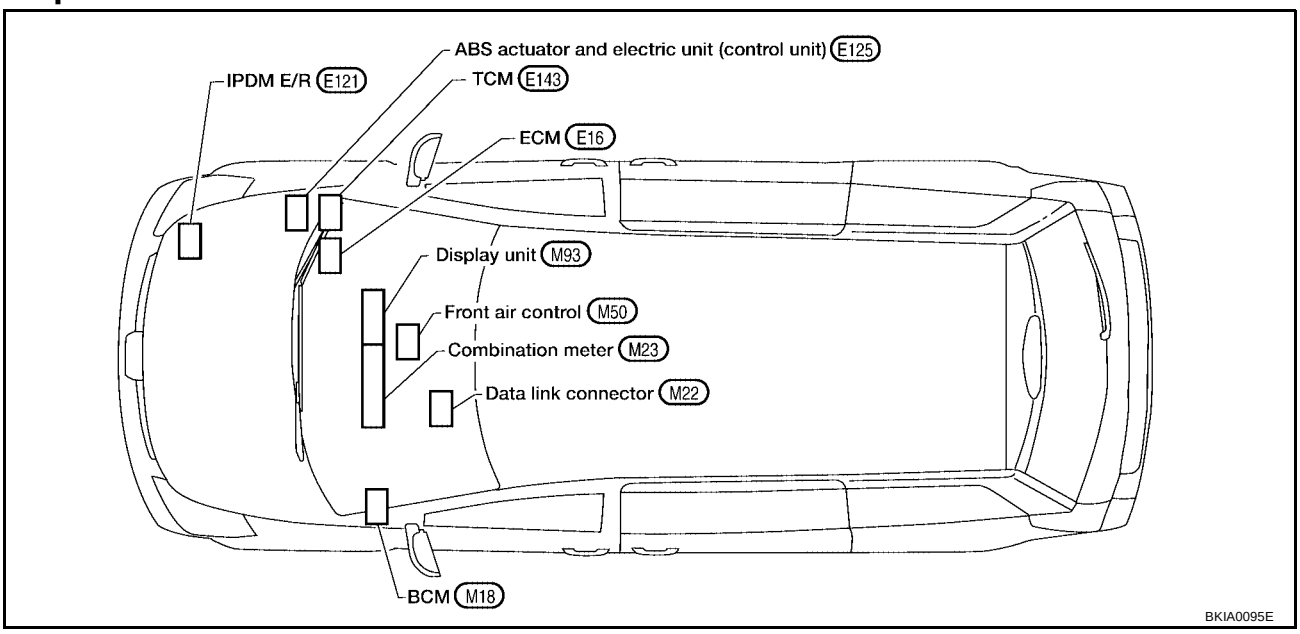
System Description

UKS002P2

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.

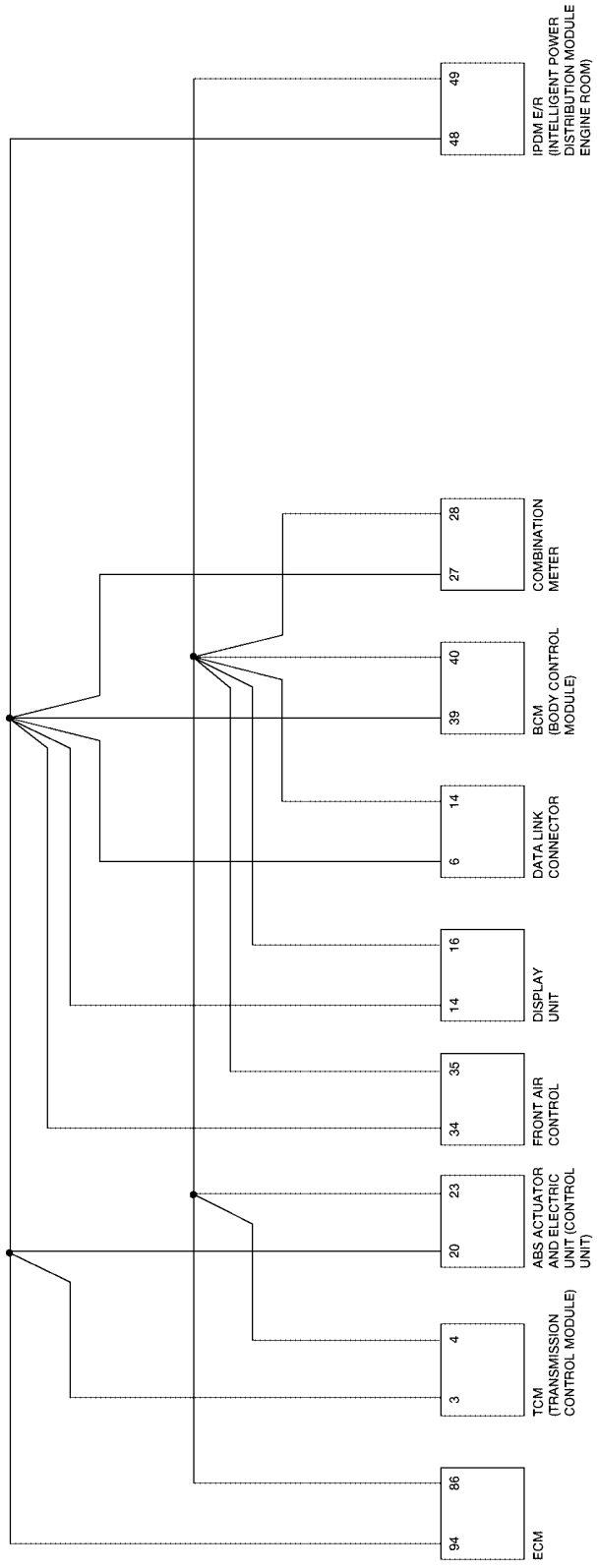
Component Parts and Harness Connector Location

UKS002P3



Schematic

UKS002P4



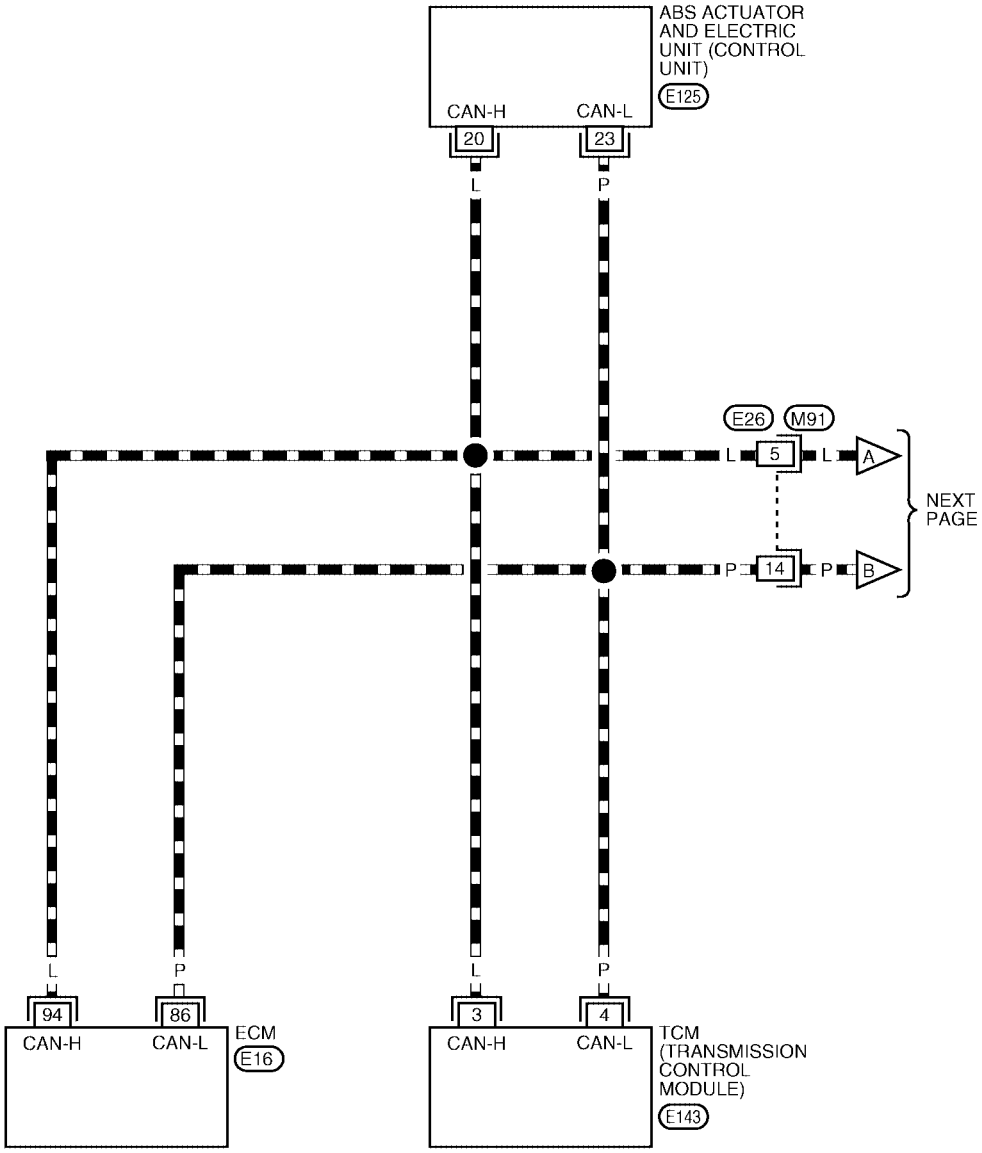
BKWA0349E

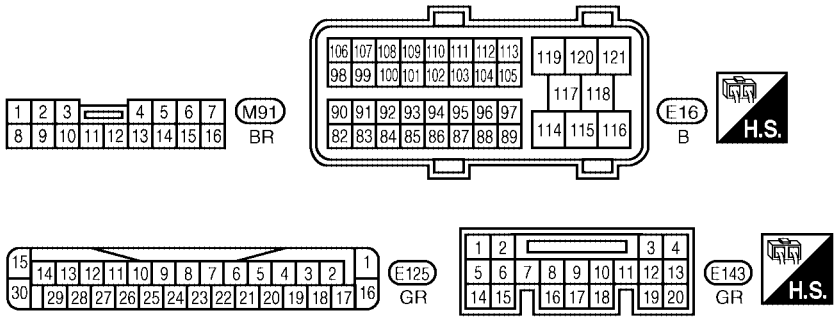
Wiring Diagram — CAN —

UKS002P5

LAN-CAN-04

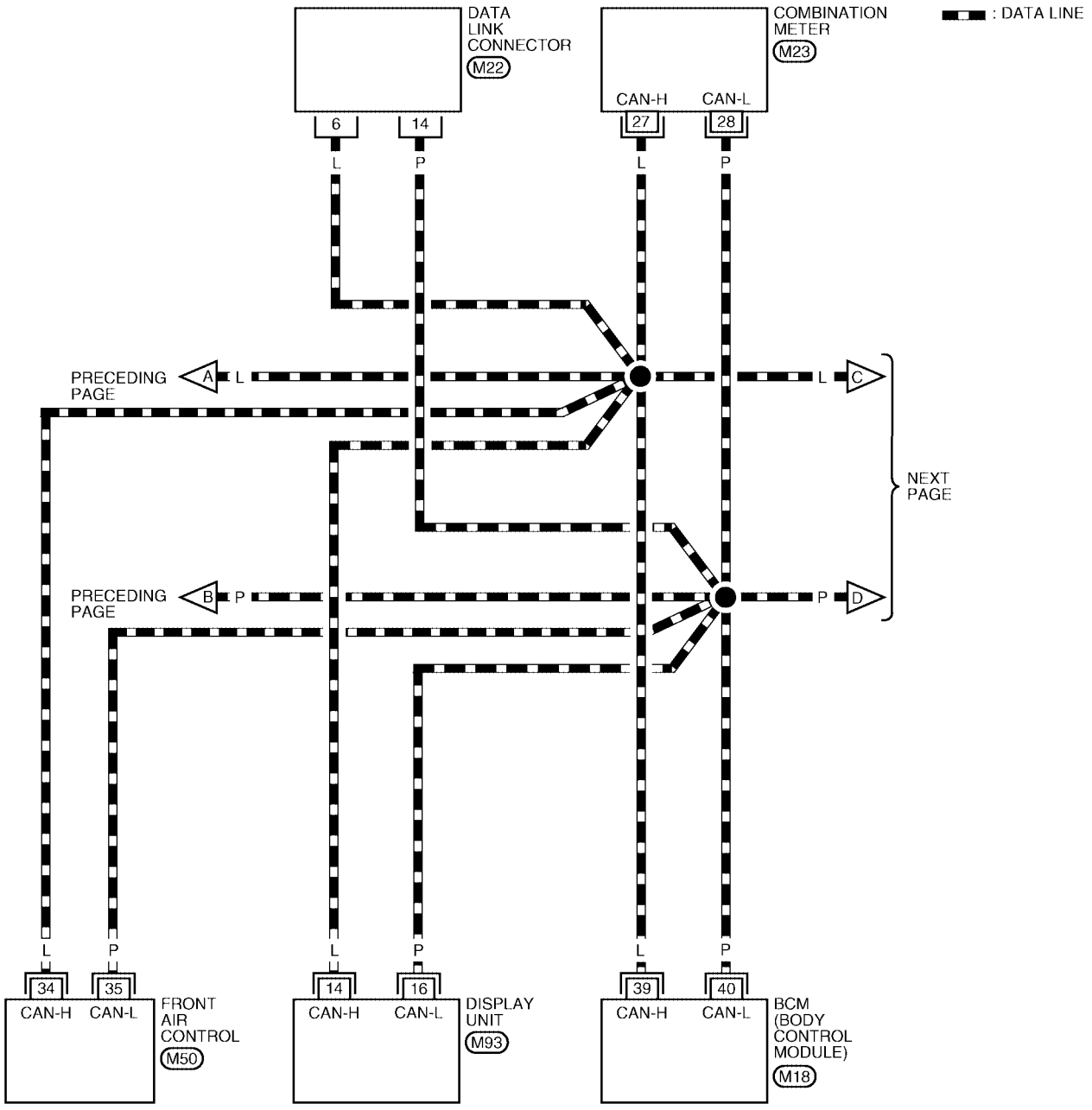
: DATA LINE

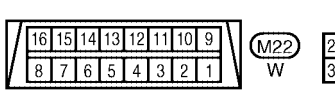


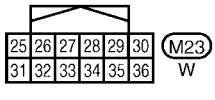


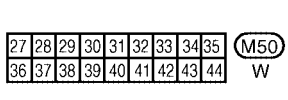
BKWA0350E

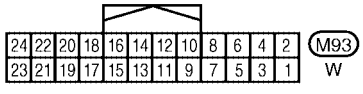
LAN-CAN-05







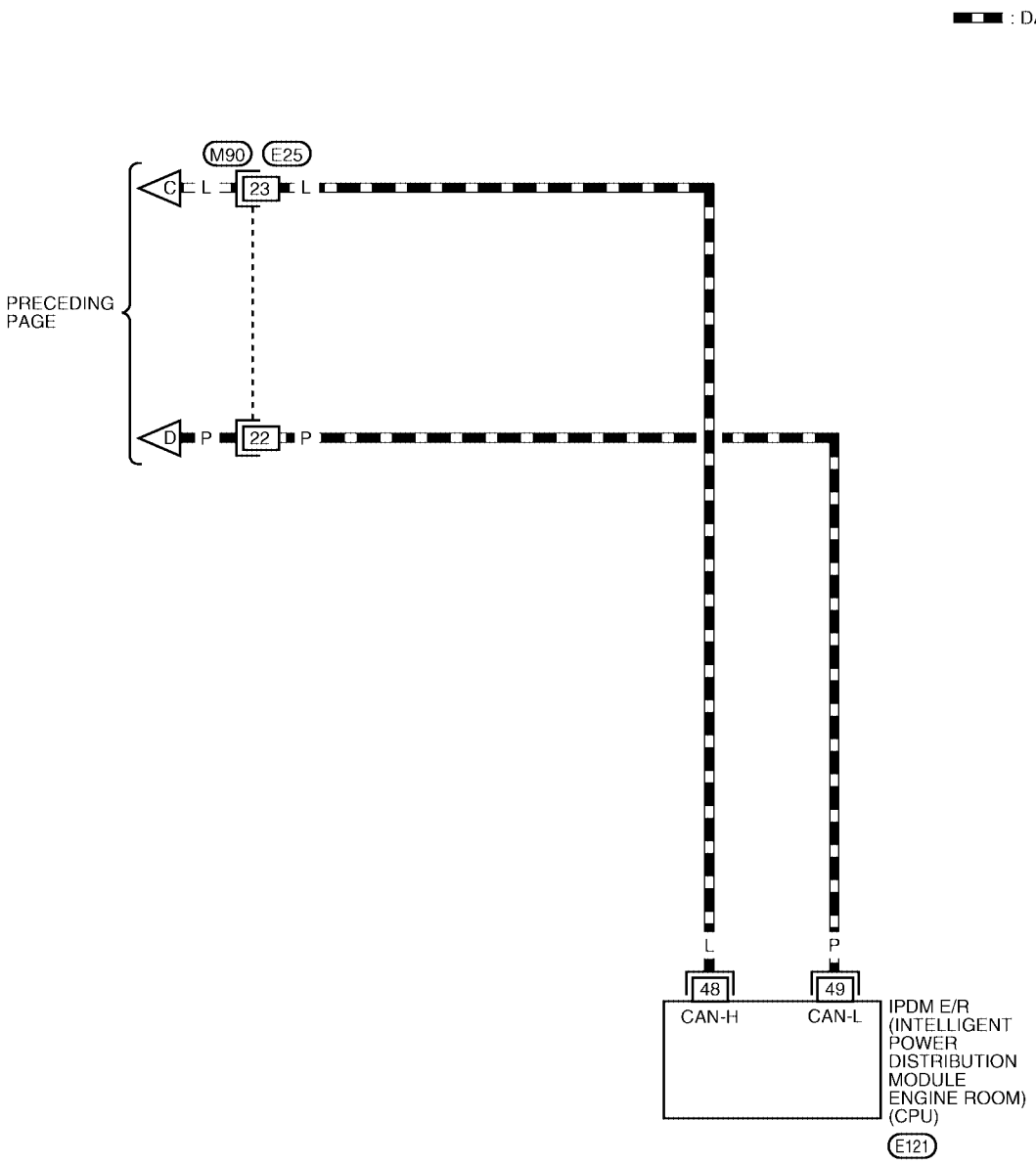


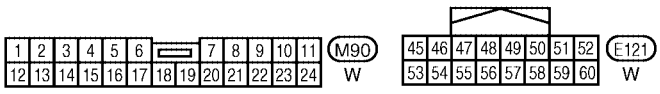


REFER TO THE FOLLOWING.
M18 - ELECTRICAL UNITS

BKWA0351E

LAN-CAN-06



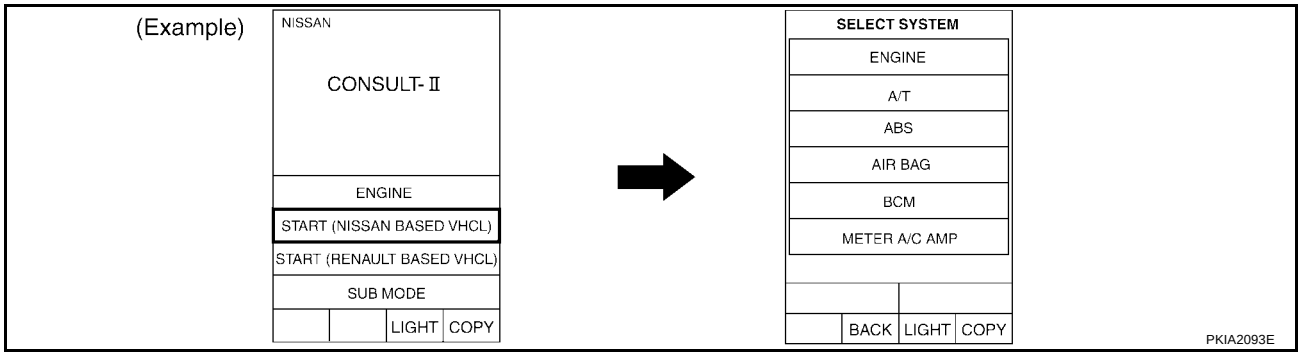


BKWA0352E

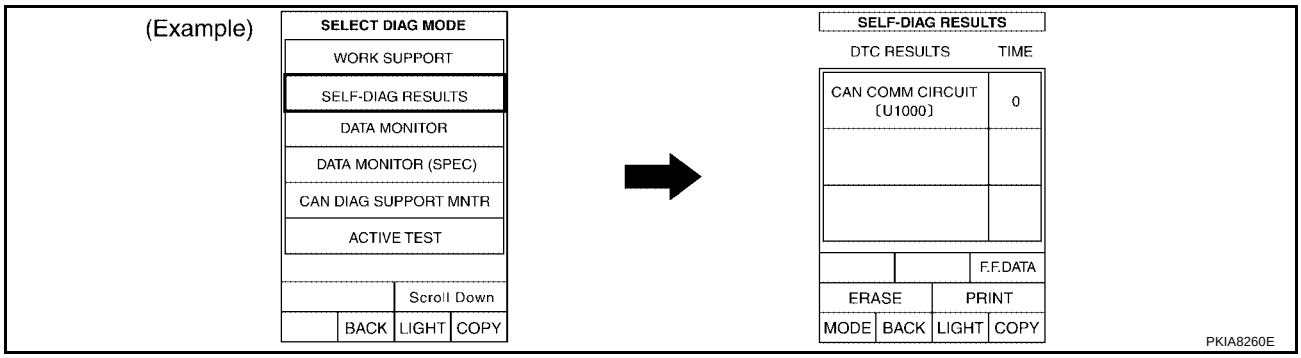
Work Flow

UKS002P7

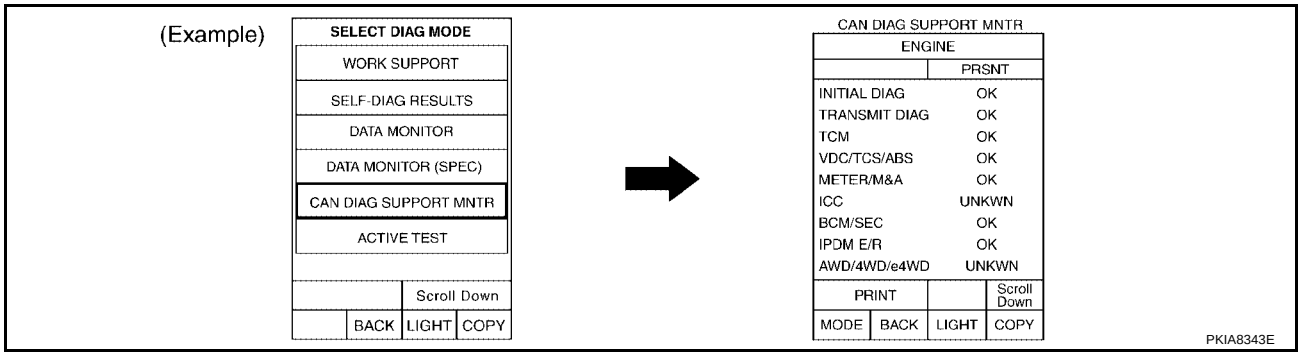
1. When there are no indications of “TRANSMISSION”, “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



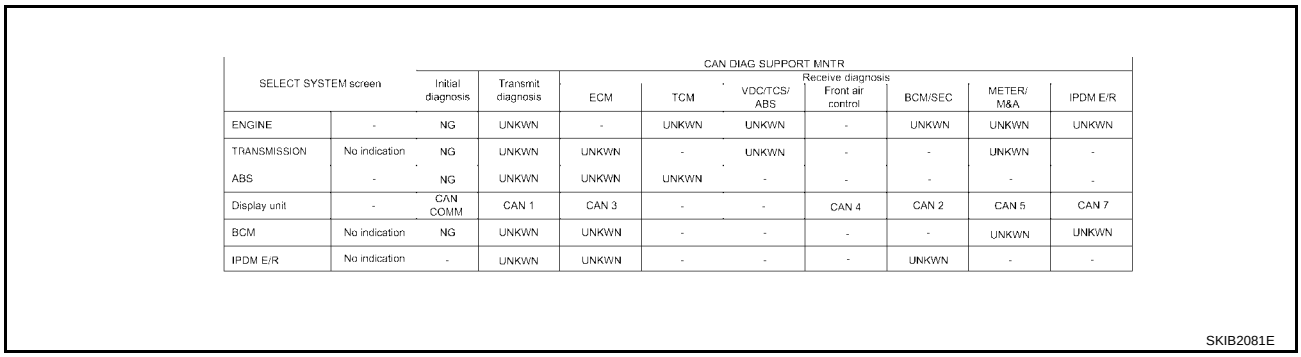
2. Print all the data of “SELF-DIAG RESULTS” for “ENGINE”, “TRANSMISSION”, “ABS”, “BCM” and “IPDM E/R” displayed on CONSULT-II.



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



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet.Refer to LAN-49, "CHECK SHEET" .
5. Based on the indications of “SELECT SYSTEM” and the results of “CAN DIAG SUPPORT MNTR”, put marks onto the items with “No indication”, “NG” or “UNKWN” in the check sheet table.



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

SKIB2081E

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.
  Therefore, it is not necessary to check the status of the “CAN DIAG SUPPORT MNTR” items not in check sheet table.

6. Check CAN communication line of the integrated display system. Refer to AV-109, "AV Communication Line Check" .
7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-49, "CHECK SHEET" .
8. Mark the “NG” or “UNKWN” item of the check sheet table from the result of CAN DIAG MONITOR check sheet.

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG MNTR” for the diagnosed control unit, replace the control unit.
9. According to the Check Sheet Results, start inspection.

CHECK SHEET

NOTE:

If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” 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	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 4	CAN 2	CAN 5	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	UNKWN
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

Symptoms:

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

SKIB2067E

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
TRANSMISSION
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
BCM
SELF-DIAG RESULTS

Attach copy of
IPDM E/R
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
TRANSMISSION
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

Attach copy of
BCM
CAN DIAG SUPPORT
MNTR

Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR

SKIB2041E

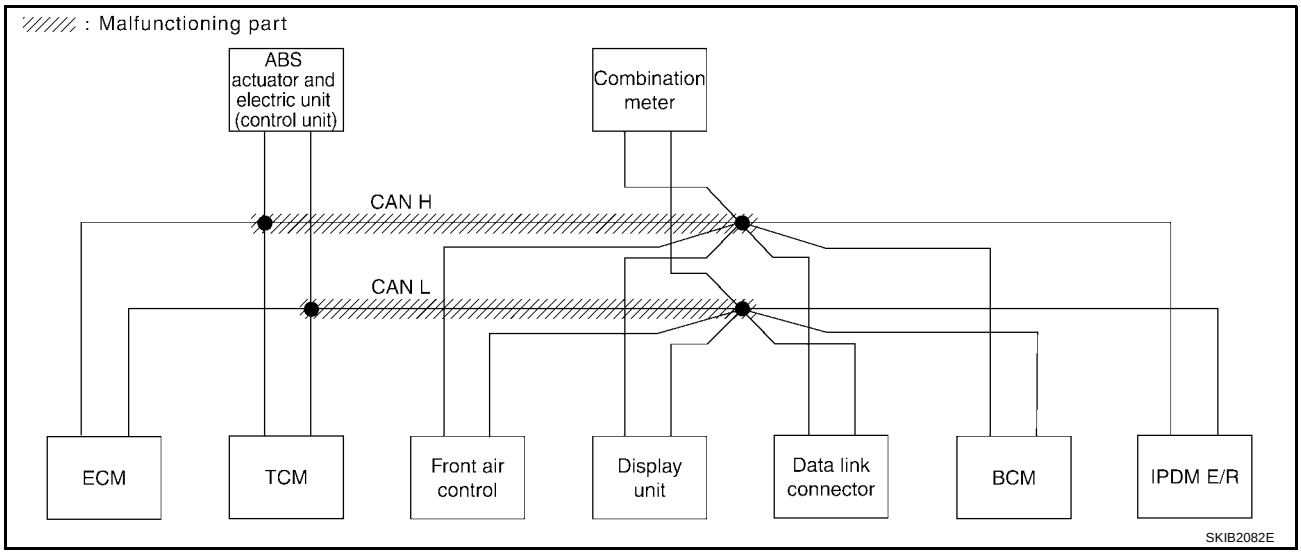
CHECK SHEET RESULTS

Case 1

Check harness between TCM and data link connector. Refer to LAN-62, "Circuit Check Between TCM and Data Link Connector" .

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

SKIB2068E



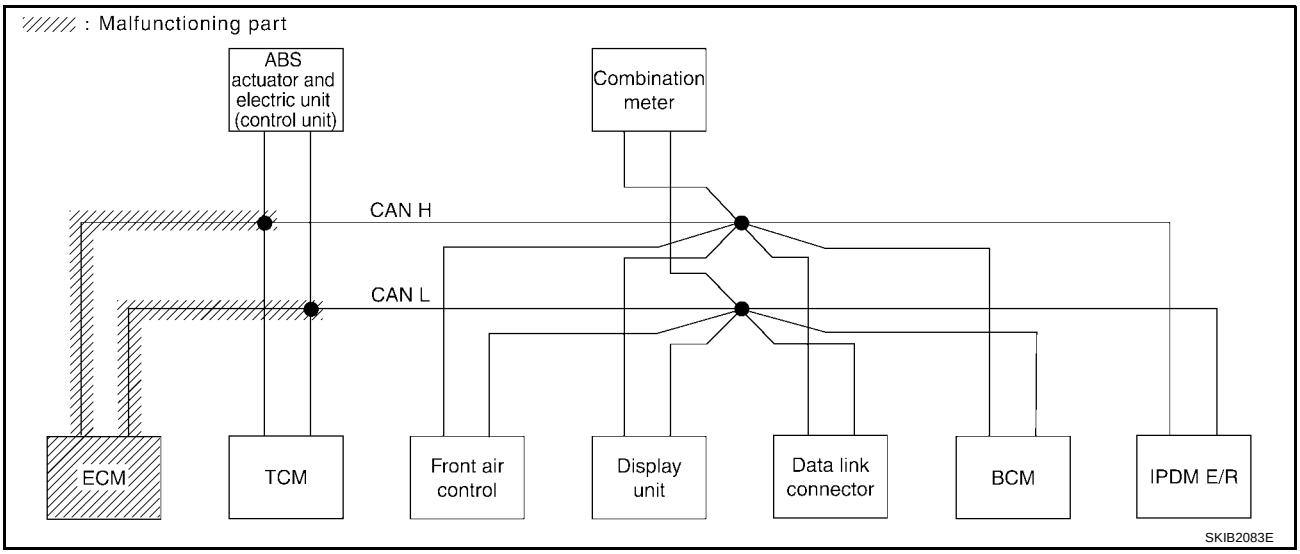
SKIB2082E

Case 2

Check ECM circuit. Refer to LAN-62, "ECM Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	IPDM E/R
ENGINE	-	NG	✓	-	✓	✓	-	✓	✓	✓
TRANSMISSION	No indication	NG	UNKWN	✓	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	✓	UNKWN	-	-			-
Display unit	-	CAN COMM	CAN 1	✓	-	-	CAN 4	CAN 2	CAN 5	CAN 7
BCM	No indication	NG	UNKWN	✓	-	-			UNKWN	UNKWN
IPDM E/R	No indication		UNKWN	✓	-	-	-	UNKWN		-

SKIB2069E

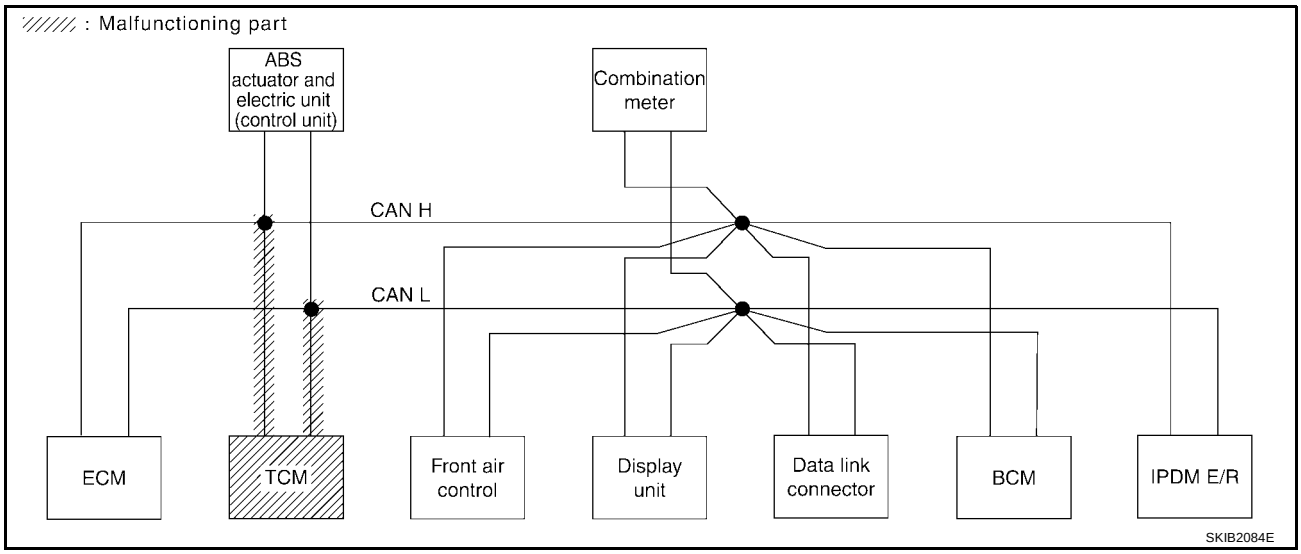


Case 3

Check TCM circuit. Refer to LAN-63, "TCM Circuit Check" .

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

SKIB2070E



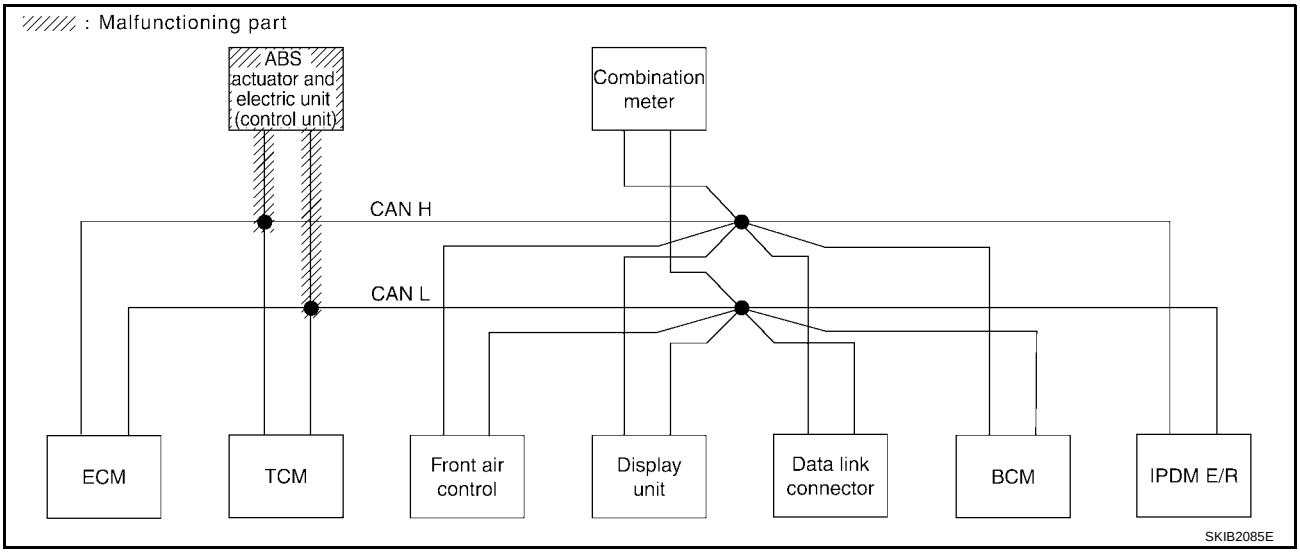
SKIB2084E

Case 4

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-63, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

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

SKIB2071E

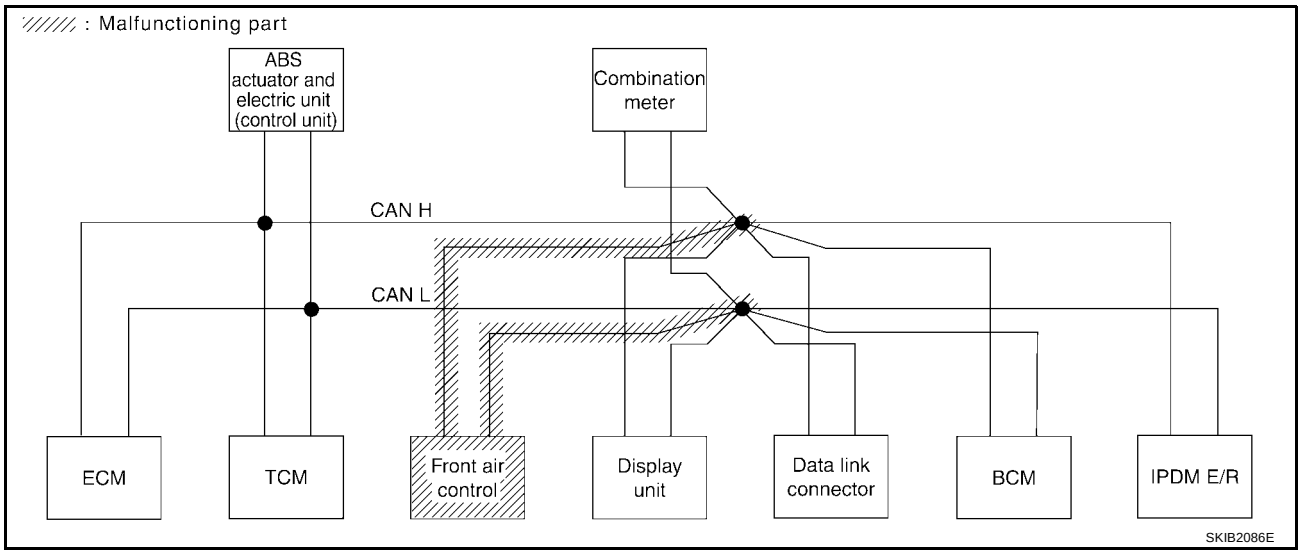


Case 5

Check front air control circuit. Refer to LAN-64, "Front Air Control Circuit Check" .

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

SKIB2072E

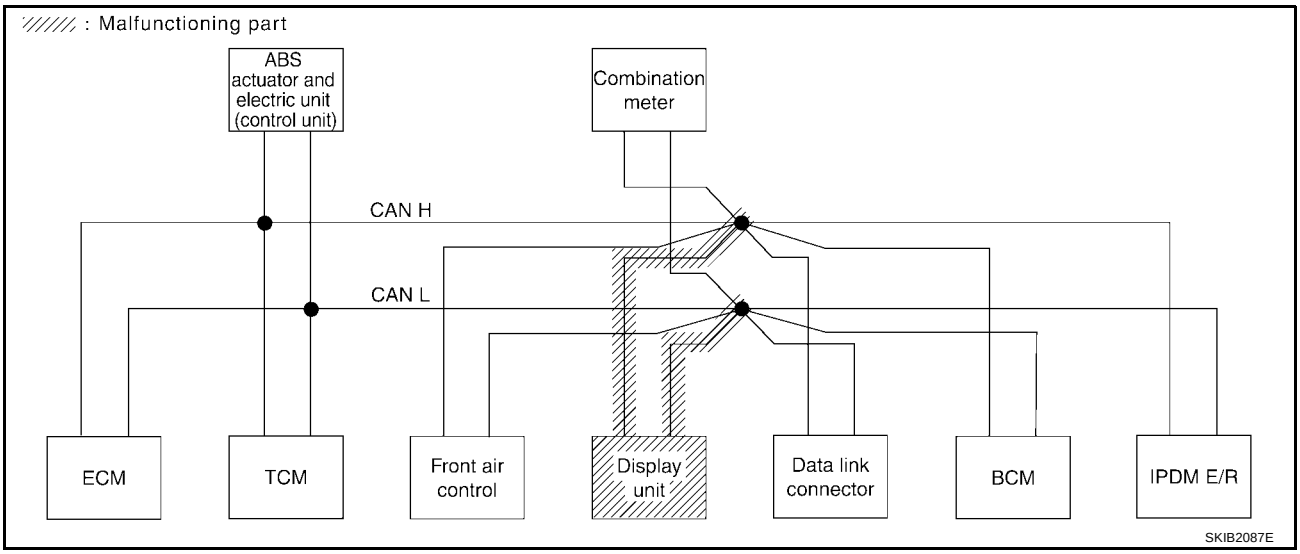


Case 6

Check display unit circuit. Refer to LAN-64, "Display Unit Circuit Check" .

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

SKIB2073E

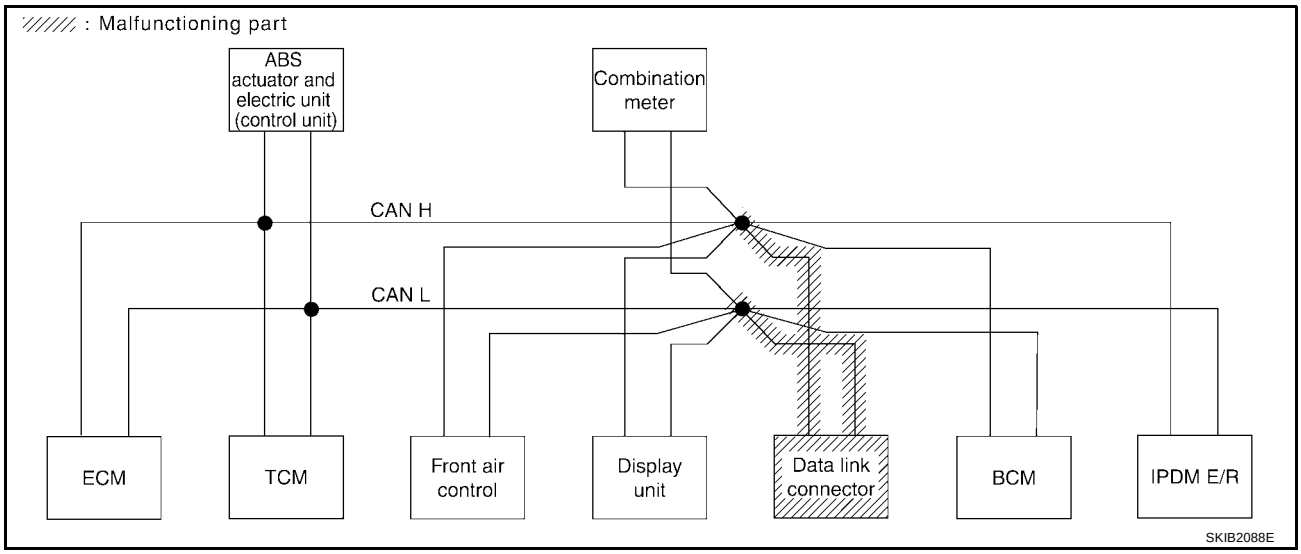


Case 7

Check data link connector circuit. Refer to LAN-65, "Data Link Connector Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No application	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-			-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 4	CAN 2	CAN 5	CAN 7
BCM	No application	NG	UNKWN	UNKWN	-	-			UNKWN	UNKWN
IPDM E/R	No application		UNKWN	UNKWN	-	-	-	UNKWN		-

SKIB2074E



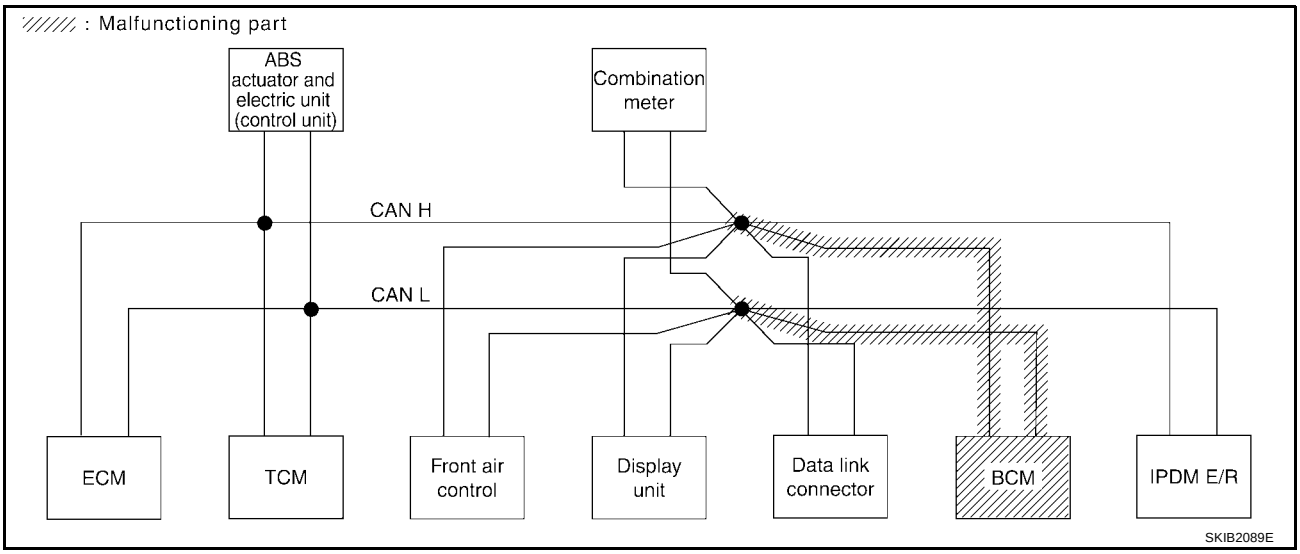
SKIB2088E

Case 8

Check BCM circuit. Refer to LAN-65, "BCM Circuit Check" .

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

SKIB2075E

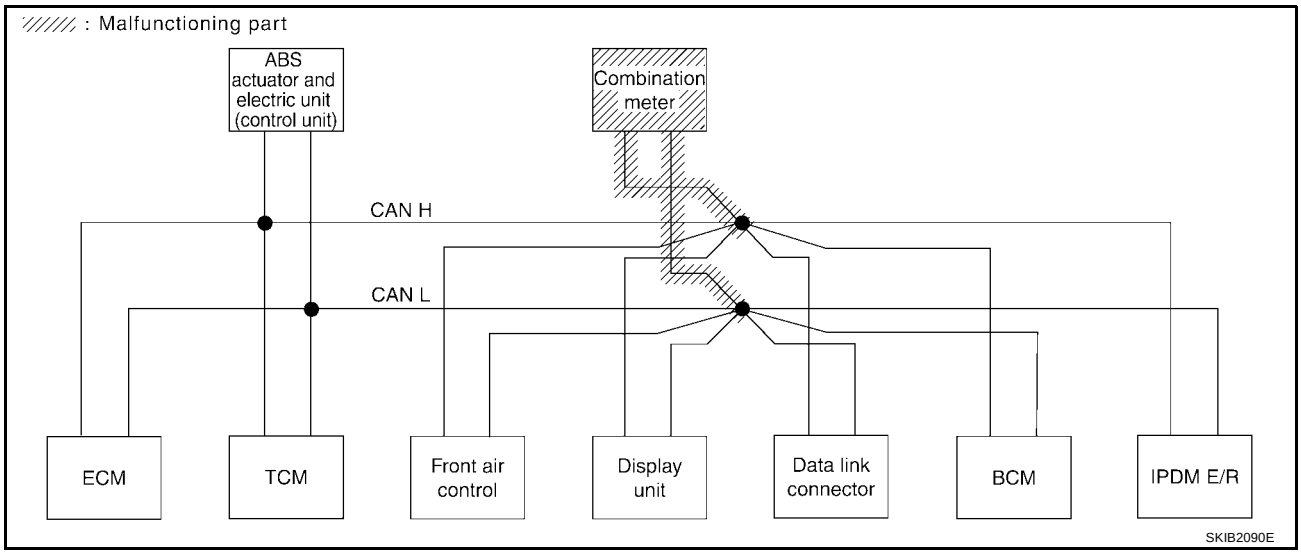


Case 9

Check combination meter circuit. Refer to LAN-66, "Combination Meter Circuit Check" .

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

SKIB2076E



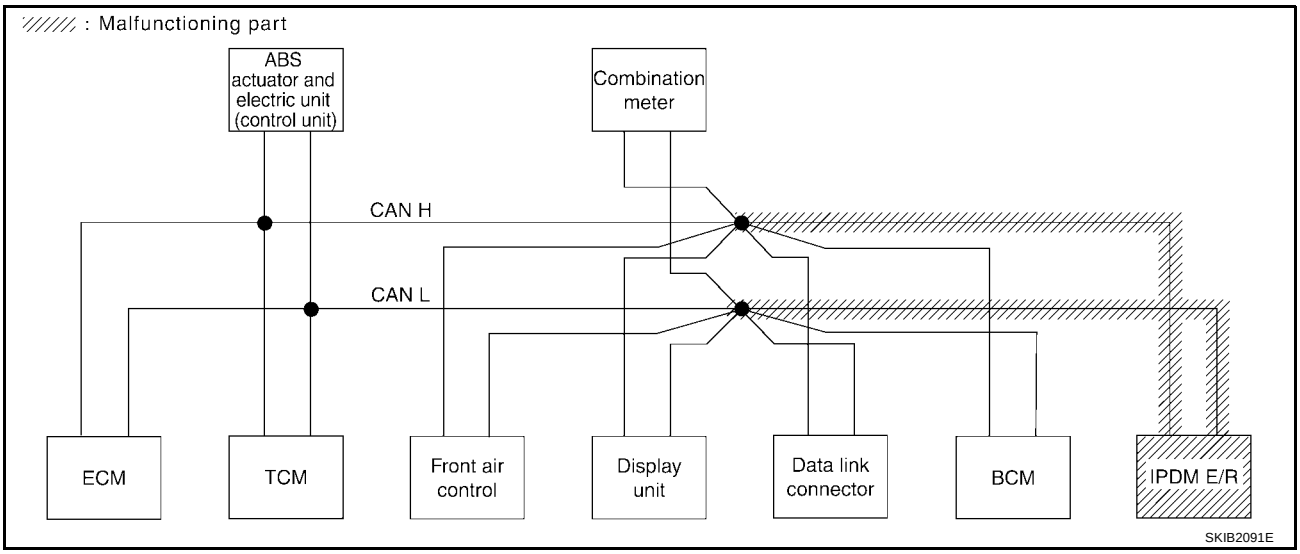
SKIB2090E

Case 10

Check IPDM E/R circuit. Refer to LAN-66, "IPDM E/R Circuit Check" .

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

SKIB2077E



SKIB2091E

Case 11

Check CAN communication circuit. Refer to LAN-67, "CAN Communication Circuit Check" .

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

SKIB2078E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to LAN-67, "IPDM E/R Ignition Relay Circuit Check" .

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

SKIB2079E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks “ON”. Refer to LAN-67, "IPDM E/R Ignition Relay Circuit Check" .

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

SKIB2080E

Circuit Check Between TCM and Data Link Connector

UKS002P8

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143 and ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

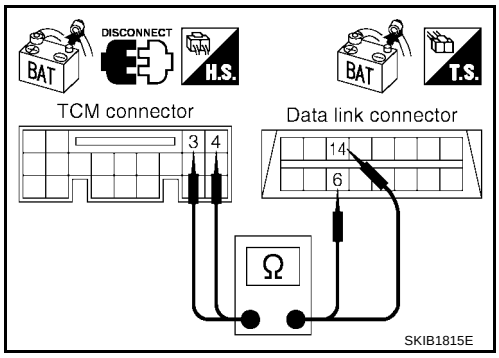
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector E143 terminals 3 (L), 4 (P) and data link connector M22 terminals 6 (L), 14 (P).

3 (L) - 6 (L) : Continuity should exist.
4 (P) - 14 (P) : Continuity should exist.



OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-47, "Work Flow" .
NG >> Repair harness.

ECM Circuit Check

UKS002P9

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

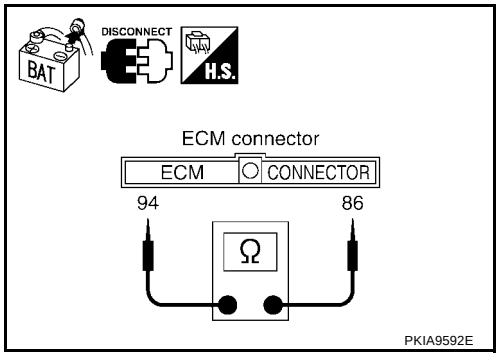
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector E16 terminal 94 (L) and terminal 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132 Ω



OK or NG

OK >> Replace ECM.
NG >> Repair harness between ECM connector E16 and TCM connector E143.

TCM Circuit Check

UKS002PA

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

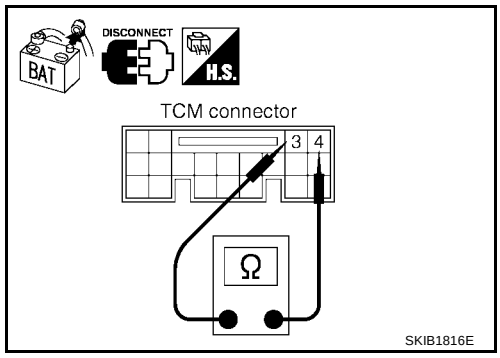
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector E143 terminal 3 (L) and terminal 4 (P).

3 (L) - 4 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.
NG >> Repair harness between TCM connector E143 and ECM connector E16.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS002PB

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ABS actuator and electric unit (control unit) connector E125.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

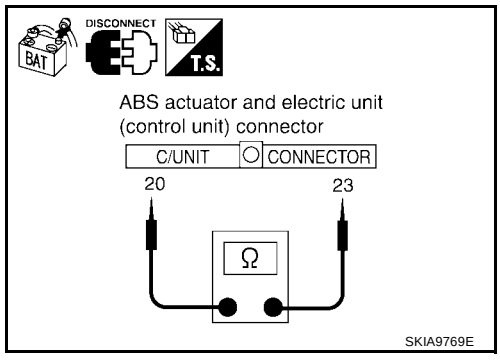
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (P).

20 (L) - 23 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).
NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and ECM connector E16.



Front Air Control Circuit Check

UKS002PC

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect front air control connector M50.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

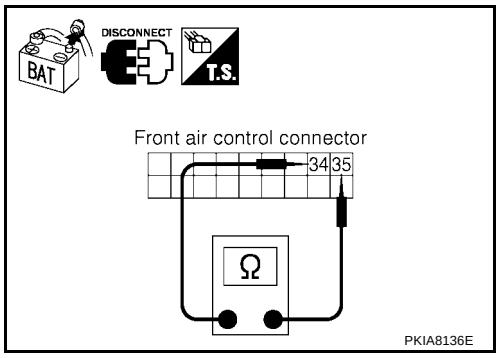
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between front air control connector M50 terminal 34 (L) and terminal 35 (P).

34 (L) - 35 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace front air control.
NG >> Repair harness between front air control connector M50 and data link connector M22.



Display Unit Circuit Check

UKS002PD

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect display unit connector M93.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

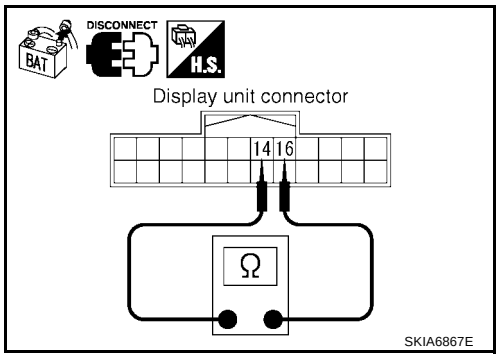
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 14 (L) and terminal 16 (P).

14 (L) - 16 (P) : Approx. 54 - 66Ω

OK or NG

OK >> Replace display unit.
NG >> Repair harness between display unit connector M93 and data link connector M22.



Data Link Connector Circuit Check

UKS002PE

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

OK or NG

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

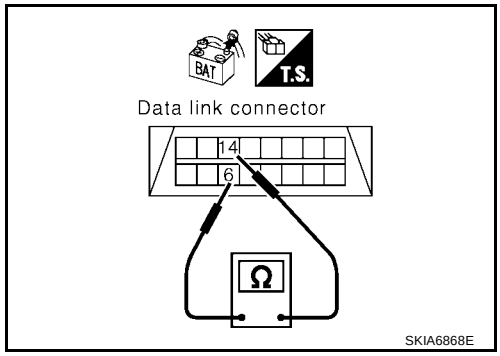
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (P).

6 (L) - 14 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-47, "Work Flow" .
NG >> Repair harness between data link connector M22 and BCM connector M18.



BCM Circuit Check

UKS002PF

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect BCM connector M18.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

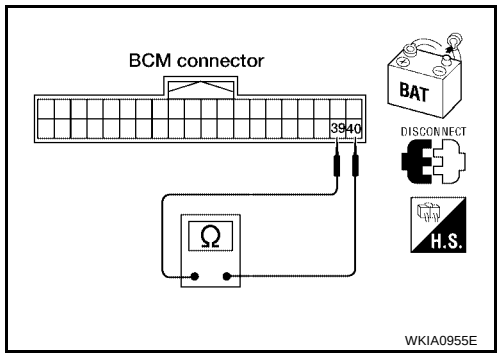
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (P).

39 (L) - 40 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM.
NG >> Repair harness between BCM connector M18 and data link connector M22.



Combination Meter Circuit Check

UKS002PG

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect combination meter connector M23.
4. Check the terminals for deformation, disconnection, looseness or damage.

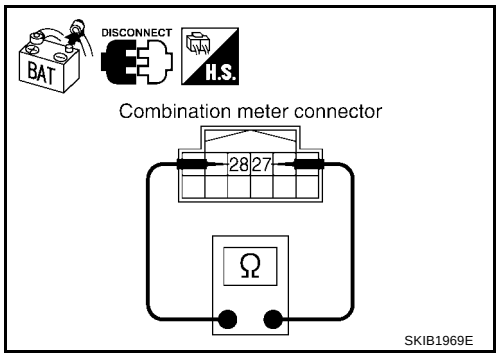
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between combination meter connector M23 terminal 27 (L) and terminal 28 (P).

27 (L) - 28 (P) : Approx. 54 - 66 Ω



OK or NG

OK >> Replace combination meter.
NG >> Repair harness between combination meter connector M23 and data link connector M22.

IPDM E/R Circuit Check

UKS002PH

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect IPDM E/R connector E121.
4. Check the terminals for deformation, disconnection, looseness or damage.

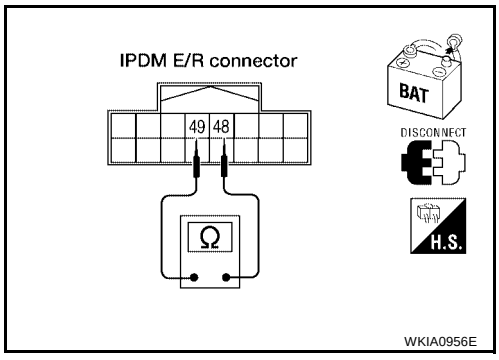
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (P).

48 (L) - 49 (P) : Approx. 108 - 132 Ω



OK or NG

OK >> Replace IPDM E/R.
NG >> Repair harness between IPDM E/R connector E121 and data link connector M22.

CAN Communication Circuit Check

UKS002PI

1. CONNECTOR INSPECTION

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

- ECM
- TCM (Transmission control module)
- ABS actuator and electric unit (control unit)
- Front air control
- Display unit
- BCM (Body control module)
- Combination meter
- IPDM E/R (Intelligent power distribution module engine room)

OK or NG

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

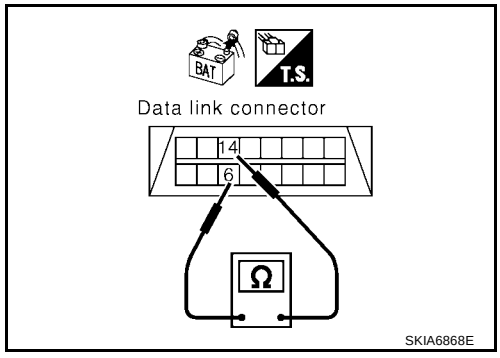
2. CHECK HARNESS FOR SHORTED CIRCUITS

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

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

OK or NG

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



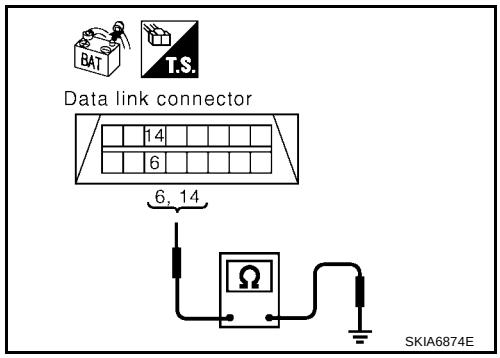
3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 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 >> Check ECM and IPDM E/R. Refer to LAN-68, "Component Inspection" .
NG >> Repair the harness.



IPDM E/R Ignition Relay Circuit Check

UKS002PJ

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-12, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START" .

Component Inspection

UKS002PK

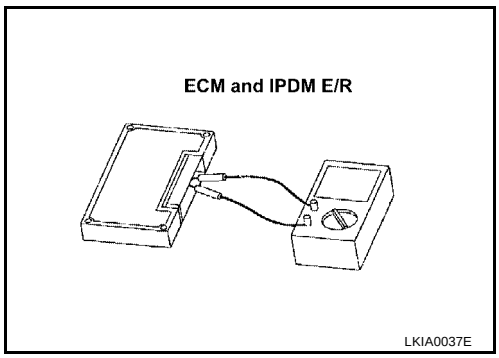
ECM AND IPDM E/R INTERNAL CIRCUIT INSPECTION

- Disconnect ECM and IPDM E/R harness connectors.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 Ω

- Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω



CAN SYSTEM (TYPE 3)

PFP:23710

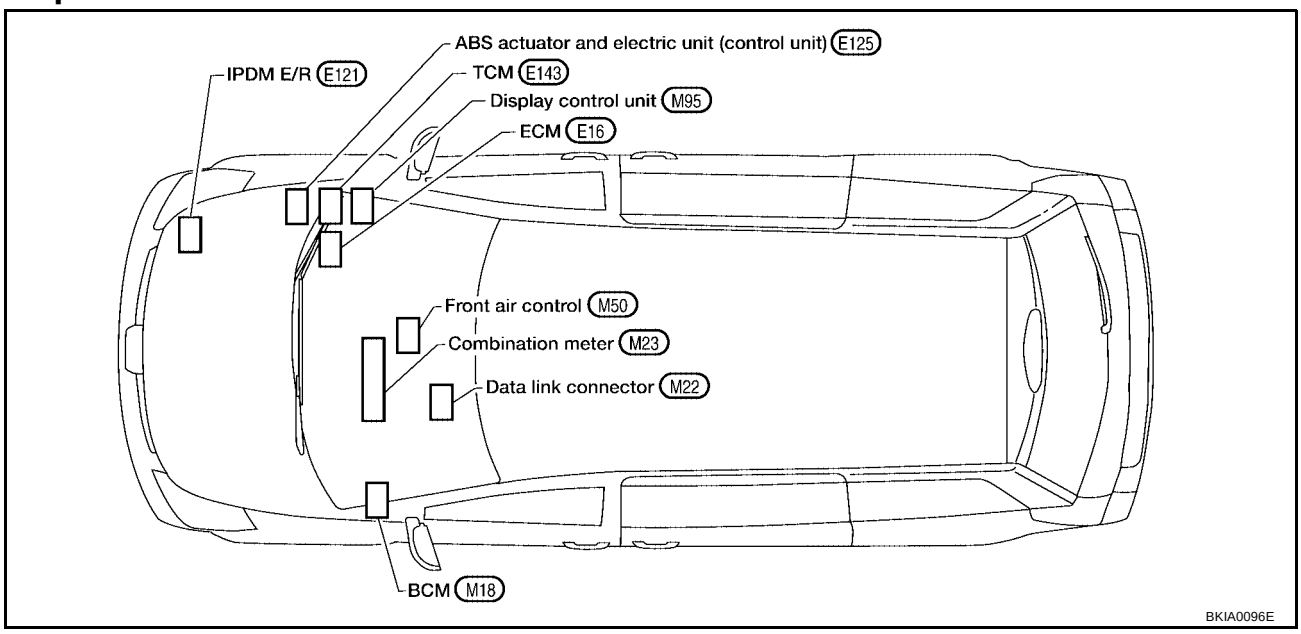
System Description

UKS002OX

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.

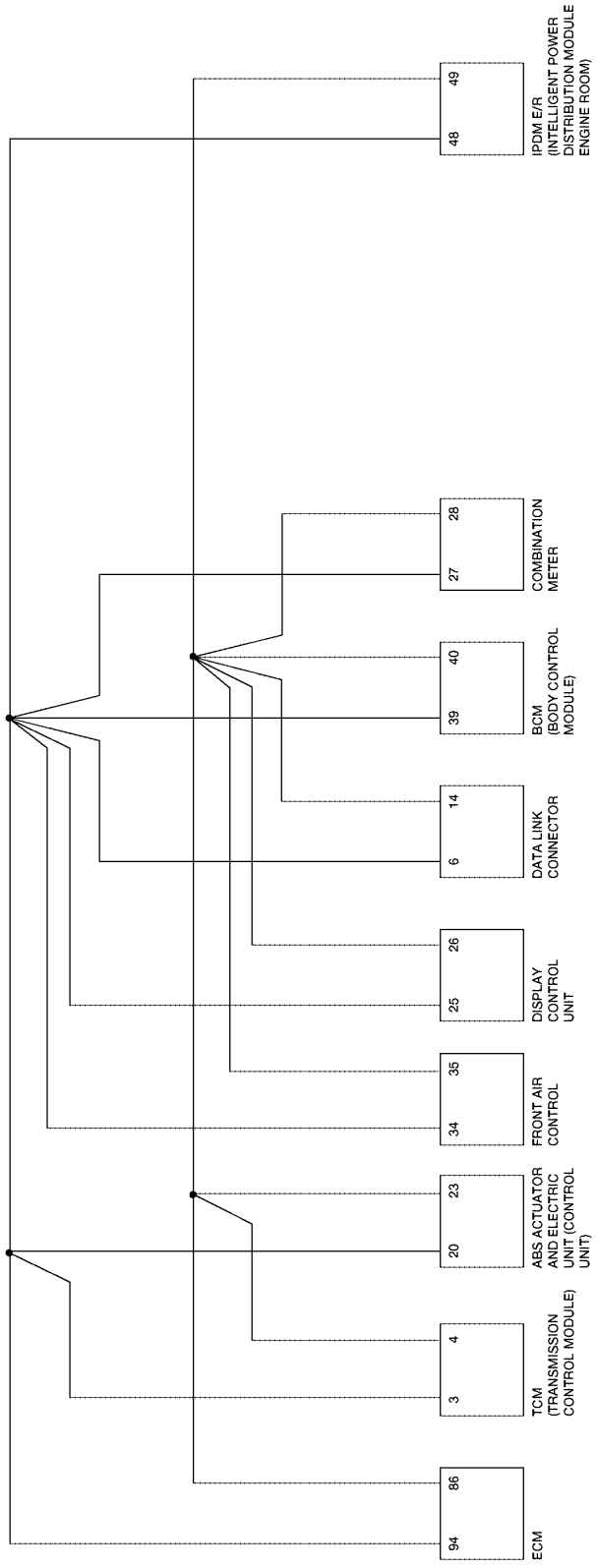
Component Parts and Harness Connector Location

UKS002OY



Schematic

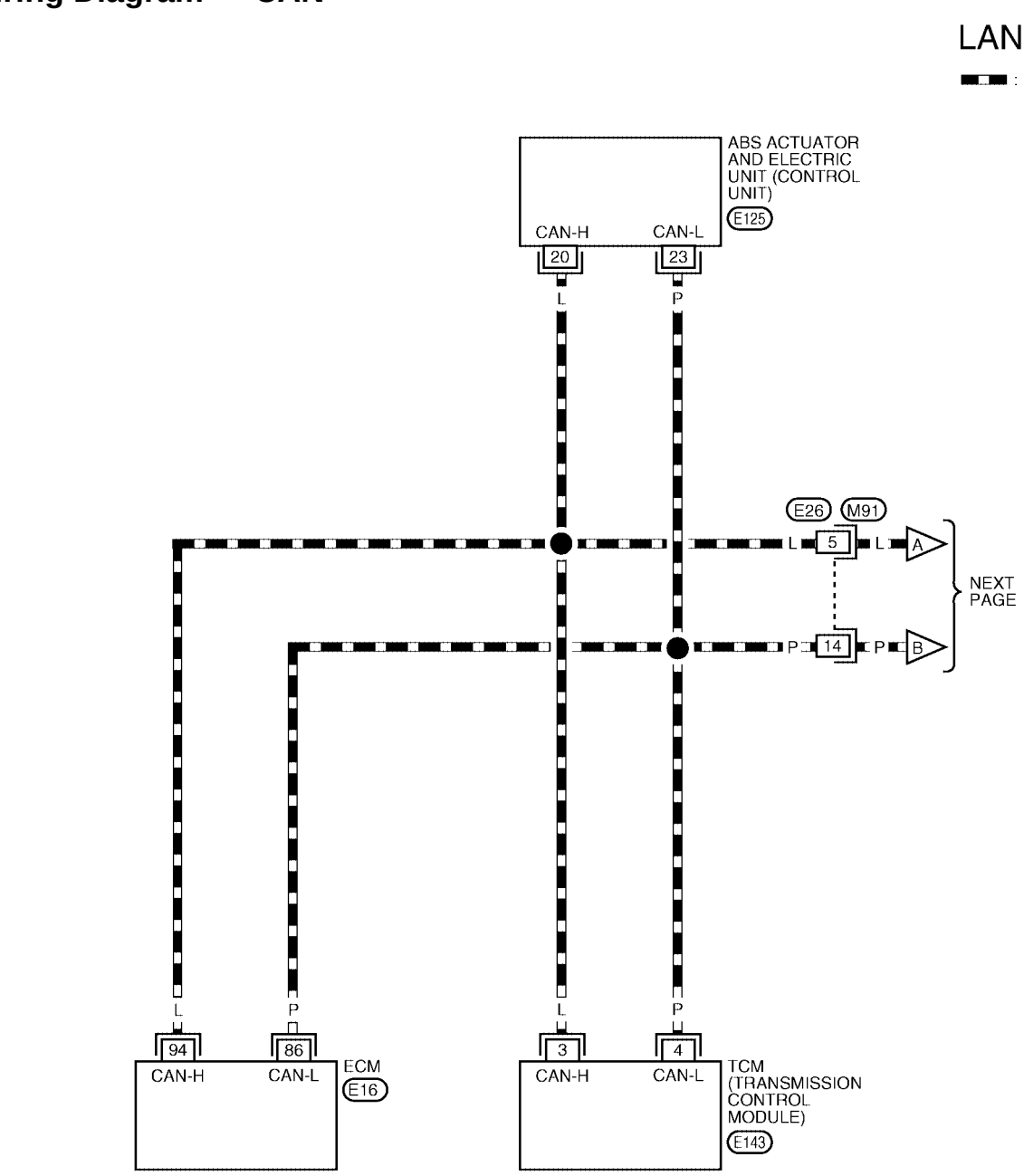
UKS002OZ

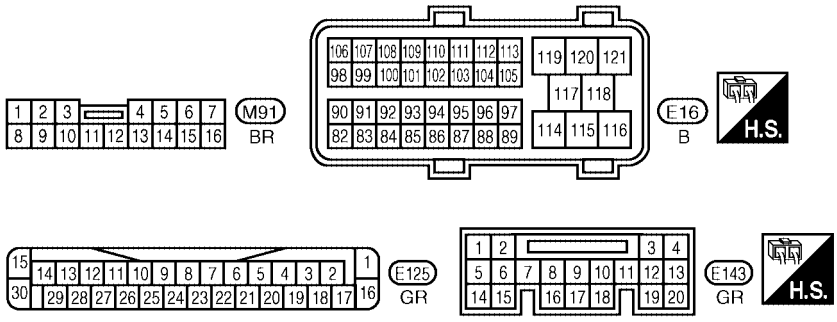


BKWA0348E

Wiring Diagram — CAN —

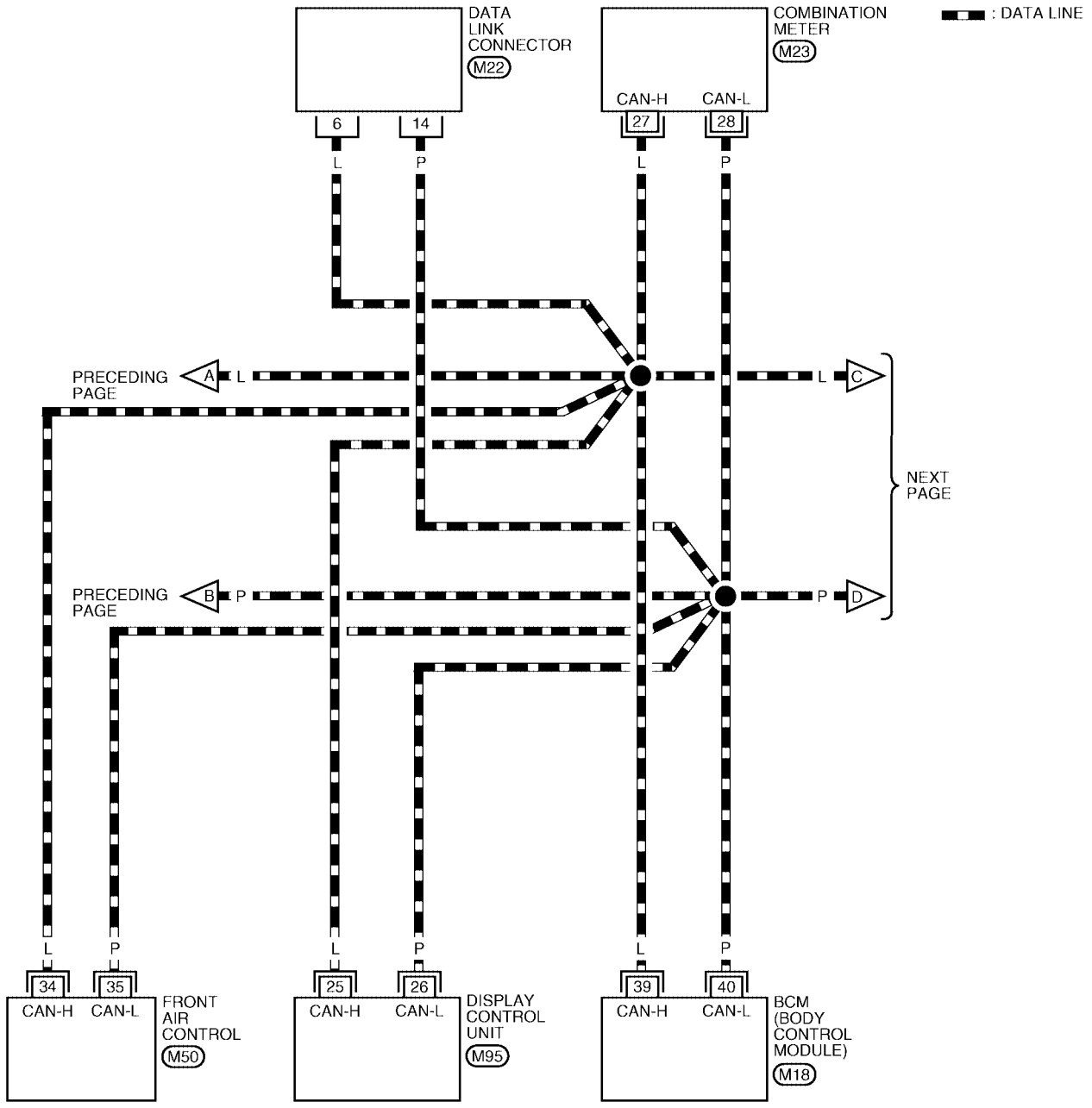
UKS002P0

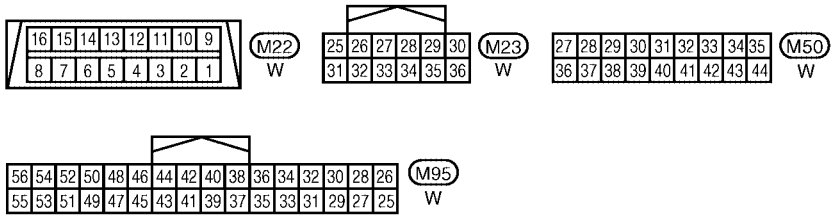




BKWA0335E

LAN-CAN-08

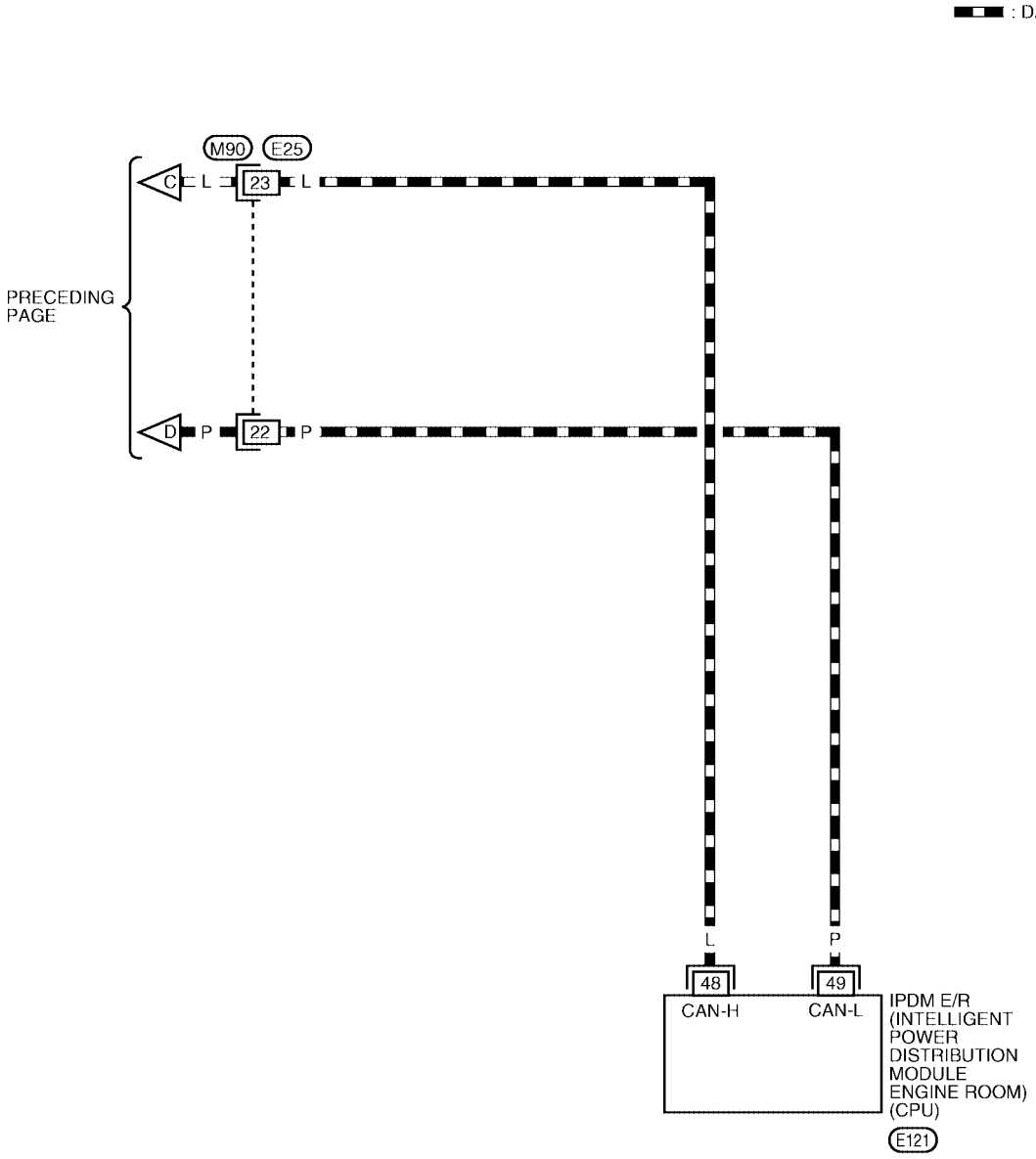


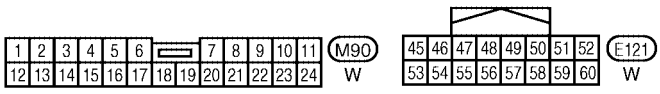


REFER TO THE FOLLOWING.
M18 - ELECTRICAL UNITS

BKWA0336E

LAN-CAN-09



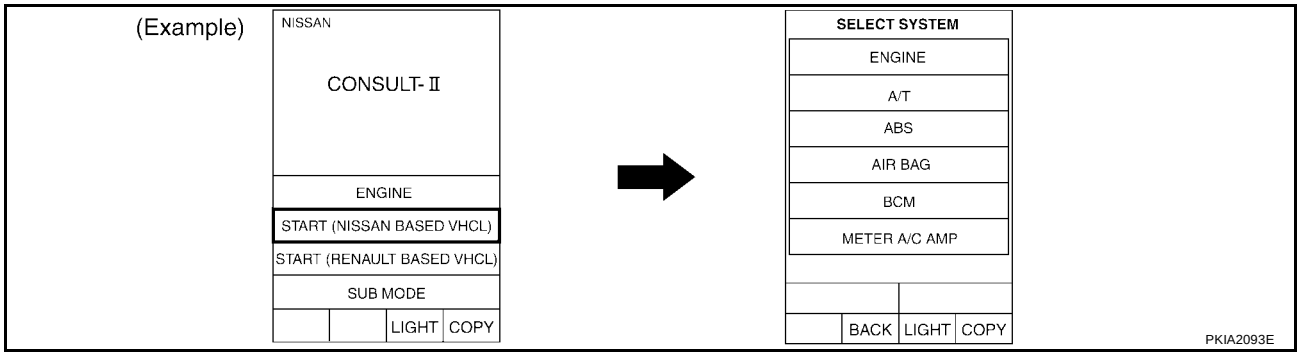


BKWA0337E

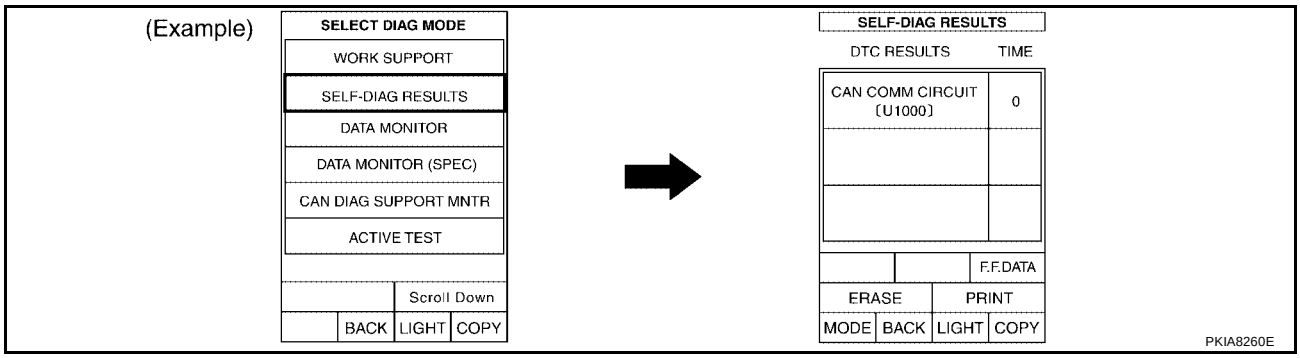
Work Flow

UKS002OI

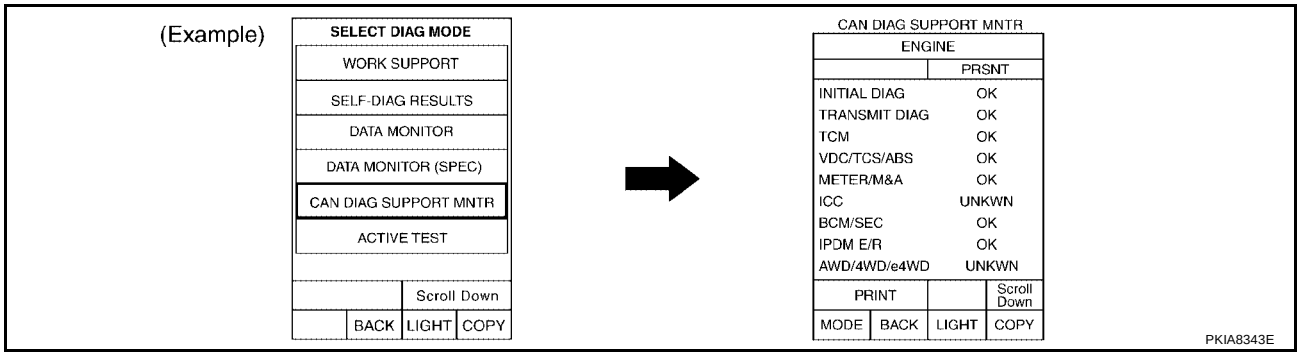
1. When there are no indications of “TRANSMISSION”, “BCM” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet.Refer to LAN-76, "CHECK SHEET" .

5. Based on the indications of “SELECT SYSTEM” and the results of “CAN DIAG SUPPORT MNTR”, put marks onto the items with “No indication”, “NG” or “UNKWN” in the check sheet table.

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

SKIB2056E

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.
  Therefore, it is not necessary to check the status of the “CAN DIAG SUPPORT MNTR” items not in check sheet table.

6. Check CAN communication line of the navigation system.
7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to LAN-133, "CHECK SHEET" .
8. Mark the “NG” or “UNKWN” item of the check sheet table from the result of CAN DIAG SUPPORT MONITOR check sheet.

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG SUPPORT MNTR” for the diagnosed control unit, replace the control unit.
9. According to the Check Sheet Results, start inspection.

CHECK SHEET

NOTE:

If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” 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	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 4	CAN CIRC 2	CAN CIRC 5	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	UNKWN
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

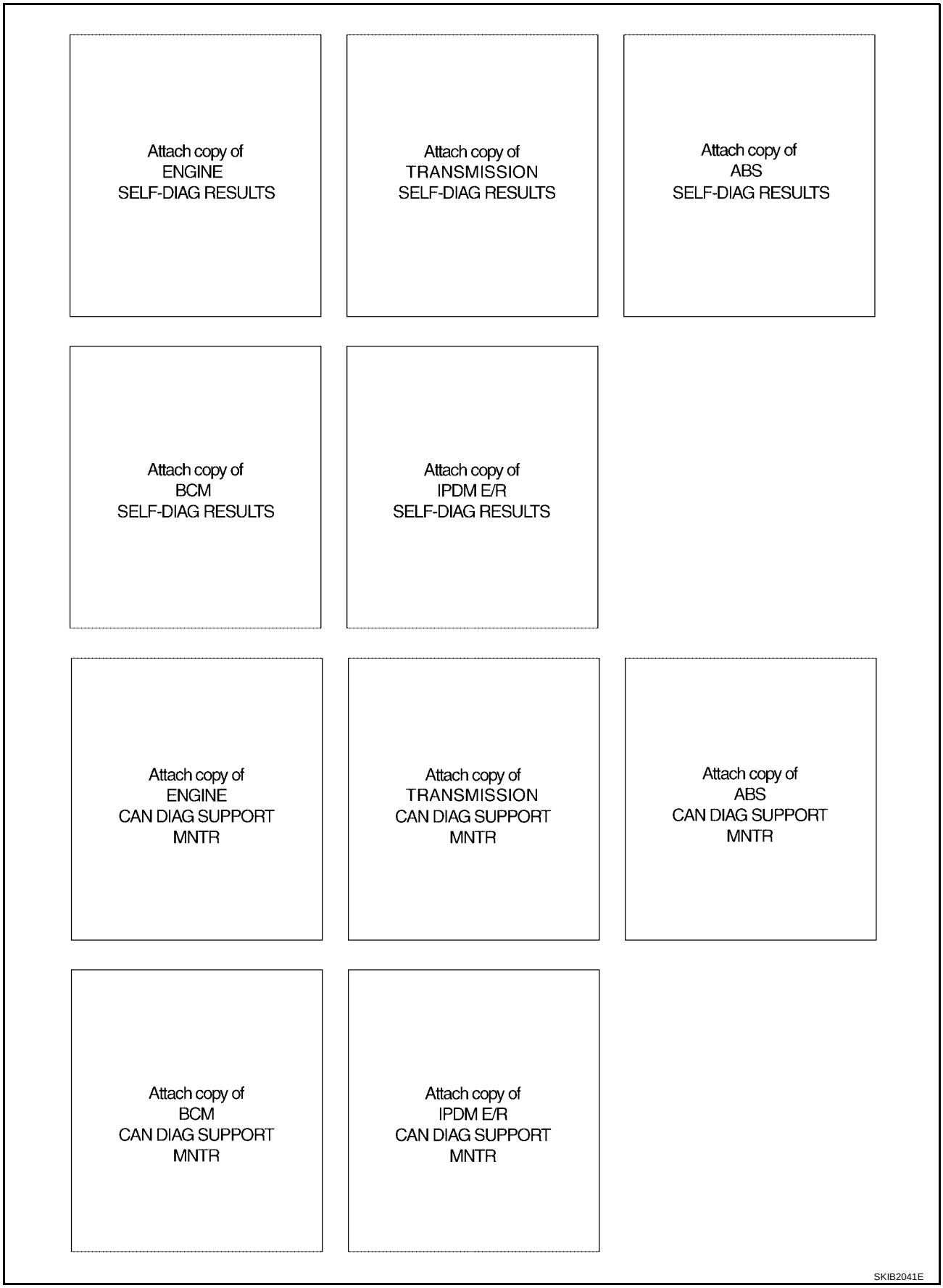
Symptoms:

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

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

SKIB2040E


Attach copy of
ENGINE
SELF-DIAG RESULTS
Attach copy of
TRANSMISSION
SELF-DIAG RESULTS
Attach copy of
ABS
SELF-DIAG RESULTS
Attach copy of
BCM
SELF-DIAG RESULTS
Attach copy of
IPDM E/R
SELF-DIAG RESULTS
Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR
Attach copy of
TRANSMISSION
CAN DIAG SUPPORT
MNTR
Attach copy of
ABS
CAN DIAG SUPPORT
MNTR
Attach copy of
BCM
CAN DIAG SUPPORT
MNTR
Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR
SKIB2041E

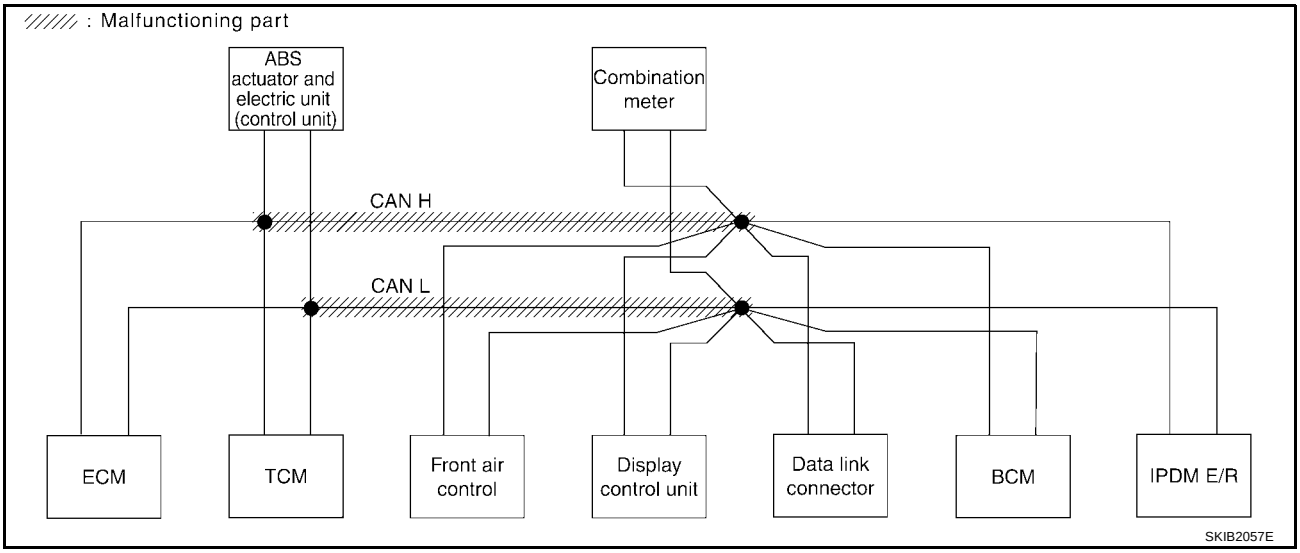
CHECK SHEET RESULTS

Case 1

Check harness between TCM and data link connector. Refer to LAN-89, "Circuit Check Between TCM and Data Link Connector" .

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

SKIB2042E

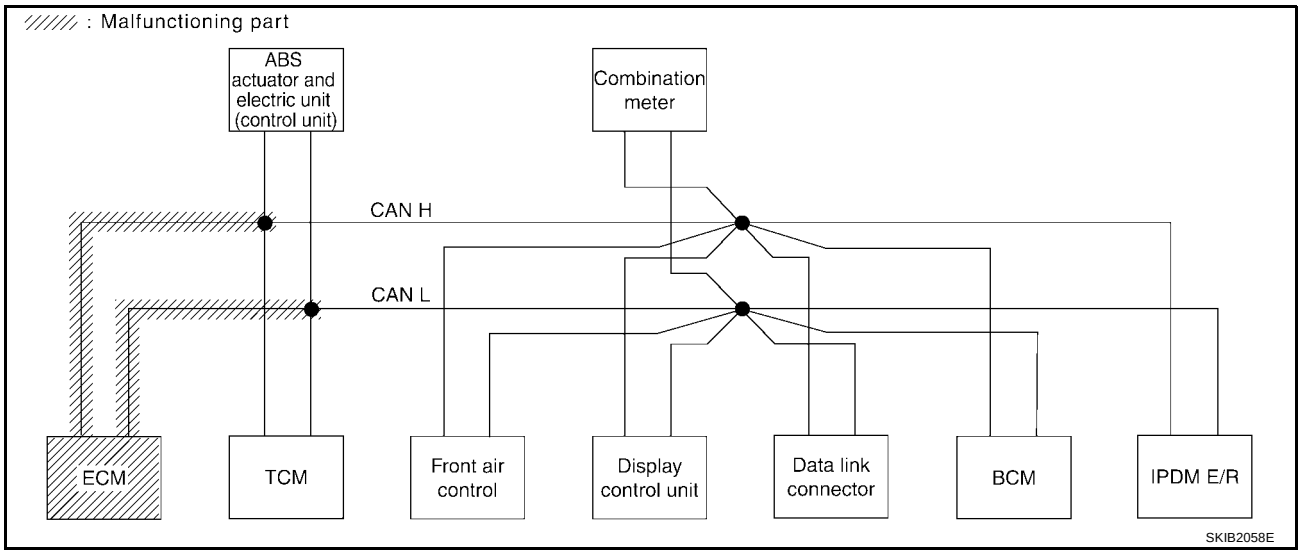


Case 2

Check ECM circuit. Refer to LAN-89, "ECM Circuit Check" .

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

SKIB2043E

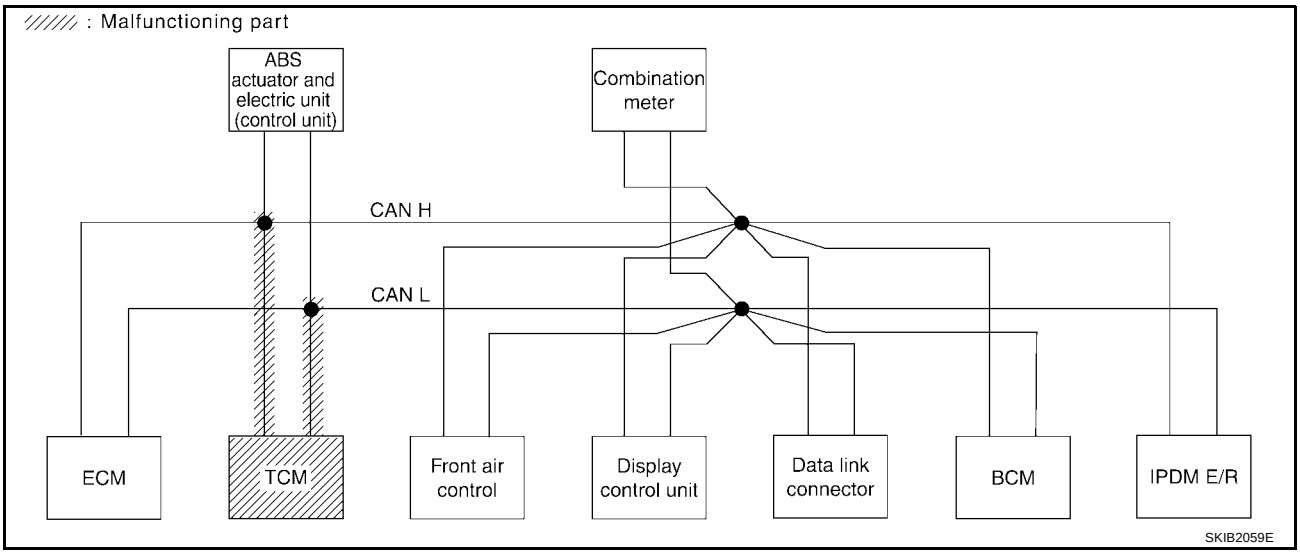


Case 3

Check TCM circuit. Refer to LAN-90, "TCM Circuit Check" .

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

SKIB2044E

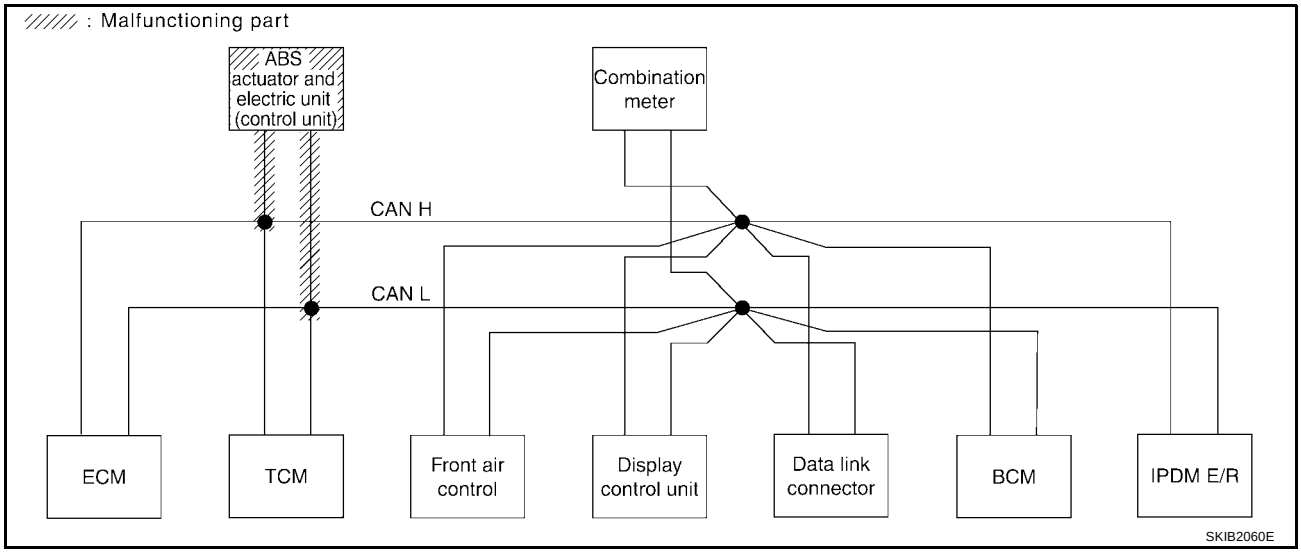


Case 4

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-90, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

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

SKIB2045E

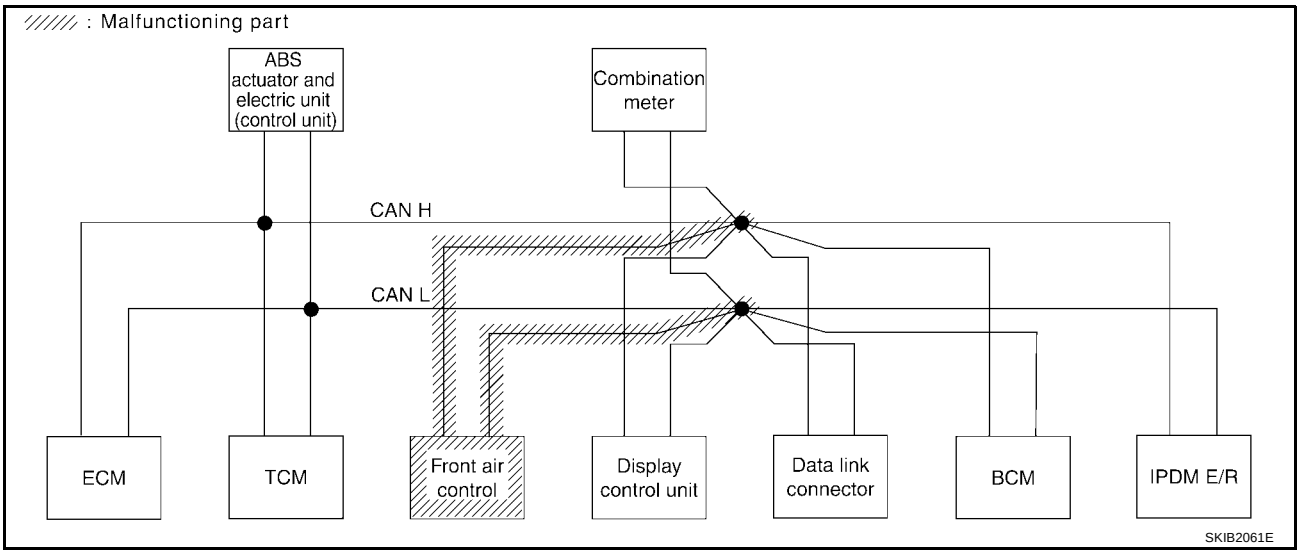


Case 5

Check front air control circuit. Refer to LAN-91, "Front Air Control Circuit Check" .

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

SKIB2046E

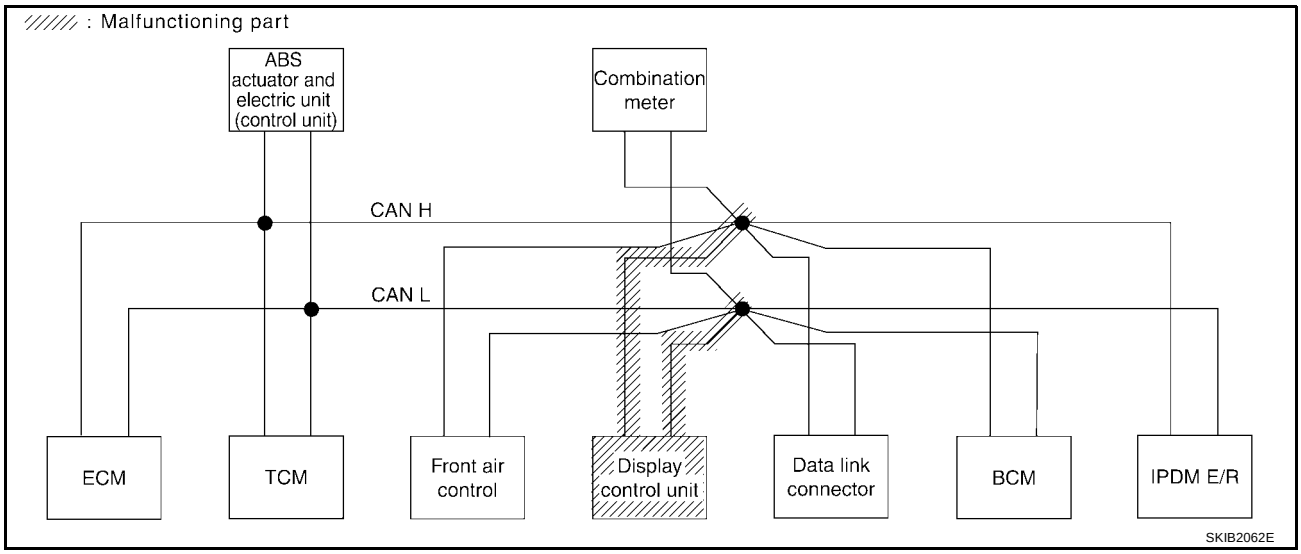


Case 6

Check display control unit circuit. Refer to LAN-91, "Display Control Unit Circuit Check" .

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

SKIB2047E



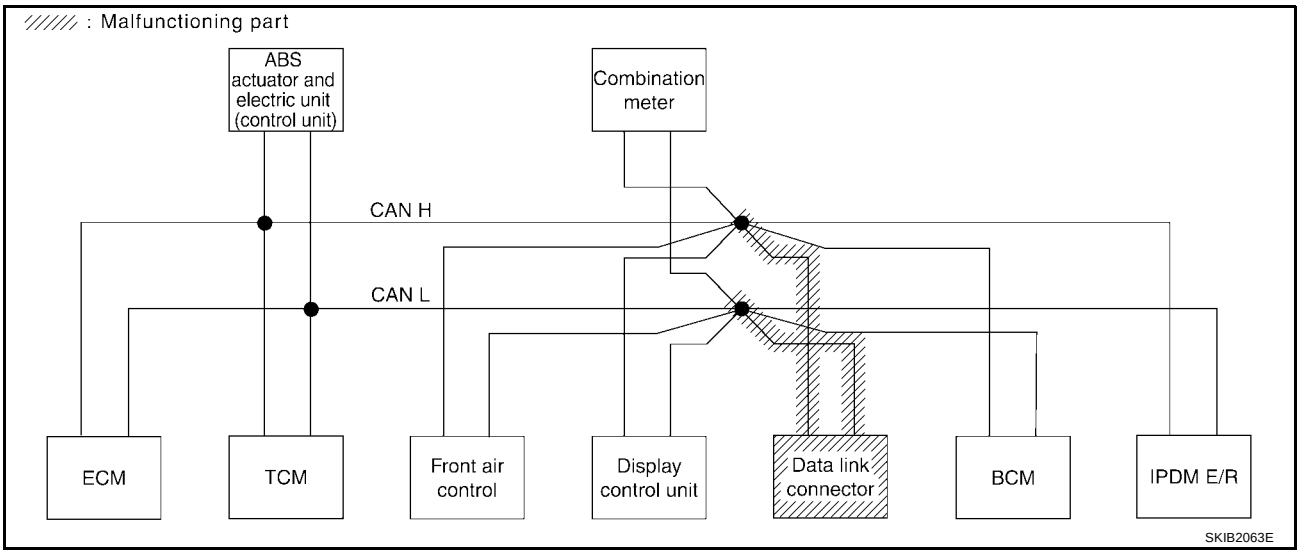
SKIB2062E

Case 7

Check data link connector circuit. Refer to LAN-92, "Data Link Connector Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						
				ECM	TCM	VDC/TCS/ABS	Front air control	BCM/SEC	METER/M&A	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	Non-application	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-			-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 4	CAN CIRC 2	CAN CIRC 5	CAN CIRC 7
BCM	Non-application	NG	UNKWN	UNKWN	-	-			UNKWN	UNKWN
IPDM E/R	Non-application		UNKWN	UNKWN	-	-	-	UNKWN		-

SKIB2048E

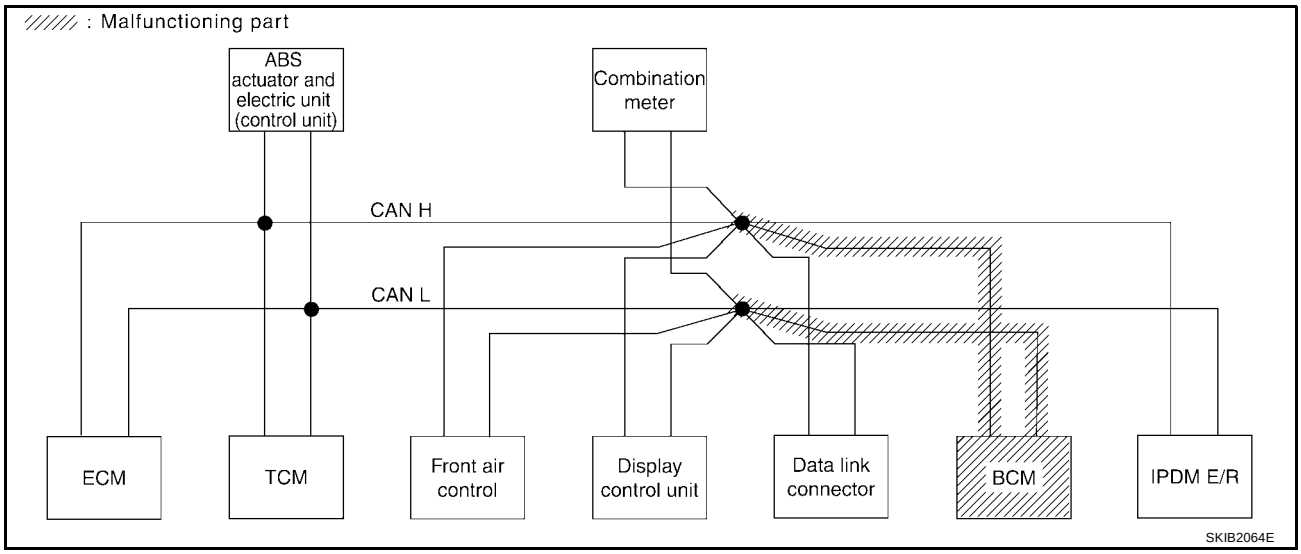


Case 8

Check BCM circuit. Refer to LAN-92, "BCM Circuit Check" .

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

SKIB2049E

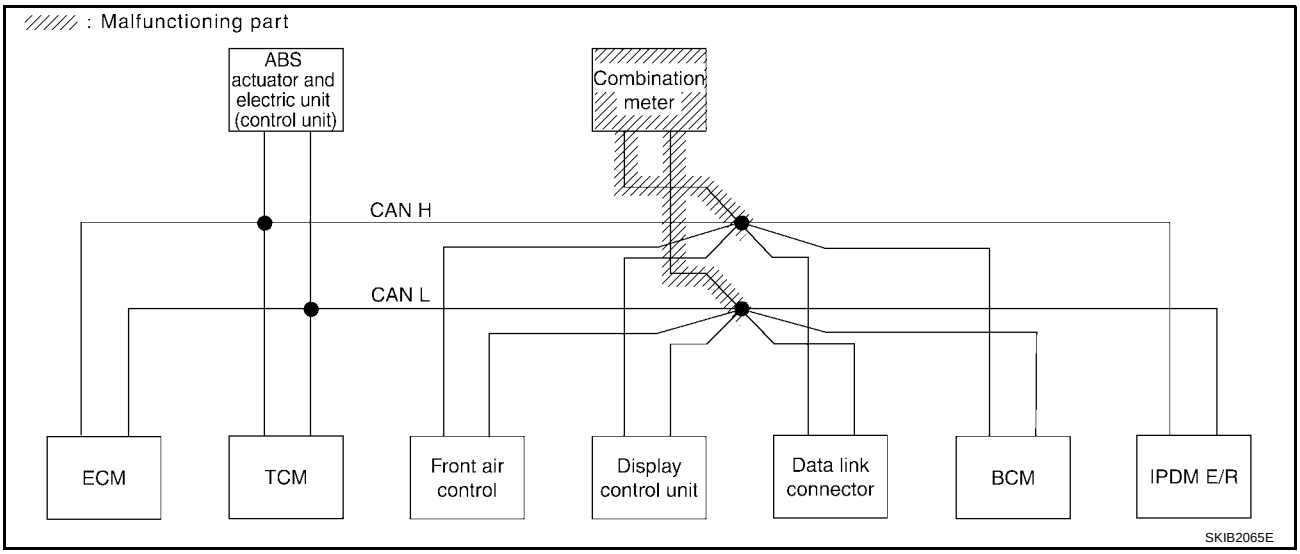


Case 9

Check combination meter circuit. Refer to LAN-93, "Combination Meter Circuit Check" .

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

SKIB2050E



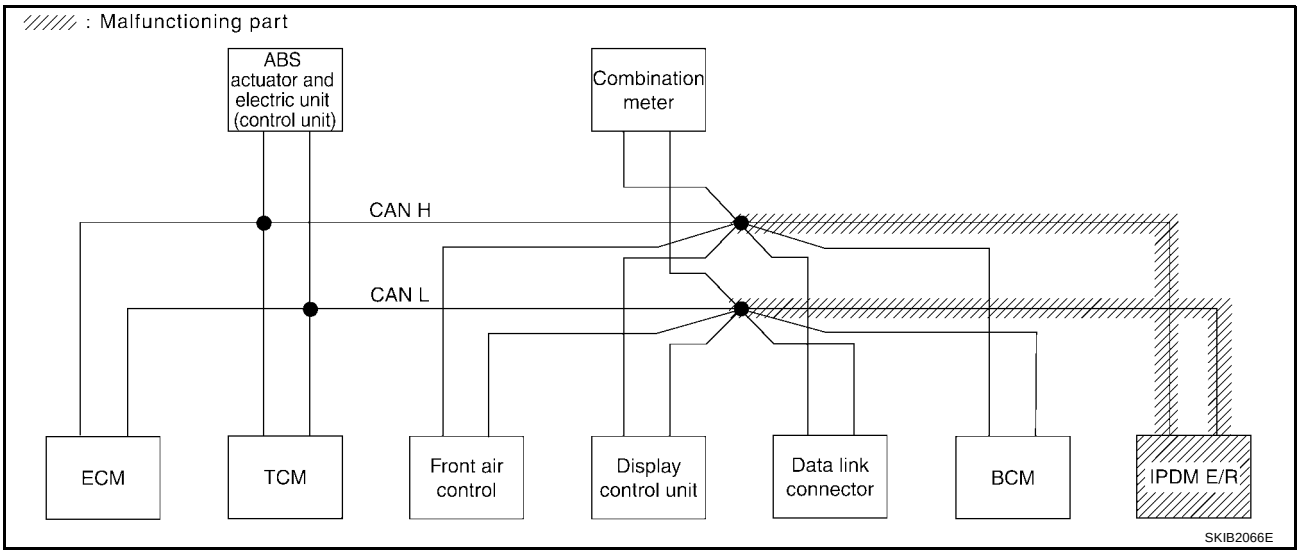
SKIB2065E

Case 10

Check IPDM E/R circuit. Refer to LAN-93, "IPDM E/R Circuit Check" .

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

SKIB2051E



SKIB2066E

Case 11

Check CAN communication circuit. Refer to LAN-94, "CAN Communication Circuit Check" .

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

SKIB2052E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks “OFF”.Refer to LAN-94, "IPDM E/R Ignition Relay Circuit Check" .

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

SKIB2053E

Case 13

Check IPDM E/R ignition relay circuit continuously sticks “ON”. Refer to LAN-94, "IPDM E/R Ignition Relay Circuit Check" .

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

SKIB2054E

Circuit Check Between TCM and Data Link Connector

UKS002OJ

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143 and ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

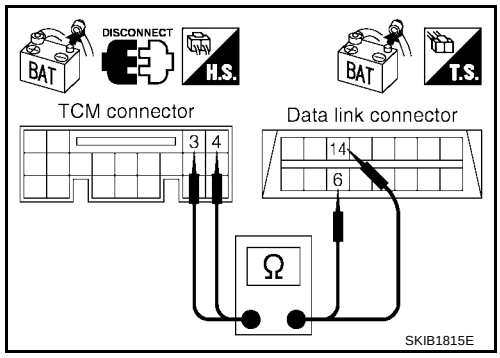
2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector E143 terminals 3 (L), 4 (P) and data link connector M22 terminals 6 (L), 14 (P).

3 (L) - 6 (L) : Continuity should exist.
4 (P) - 14 (P) : Continuity should exist.

OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-74, "Work Flow" .
NG >> Repair harness.



ECM Circuit Check

UKS002OK

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

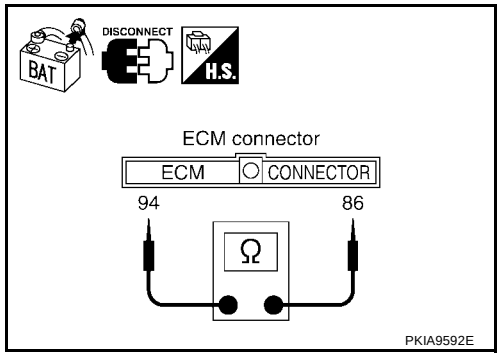
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector E16 terminal 94 (L) and terminal 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.
NG >> Repair harness between ECM connector E16 and TCM connector E143.



TCM Circuit Check

UKS002OL

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

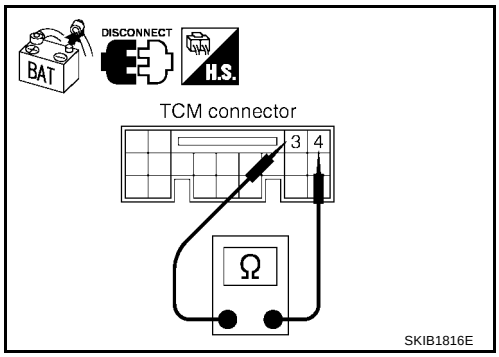
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector E143 terminal 3 (L) and terminal 4 (P).

3 (L) - 4 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.
NG >> Repair harness between TCM connector E143 and ECM connector E16.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS002OM

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ABS actuator and electric unit (control unit) connector E125.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

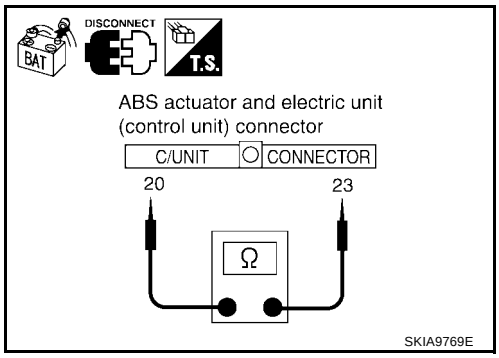
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (P).

20 (L) - 23 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).
NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and ECM connector E16.



Front Air Control Circuit Check

UKS002ON

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect front air control connector M50.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

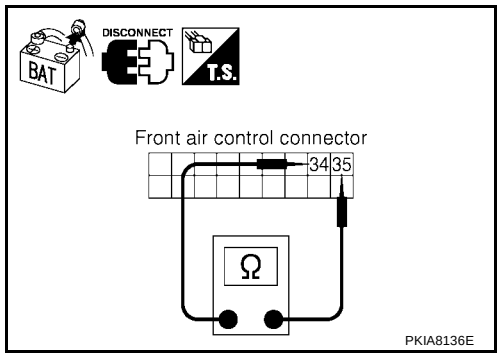
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between front air control connector M50 terminal 34 (L) and terminal 35 (P).

34 (L) - 35 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace front air control.
NG >> Repair harness between front air control connector M50 and data link connector M22.



Display Control Unit Circuit Check

UKS002OO

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect display control unit connector M95.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

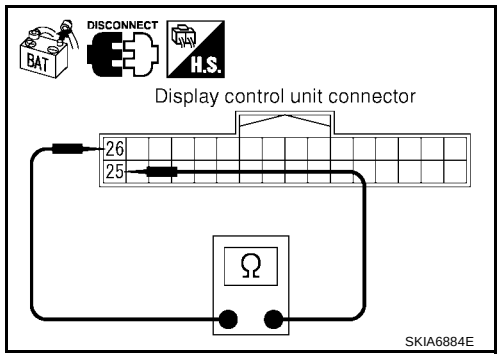
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (P).

25 (L) - 26 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.
NG >> Repair harness between display control unit connector M95 and data link connector M22.



Data Link Connector Circuit Check

UKS002OP

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

OK or NG

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

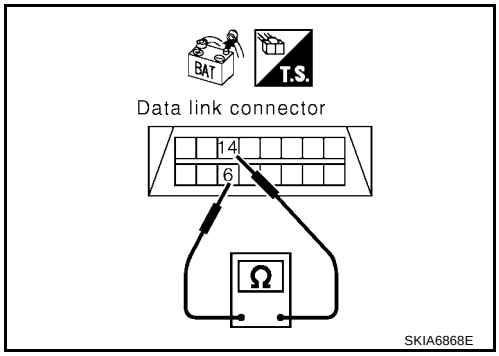
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (P).

6 (L) - 14 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-74, "Work Flow" .
NG >> Repair harness between data link connector M22 and BCM connector M18.



BCM Circuit Check

UKS002OQ

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect BCM connector M18.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

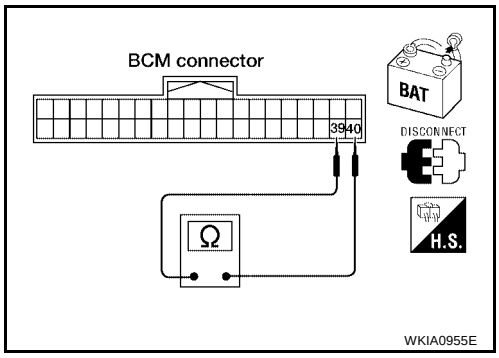
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (P).

39 (L) - 40 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM.
NG >> Repair harness between BCM connector M18 and data link connector M22.



Combination Meter Circuit Check

UKS002OR

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect combination meter connector M23.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

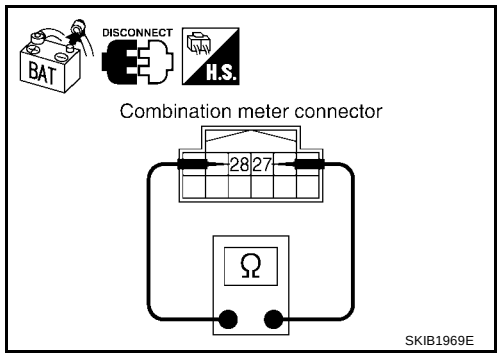
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between combination meter connector M23 terminal 27 (L) and terminal 28 (P).

27 (L) - 28 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.
NG >> Repair harness between combination meter connector M23 and data link connector M22.



IPDM E/R Circuit Check

UKS002OT

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect IPDM E/R connector E121.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

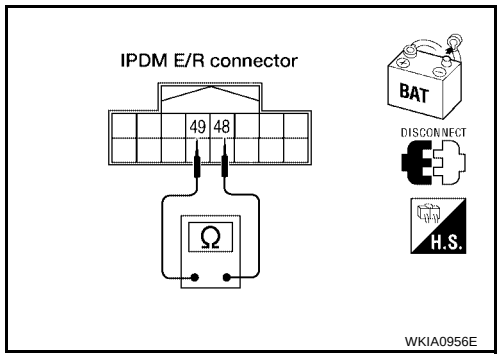
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (P).

48 (L) - 49 (P) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.
NG >> Repair harness between IPDM E/R connector E121 and data link connector M22.



CAN Communication Circuit Check

UKS002OU

1. CONNECTOR INSPECTION

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

- ECM
- TCM (Transmission control module)
- ABS actuator and electric unit (control unit)
- Front air control
- Display control unit
- BCM (Body control module)
- Combination meter
- IPDM E/R (Intelligent power distribution module engine room)

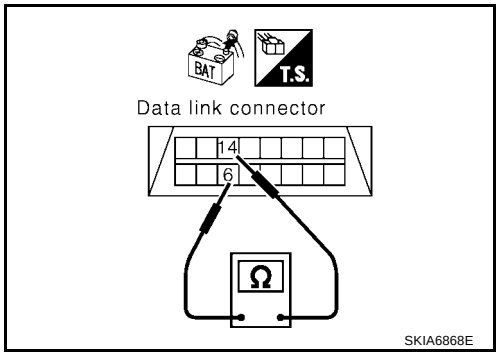
OK or NG

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

2. CHECK HARNESS FOR SHORTED CIRCUITS

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

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



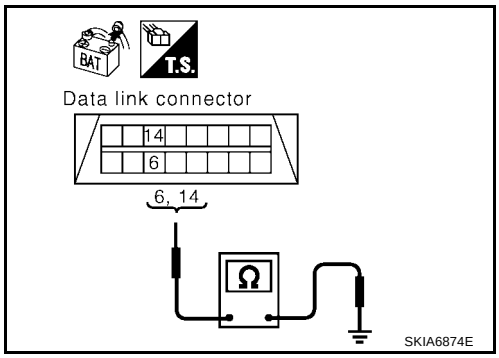
OK or NG

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

3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 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 >> Check ECM and IPDM E/R. Refer to LAN-95, "Component Inspection" .
NG >> Repair the harness.

IPDM E/R Ignition Relay Circuit Check

UKS002OV

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-12, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START" .

Component Inspection

UKS002OW

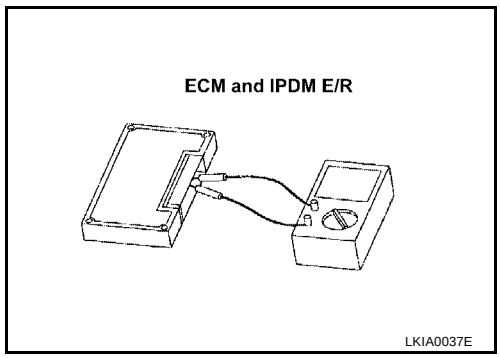
ECM AND IPDM E/R INTERNAL CIRCUIT INSPECTION

- Disconnect ECM and IPDM E/R harness connectors.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 Ω

- Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω



CAN SYSTEM (TYPE 4)

PFP:23710

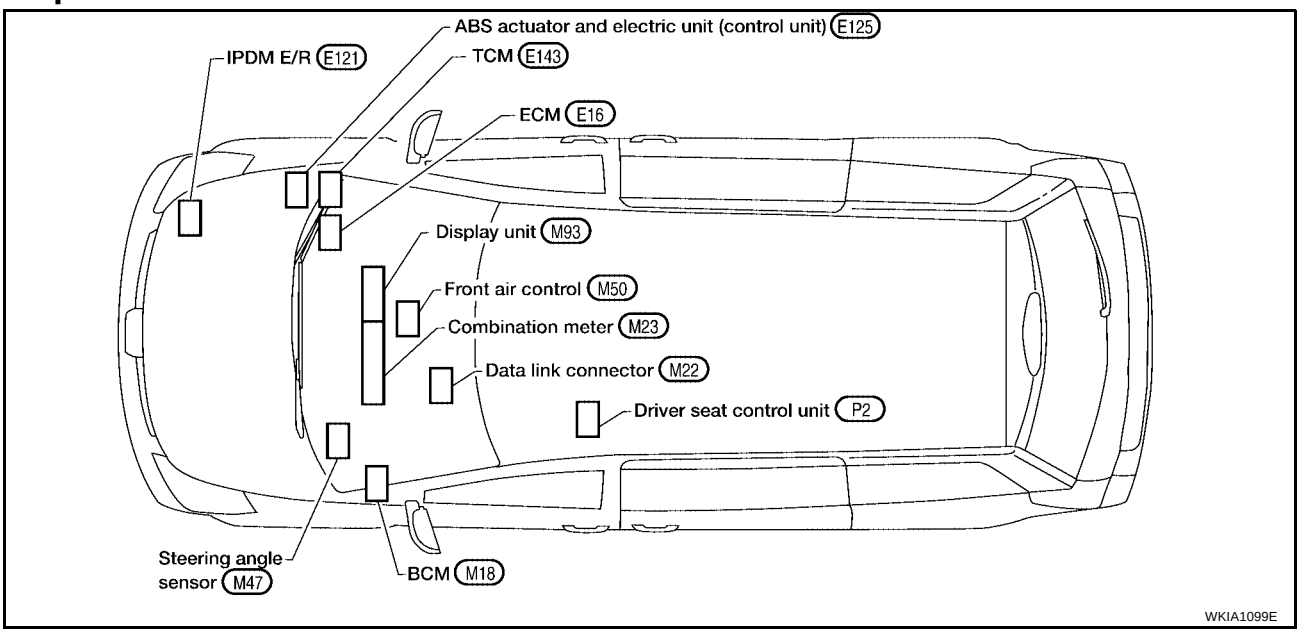
System Description

UKS002NY

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.

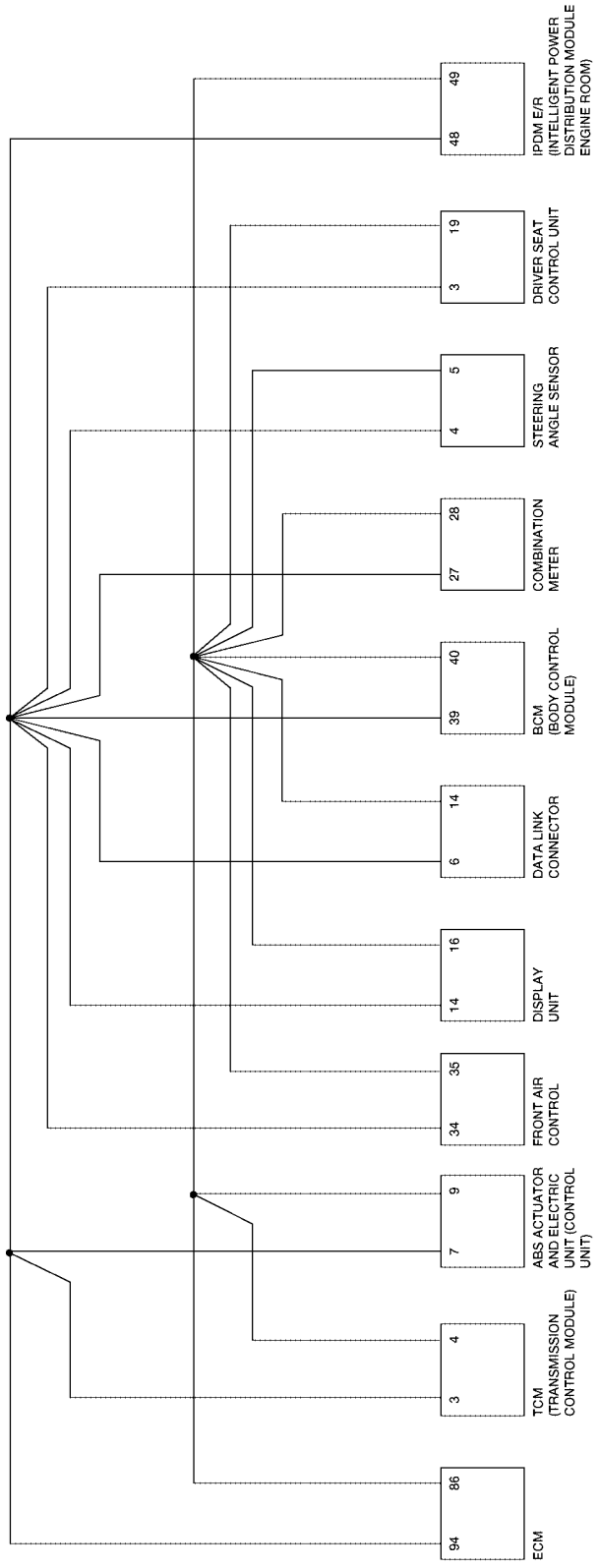
Component Parts and Harness Connector Location

UKS002NZ



Schematic

UKS002O0



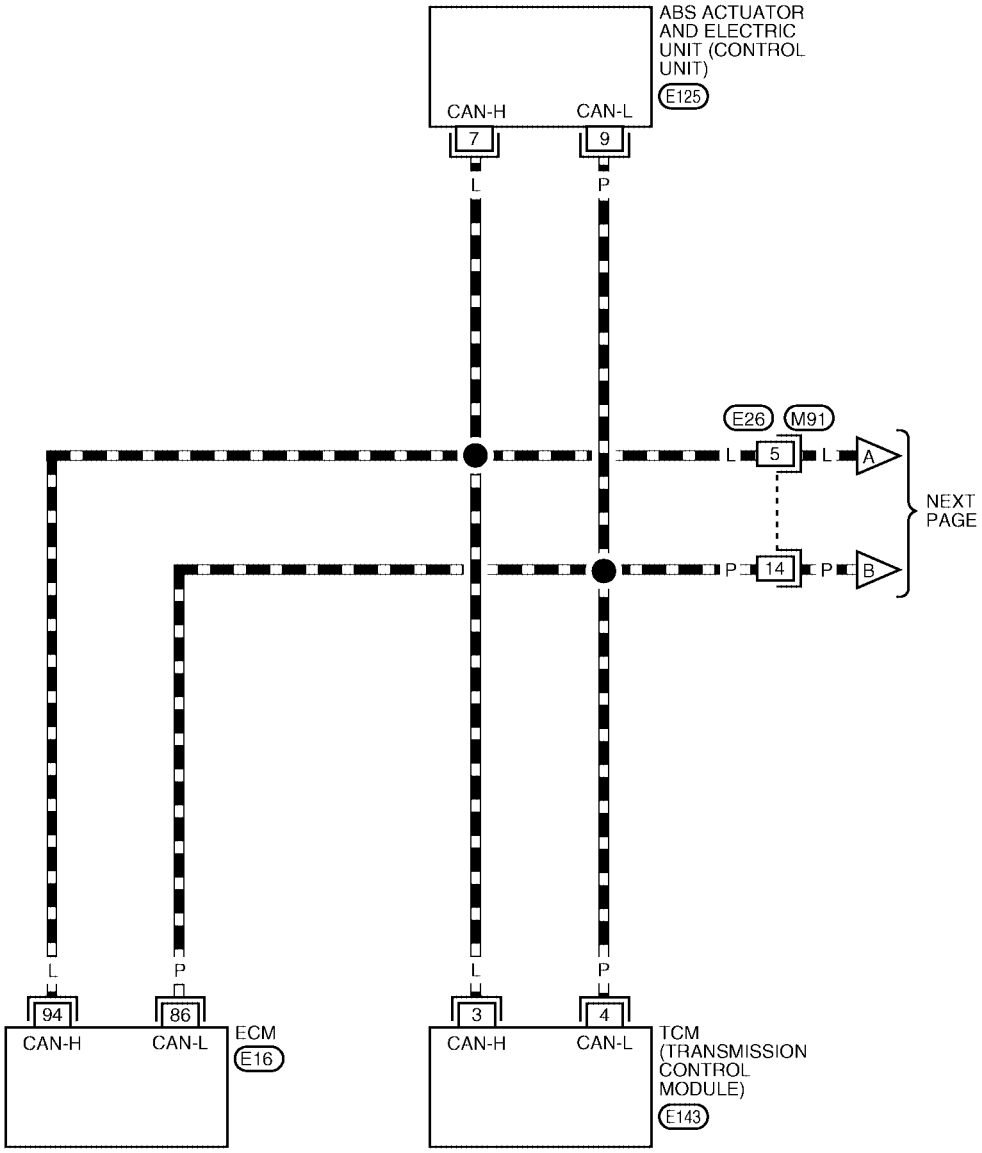
BKWA0347E

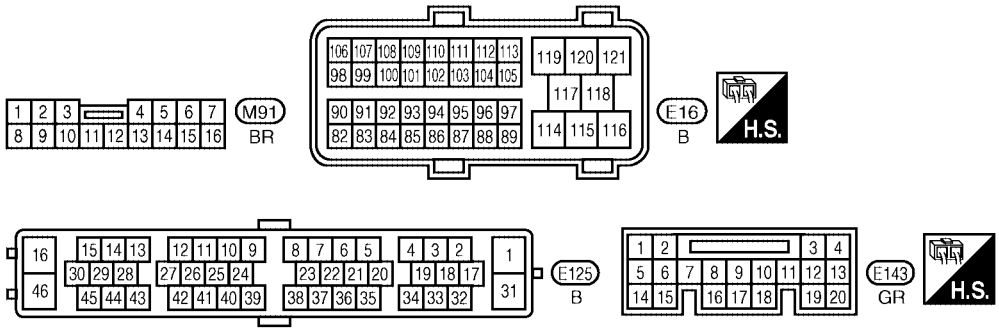
Wiring Diagram — CAN —

UKS002O1

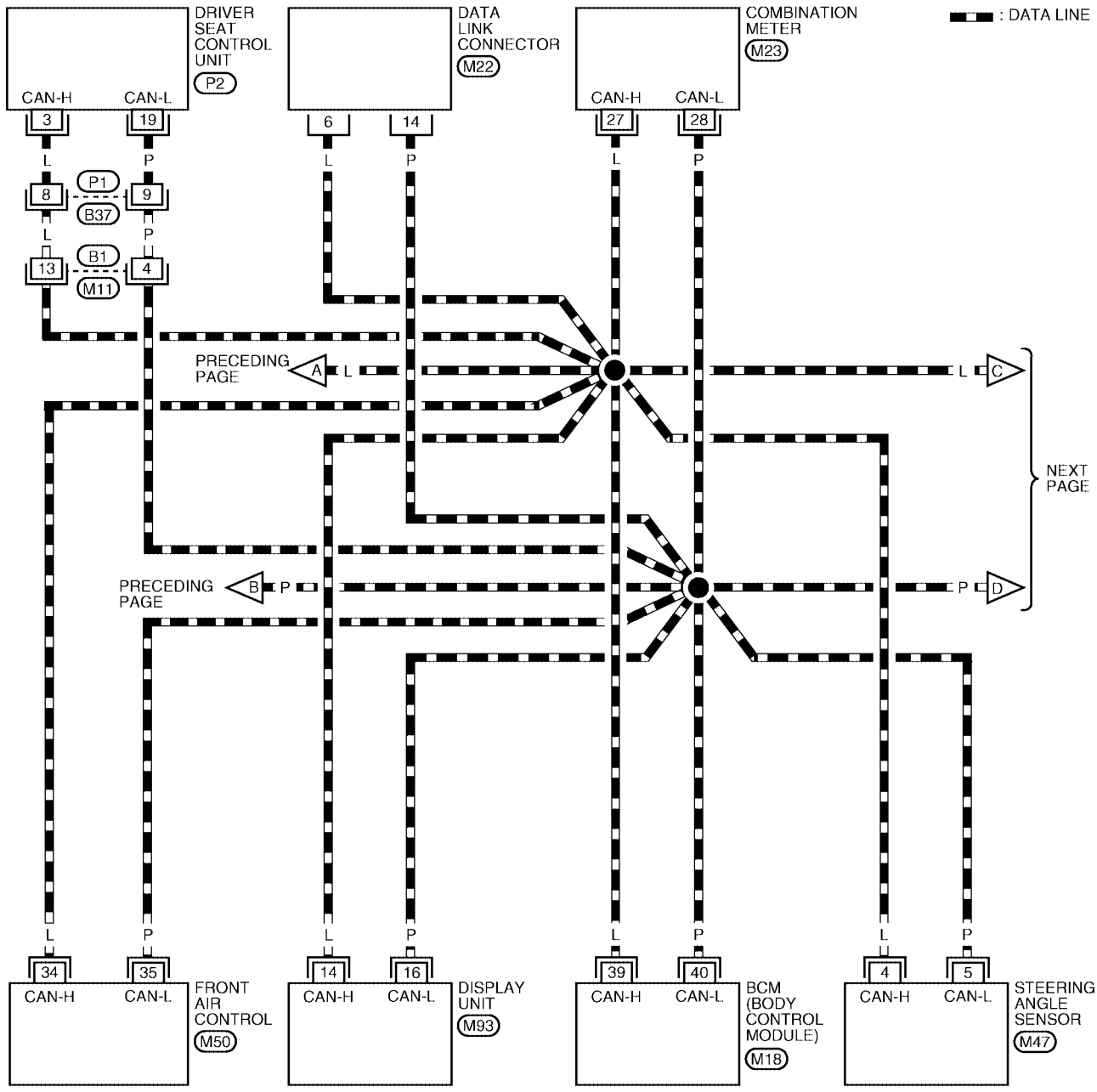
LAN-CAN-10

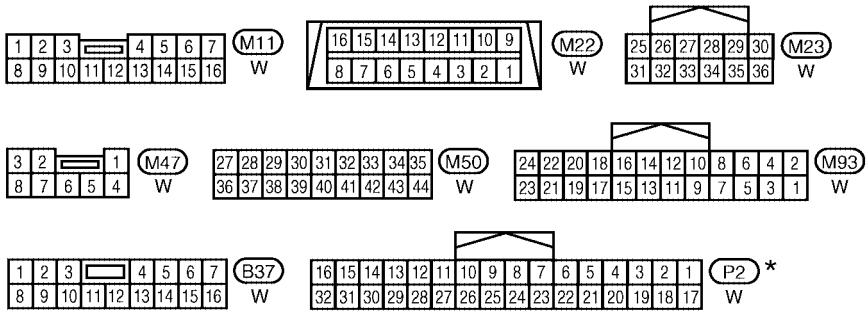
: DATA LINE





BKWA0339E



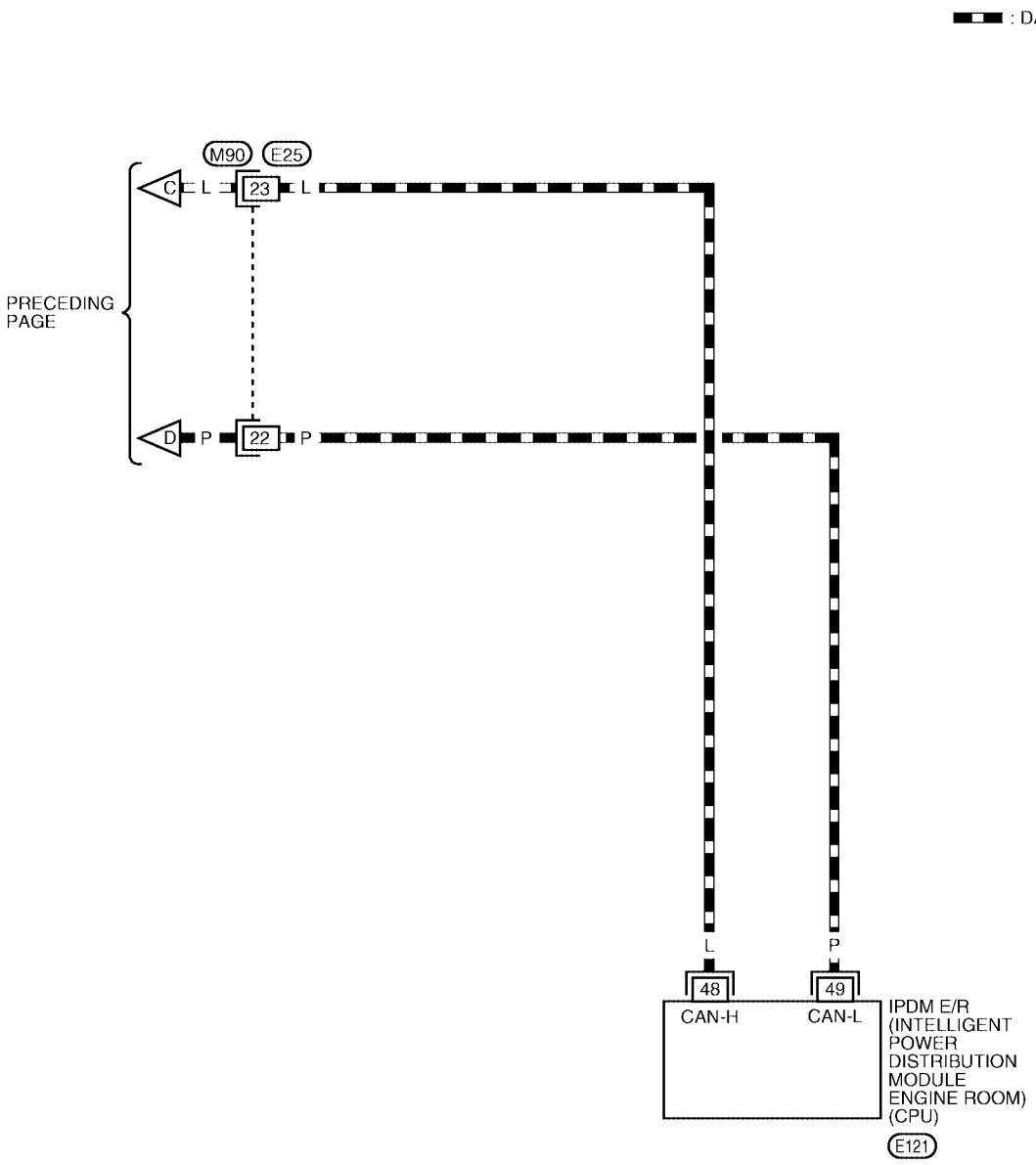


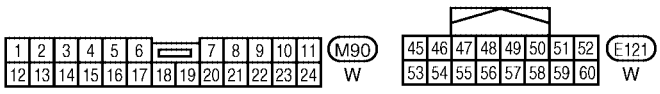
REFER TO THE FOLLOWING.
M18 - ELECTRICAL UNITS

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

BKWA0340E

LAN-CAN-12



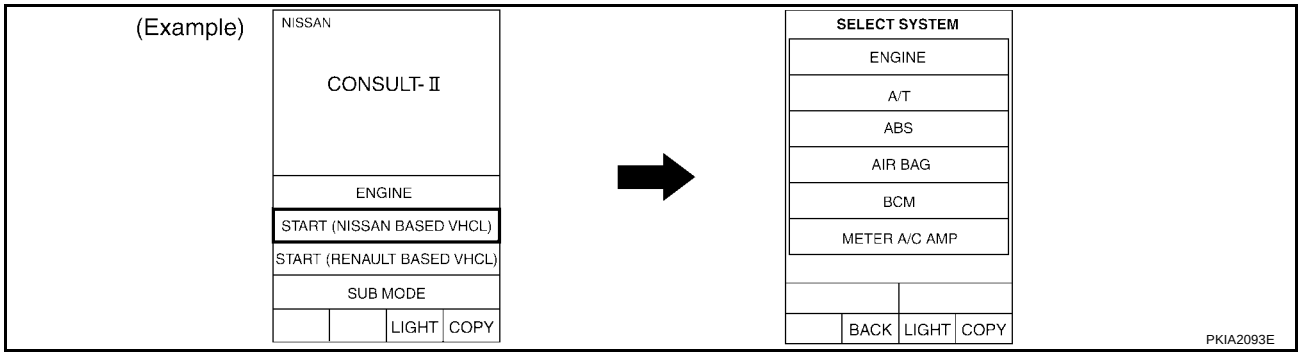


BKWA0341E

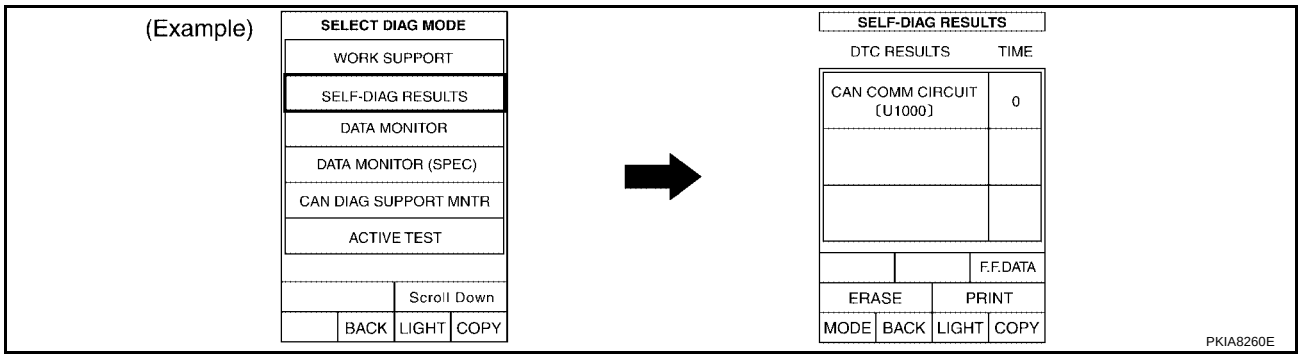
Work Flow

UKS002O2

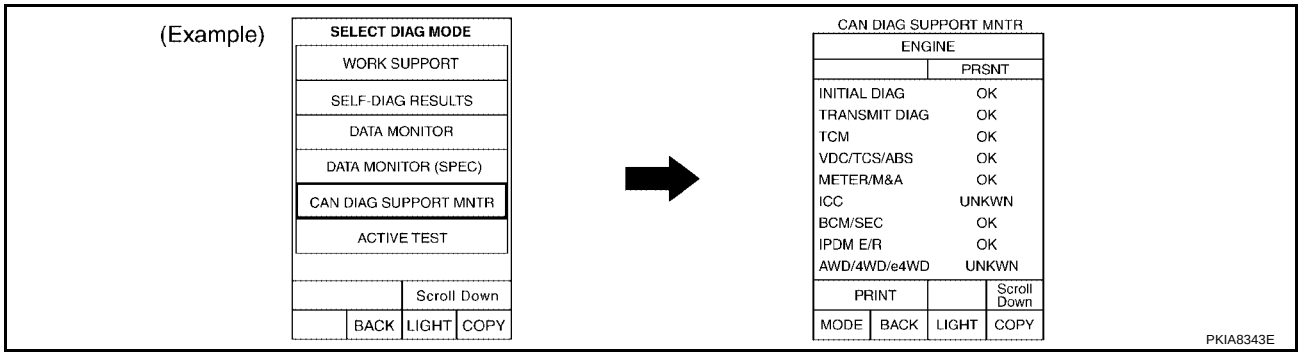
1. When there are no indications of “TRANSMISSION”, “BCM”, “AUTO DRIVE POS.” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet.Refer to LAN-103, "CHECK SHEET" .

5. Based on the indications of “SELECT SYSTEM” and the results of “CAN DIAG SUPPORT MNTR”, put marks onto the items with “No indication”, “NG” or “UNKWN” in the check sheet table.

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

WKIA2561E

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.
  Therefore, it is not necessary to check the status of the “CAN DIAG SUPPORT MNTR” items not in check sheet table.

6. Check CAN communication line of the integrated display system. Refer to AV-109, "AV Communication Line Check" .
7. Attach the CAN DIAG MONITOR check sheet onto the check sheet. Refer to LAN-103, "CHECK SHEET" .
8. Mark the “NG” or “UNKWN” item of the check sheet table from the result of CAN DIAG MONITOR check sheet.

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG MNTR” for the diagnosed control unit, replace the control unit.
9. According to the Check Sheet Results, start inspection.

CHECK SHEET

NOTE:

If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” as “CAN DIAG 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	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	STRG	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 4	CAN 2	CAN 5	-	CAN 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-

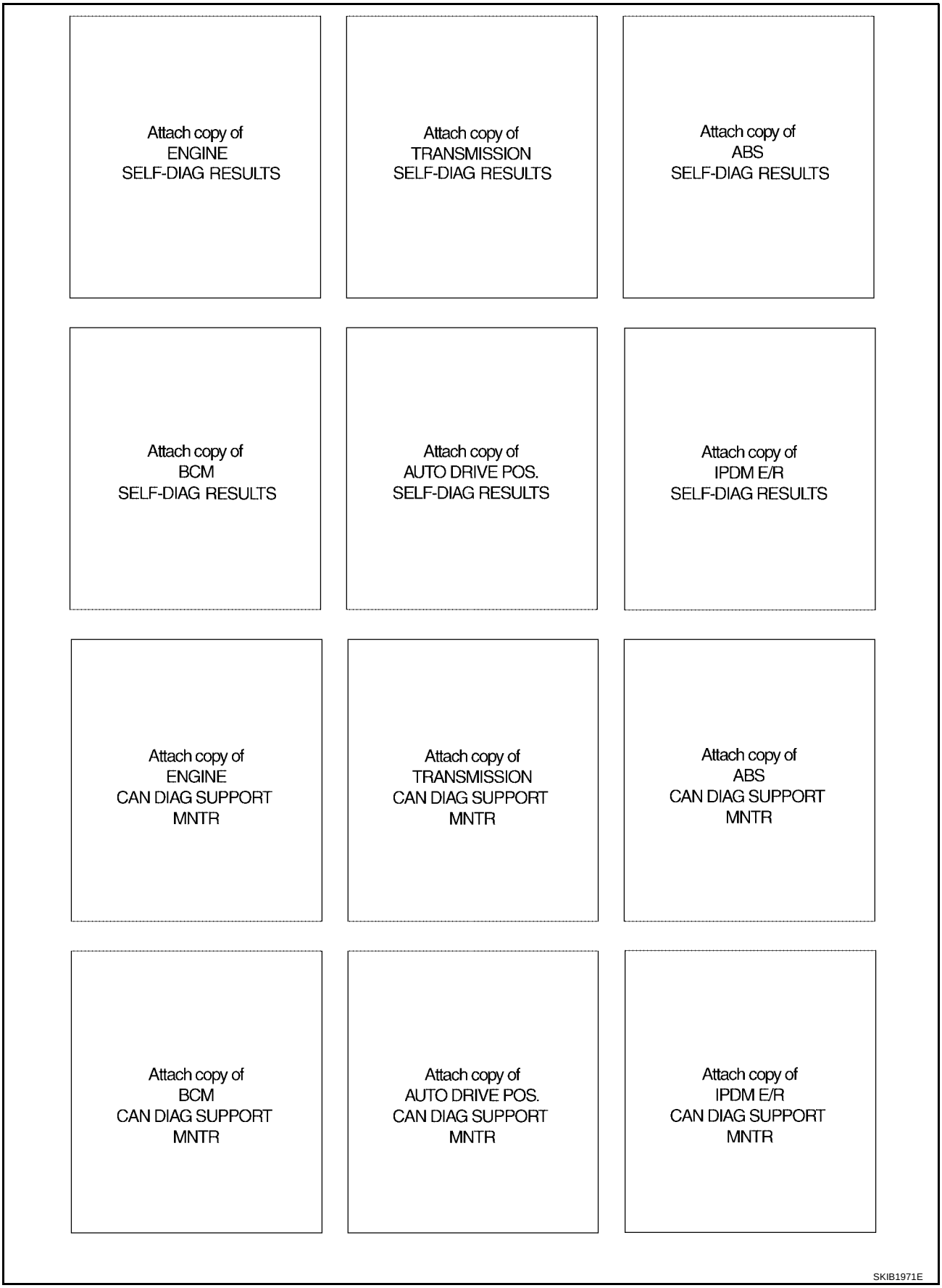
Symptoms:

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

SKIB2006E


Attach copy of
ENGINE
SELF-DIAG RESULTS
Attach copy of
TRANSMISSION
SELF-DIAG RESULTS
Attach copy of
ABS
SELF-DIAG RESULTS
Attach copy of
BCM
SELF-DIAG RESULTS
Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS
Attach copy of
IPDM E/R
SELF-DIAG RESULTS
Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR
Attach copy of
TRANSMISSION
CAN DIAG SUPPORT
MNTR
Attach copy of
ABS
CAN DIAG SUPPORT
MNTR
Attach copy of
BCM
CAN DIAG SUPPORT
MNTR
Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR
Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR
SKIB1971E

CHECK SHEET RESULTS

NOTE:

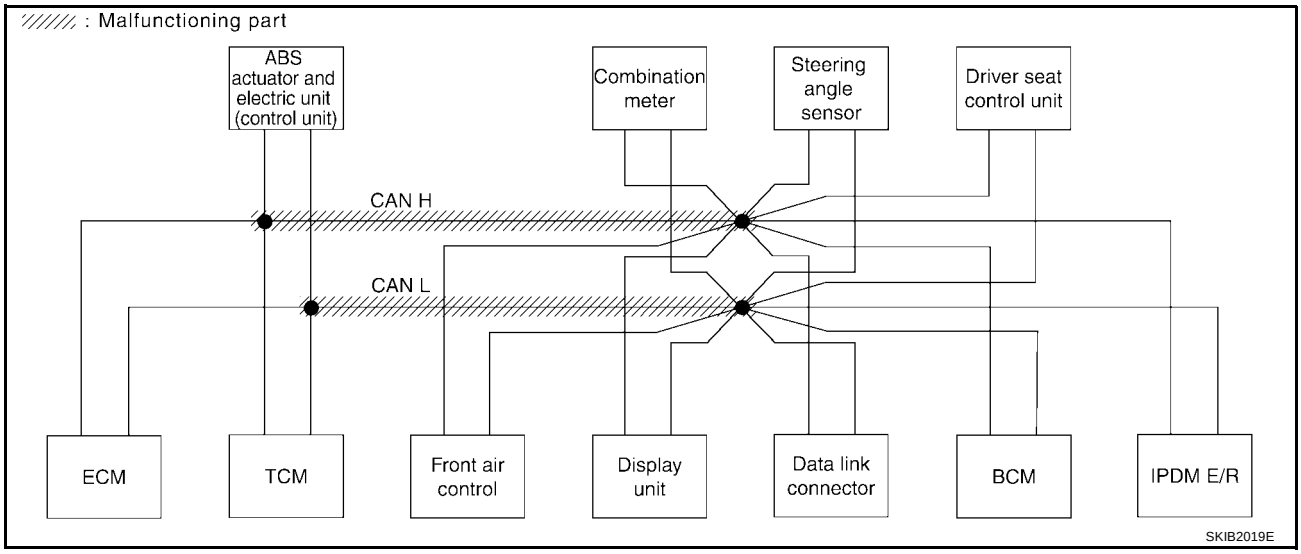
If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” as “CAN DIAG MNTR” for the diagnosed control unit, replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to LAN-118, "Circuit Check Between TCM and Data Link Connector" .

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

WKIA2630E



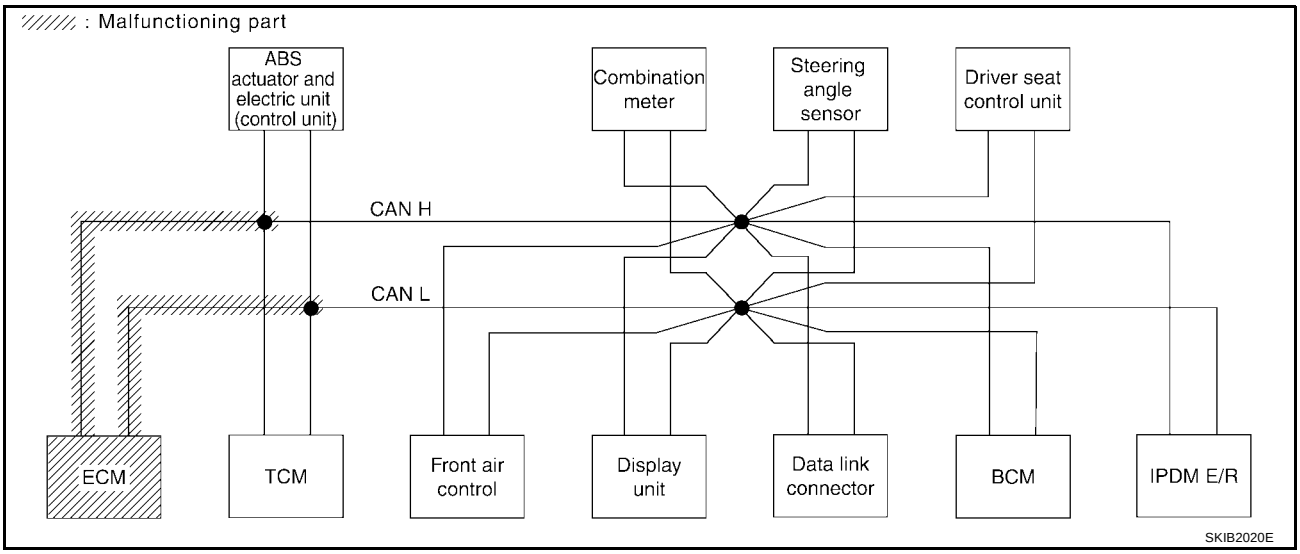
SKIB2019E

Case 2

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

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

WKIA2631E



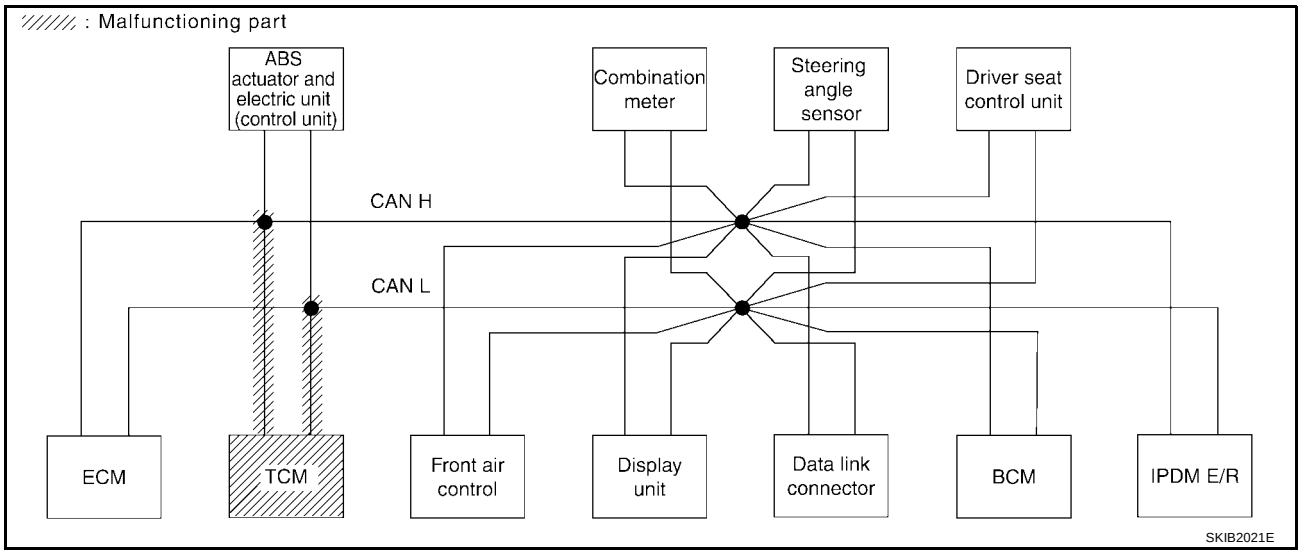
SKIB2020E

Case 3

Check TCM circuit. Refer to LAN-119, "TCM Circuit Check" .

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

WKIA2633E

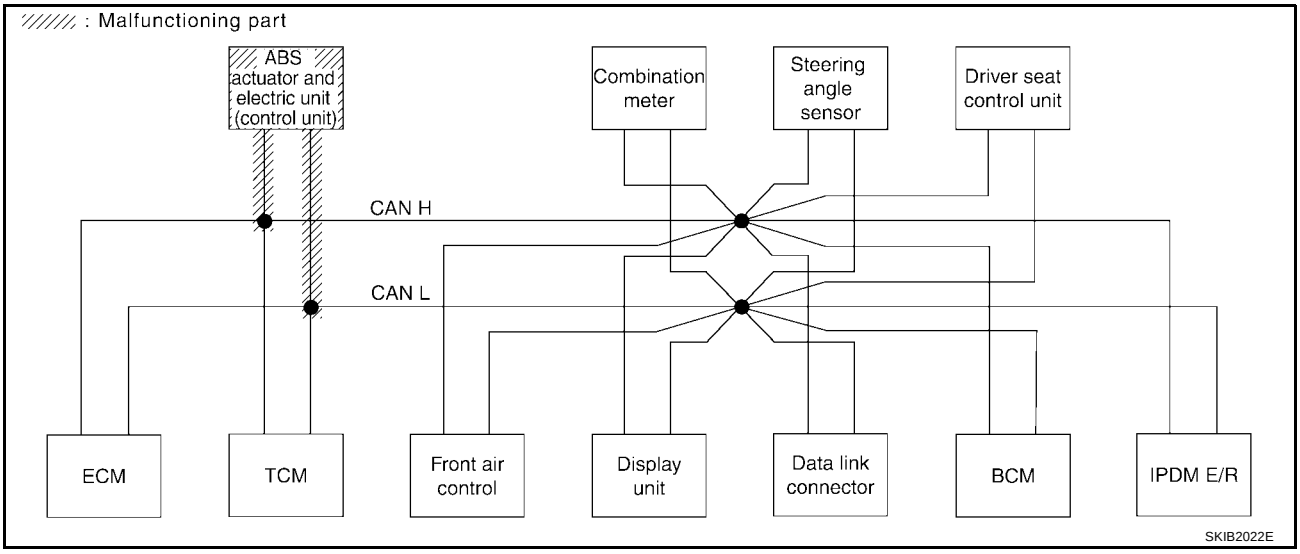


Case 4

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-119, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

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

SKIB2936E



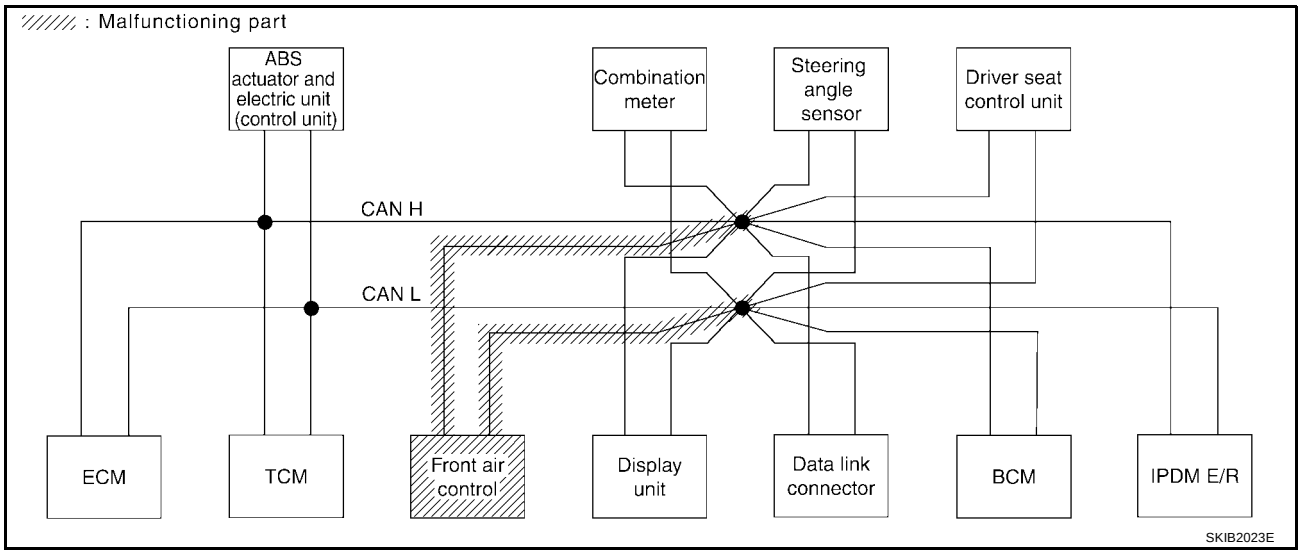
SKIB2022E

Case 5

Check front air control circuit. Refer to LAN-120, "Front Air Control Circuit Check" .

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

WKIA2640E

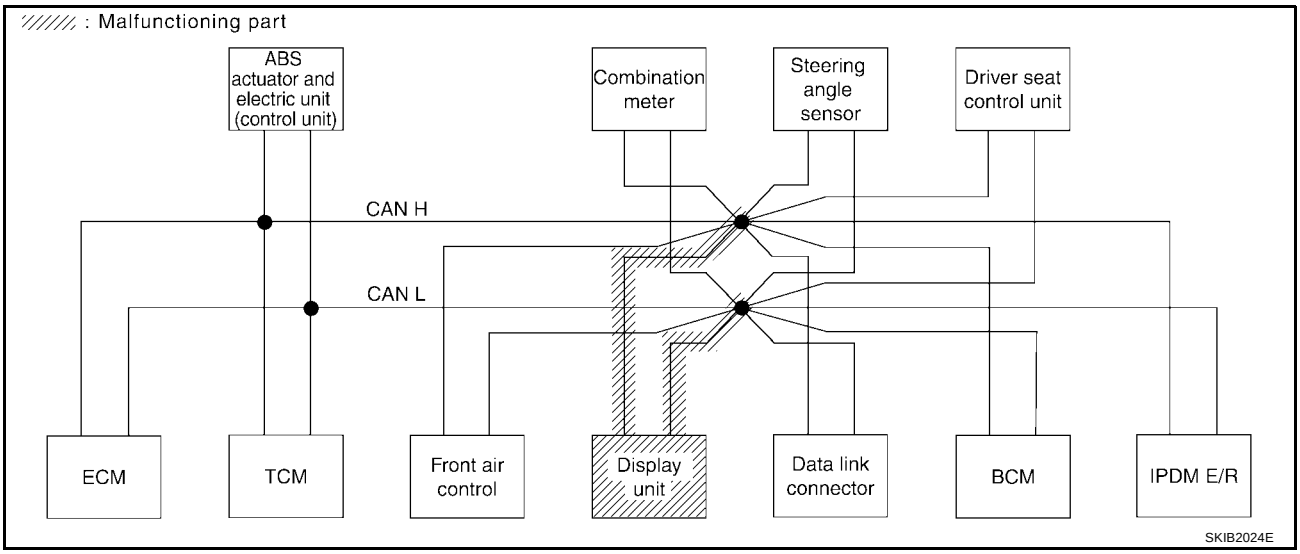


Case 6

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

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

WKIA2634E

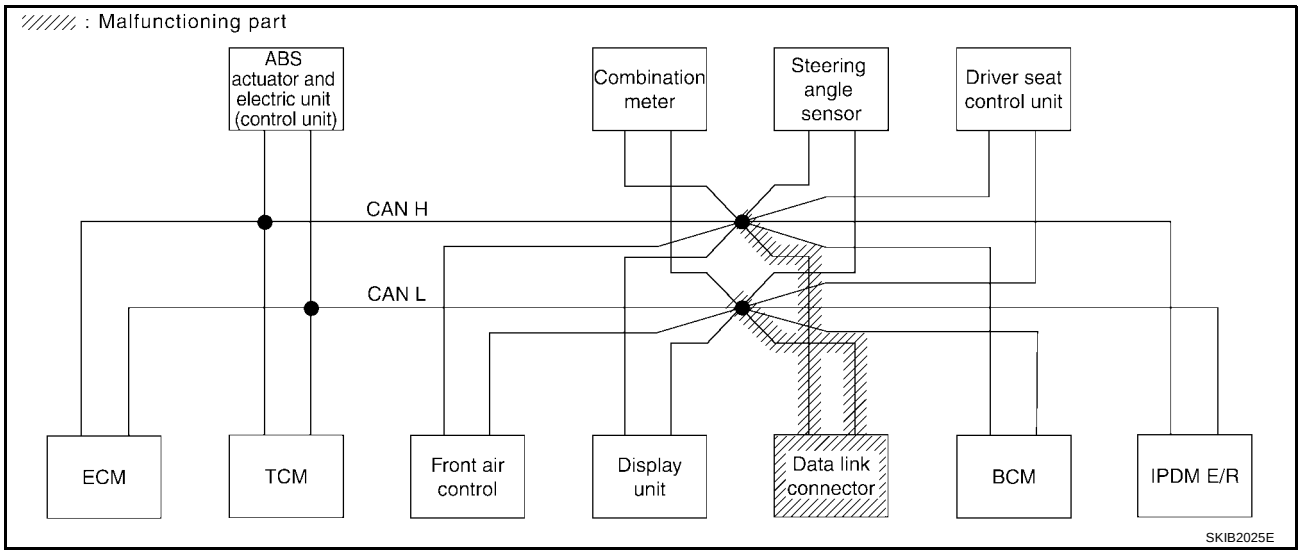


Case 7

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

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

WKIA2635E

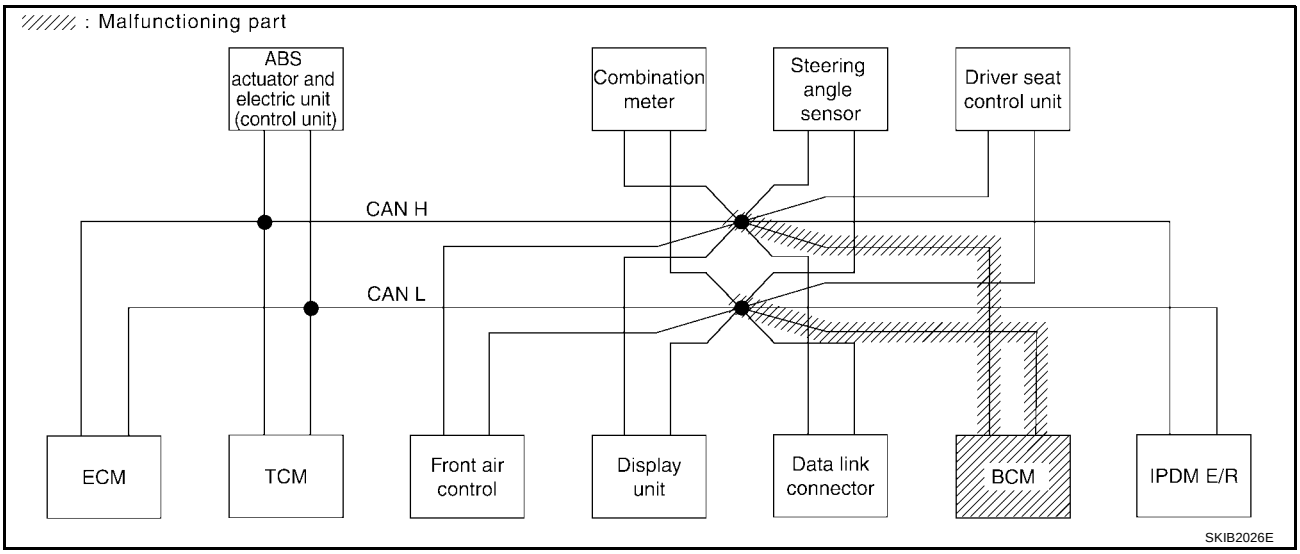


Case 8

Check BCM circuit. Refer to LAN-121, "BCM Circuit Check" .

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

WKIA2636E



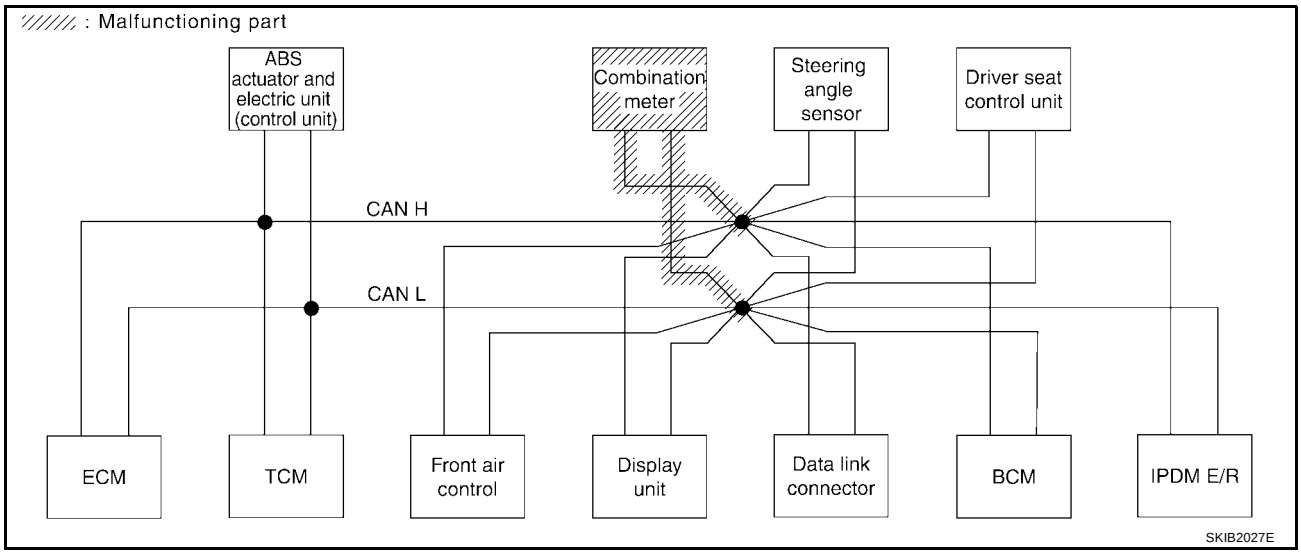
SKIB2026E

Case 9

Check combination meter circuit. Refer to LAN-122, "Combination Meter Circuit Check" .

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

WKIA2637E



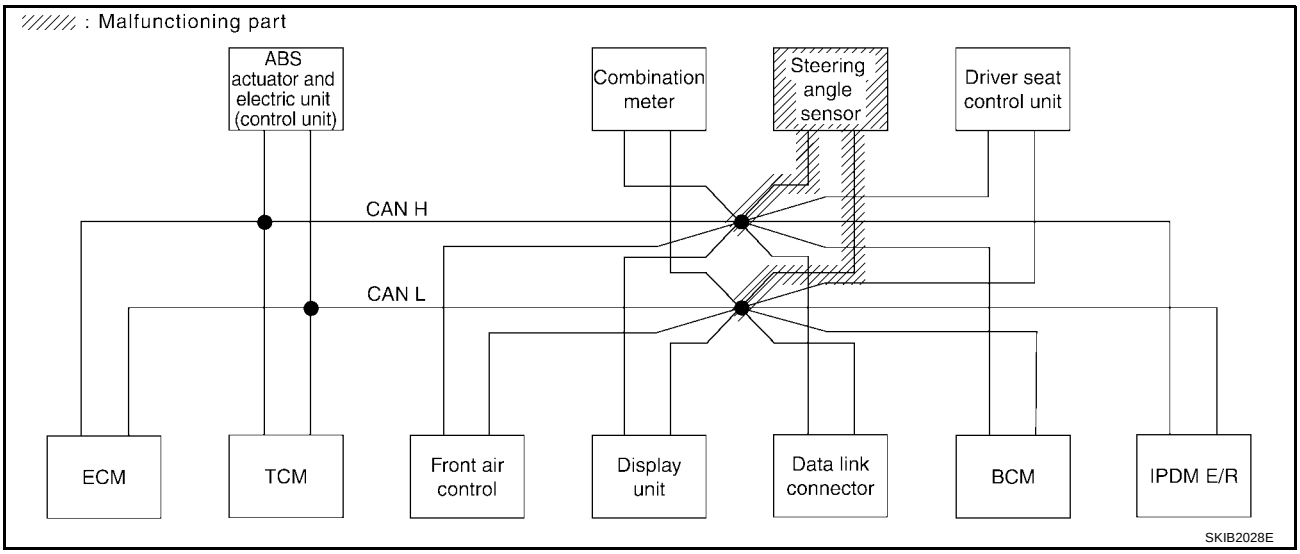
SKIB2027E

Case 10

Check steering angle sensor circuit. Refer to LAN-122, "Steering Angle Sensor Circuit Check" .

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

WKIA2638E

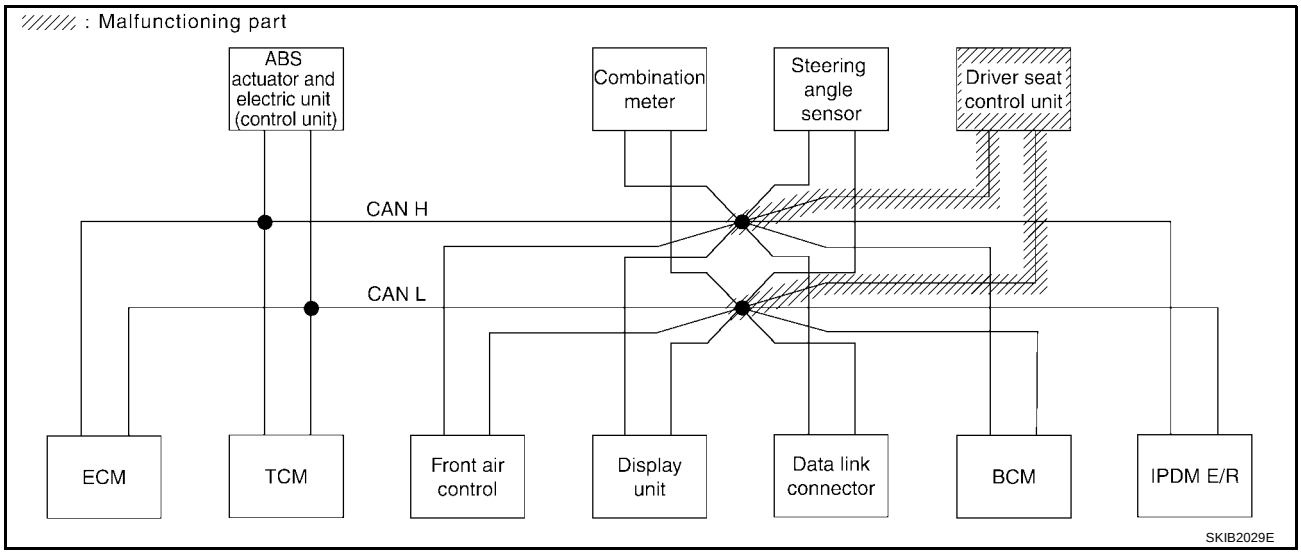


Case 11

Check driver seat control unit circuit. Refer to LAN-123, "Driver Seat Control Unit Circuit Check" .

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

WKIA2639E

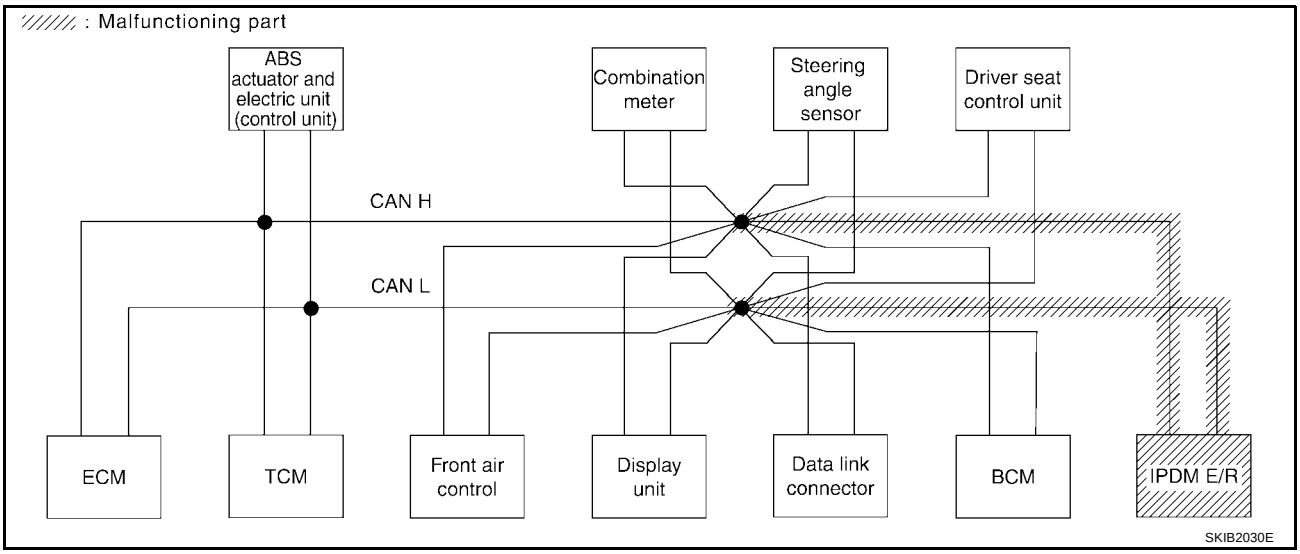


Case 12

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

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

WKIA2641E



SKIB2030E

Case 13

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

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

SKIB2140E

Case 14

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

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

WKIA2643E

Case 14

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

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

WKIA2644E

Circuit Check Between TCM and Data Link Connector

UKS002O3

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143 and ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

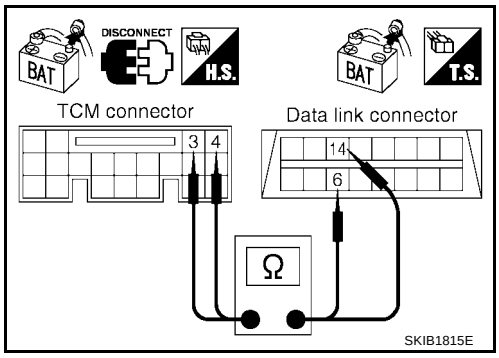
2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector E143 terminals 3 (L), 4 (P) and data link connector M22 terminals 6 (L), 14 (P).

3 (L) - 6 (L) : Continuity should exist.
4 (P) - 14 (P) : Continuity should exist.

OK or NG

OK >> Connect all connectors and diagnose again. Refer to LAN-101, "Work Flow" .
NG >> Repair harness.



ECM Circuit Check

UKS002O4

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

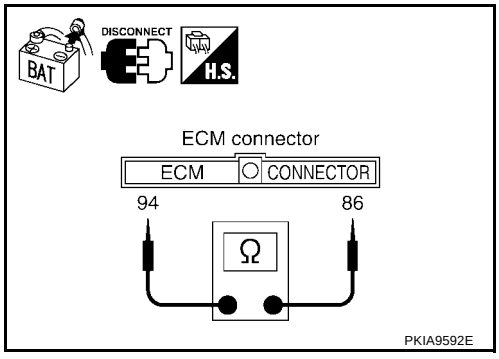
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector E16 terminal 94 (L) and terminal 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.
NG >> Repair harness between ECM connector E16 and TCM connector E143.



TCM Circuit Check

UKS002O5

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

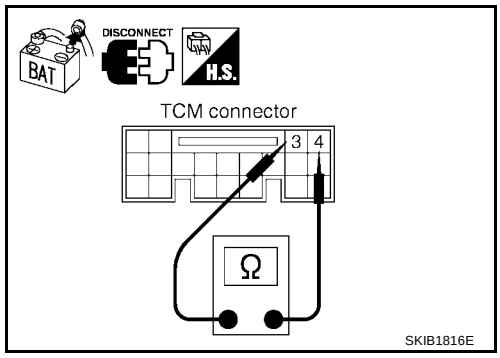
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector E143 terminal 3 (L) and terminal 4 (P).

3 (L) - 4 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.
NG >> Repair harness between TCM connector E143 and ECM connector E16.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS002O6

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ABS actuator and electric unit (control unit) connector E125.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

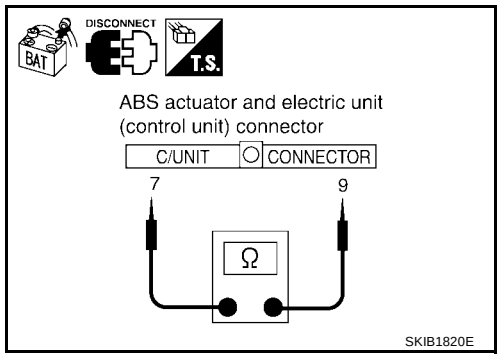
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 7 (L) and terminal 9 (P).

7 (L) - 9 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).
NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and ECM connector E16.



Front Air Control Circuit Check

UKS002O7

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect front air control connector M50.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

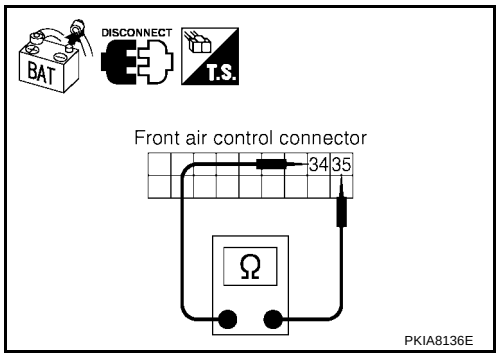
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between front air control connector M50 terminal 34 (L) and terminal 35 (P).

34 (L) - 35 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace front air control.
NG >> Repair harness between front air control connector M50 and data link connector M22.



Display Unit Circuit Check

UKS002O8

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect display unit connector M93.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

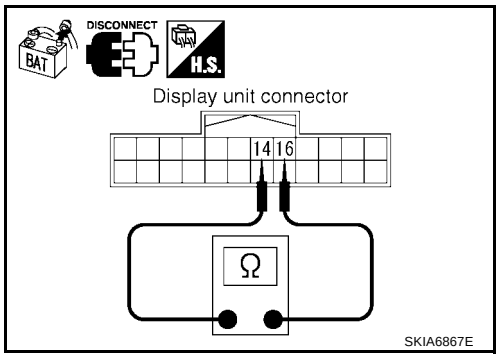
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 14 (L) and terminal 16 (P).

14 (L) - 16 (P) : Approx. 54 - 66Ω

OK or NG

OK >> Replace display unit.
NG >> Repair harness between display unit connector M93 and data link connector M22.



Data Link Connector Circuit Check

UKS002O9

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

OK or NG

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

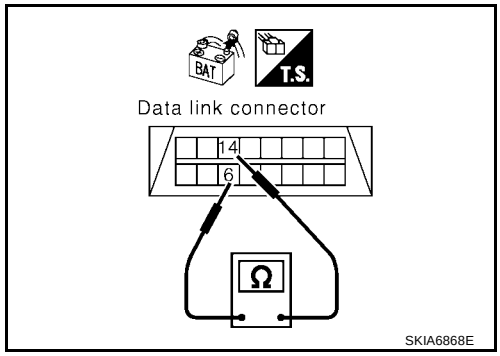
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (P).

6 (L) - 14 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-101, "Work Flow" .
NG >> Repair harness between data link connector M22 and BCM connector M18.



BCM Circuit Check

UKS002OA

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect BCM connector M18.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

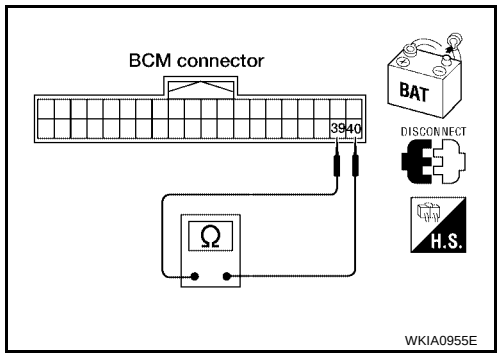
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (P).

39 (L) - 40 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM.
NG >> Repair harness between BCM connector M18 and data link connector M22.



Combination Meter Circuit Check

UKS002OB

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect combination meter connector M23.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

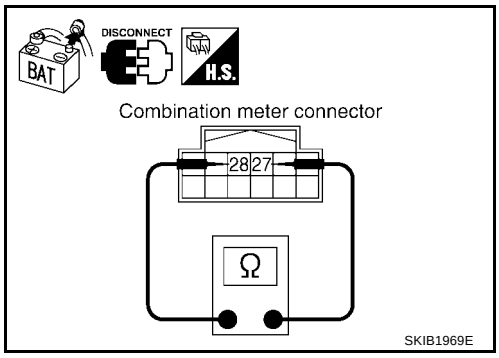
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between combination meter connector M23 terminal 27 (L) and terminal 28 (P).

27 (L) - 28 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.
NG >> Repair harness between combination meter connector M23 and data link connector M22.



Steering Angle Sensor Circuit Check

UKS002OC

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect steering angle sensor connector M47.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

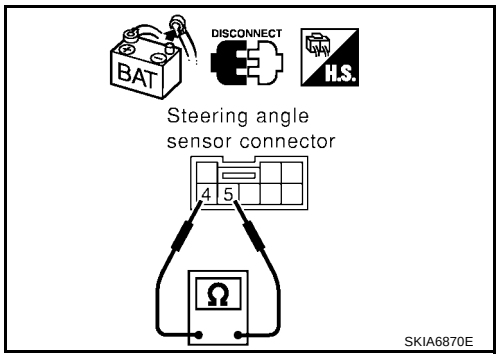
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between steering angle sensor connector M47 terminal 4 (L) and terminal 5 (P).

4 (L) - 5 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.
NG >> Repair harness between steering angle sensor connector M47 and data link connector M22.



Driver Seat Control Unit Circuit Check

UKS002OD

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect driver seat control unit connector P2.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

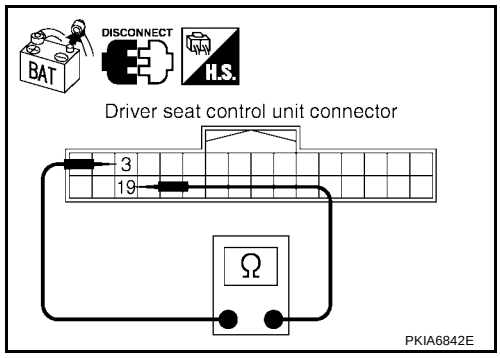
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (L) and terminal 19 (P).

3 (L) - 19 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace driver seat control unit.
NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



IPDM E/R Circuit Check

UKS002OE

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect IPDM E/R connector E121.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

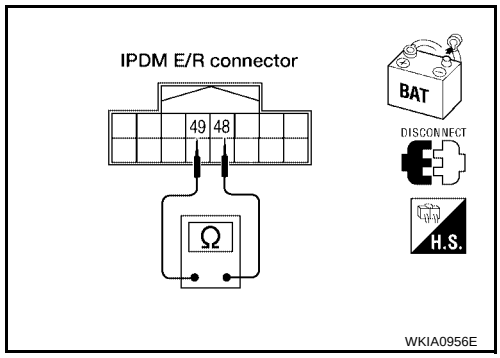
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (P).

48 (L) - 49 (P) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.
NG >> Repair harness between IPDM E/R connector E121 and data link connector M22.



CAN Communication Circuit Check

UKS002OF

1. CONNECTOR INSPECTION

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

- ECM
- TCM (Transmission control module)
- ABS actuator and electric unit (control unit)
- Front air control
- Display unit
- BCM (Body control module)
- Combination meter
- Steering angle sensor
- Driver seat control unit
- IPDM E/R (Intelligent power distribution module engine room)

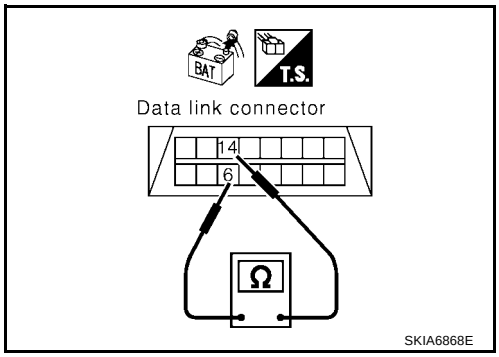
OK or NG

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

2. CHECK HARNESS FOR SHORTED CIRCUITS

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

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



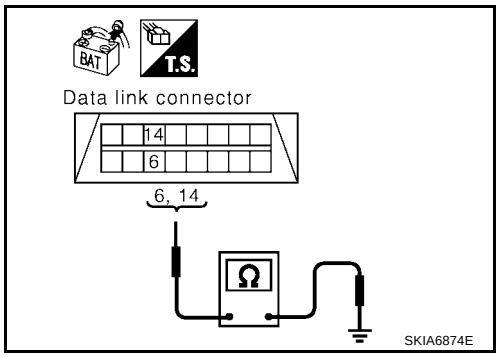
OK or NG

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

3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 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 >> Check ECM and IPDM E/R. Refer to LAN-125, "Component Inspection" .
NG >> Repair the harness.

IPDM E/R Ignition Relay Circuit Check

UKS002OG

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-12, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START" .

Component Inspection

UKS002OH

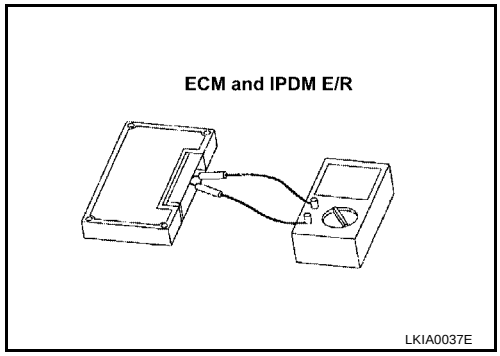
ECM AND IPDM E/R INTERNAL CIRCUIT INSPECTION

- Disconnect ECM and IPDM E/R harness connectors.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 Ω

- Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω



CAN SYSTEM (TYPE 5)

PFP:23710

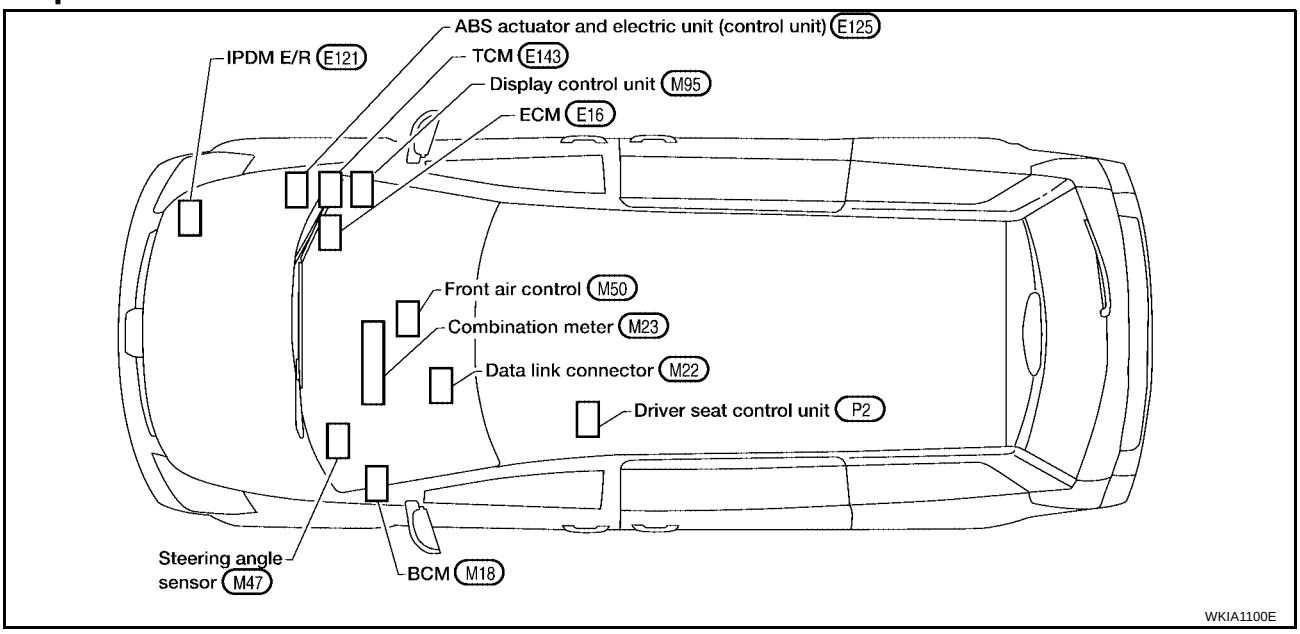
System Description

UKS002NE

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.

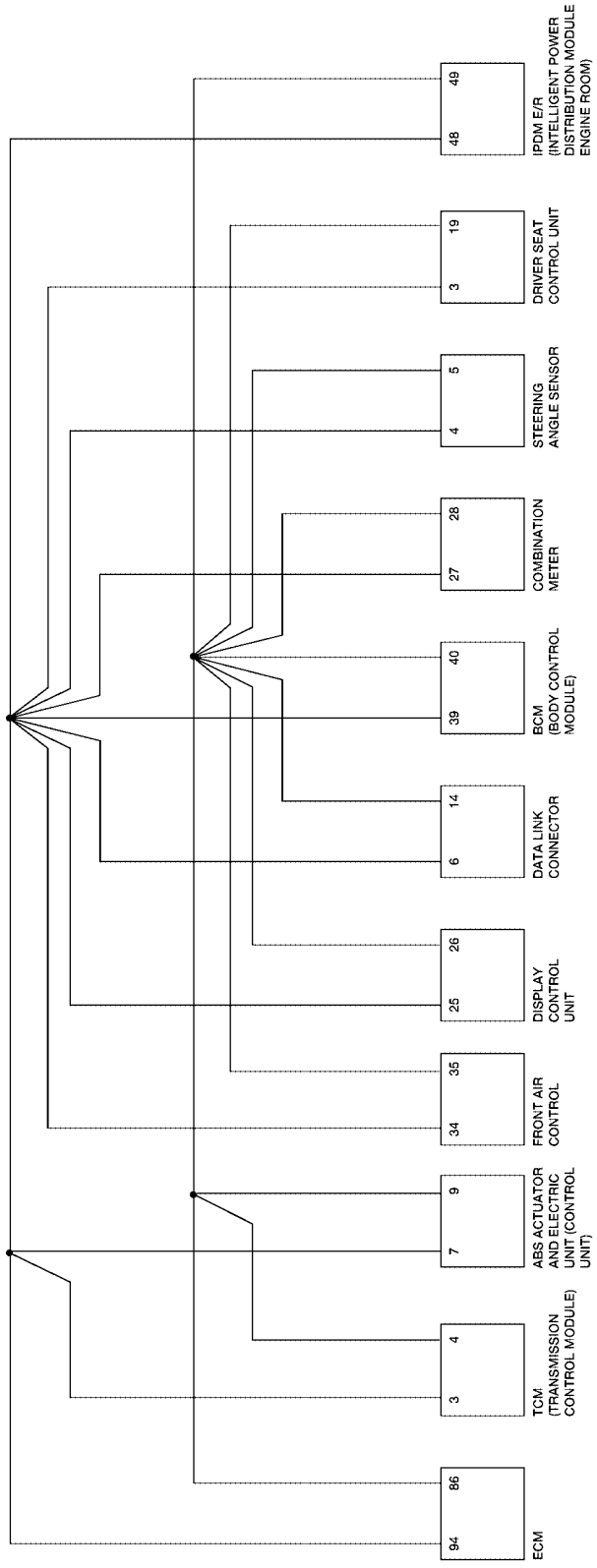
Component Parts and Harness Connector Location

UKS002NF



Schematic

UKS002NG



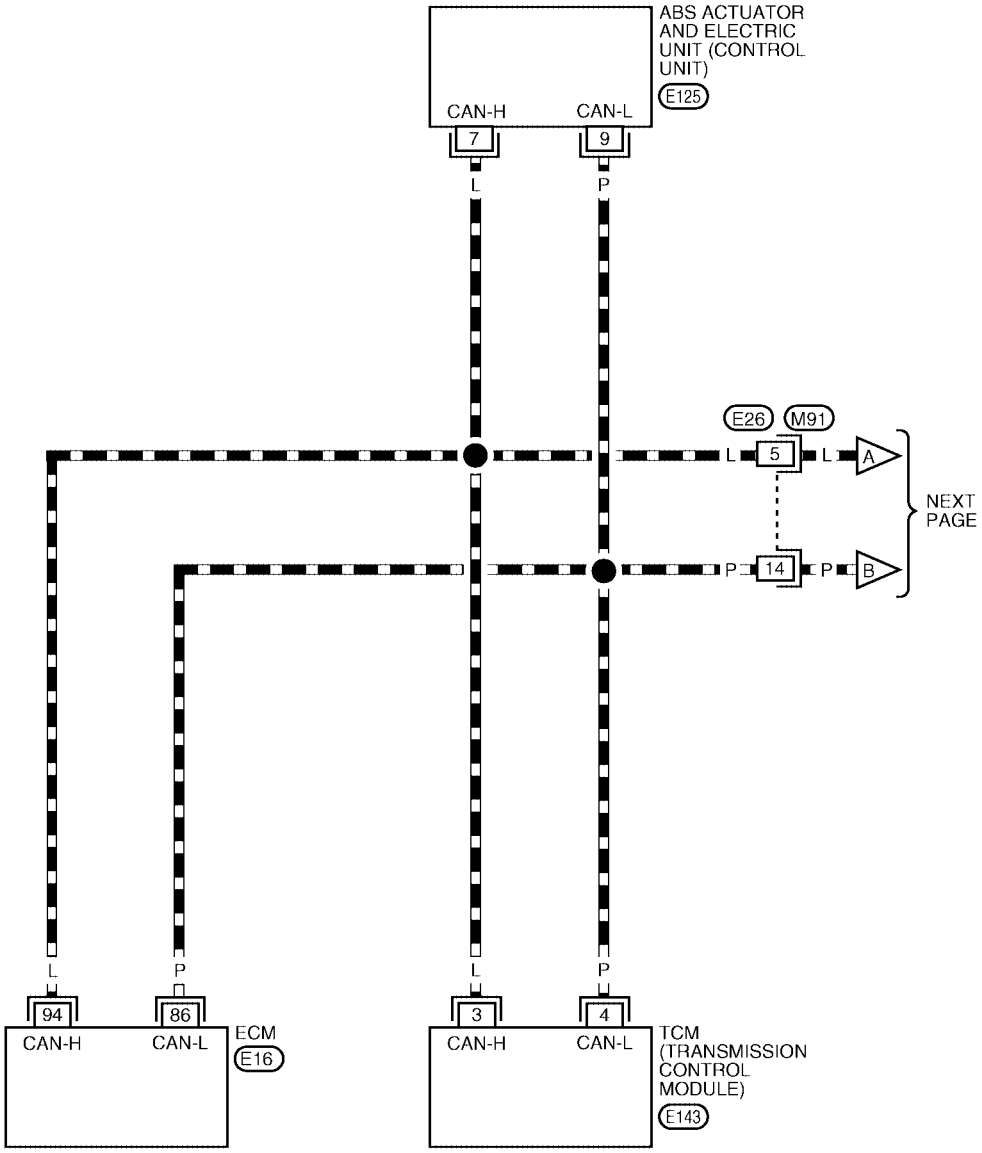
WKWA0587E

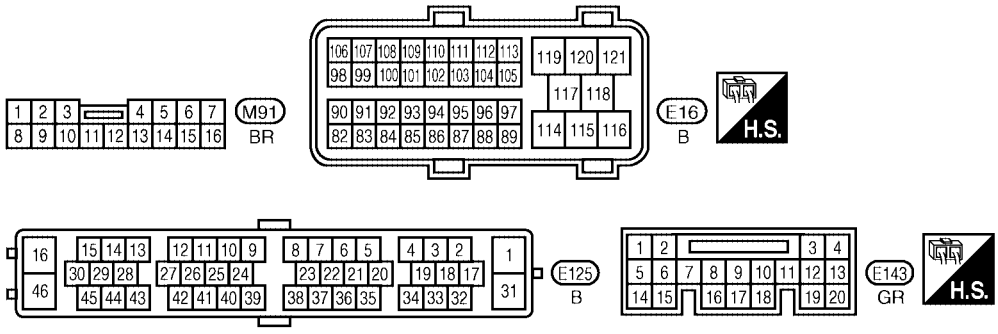
Wiring Diagram — CAN —

UKS002NH

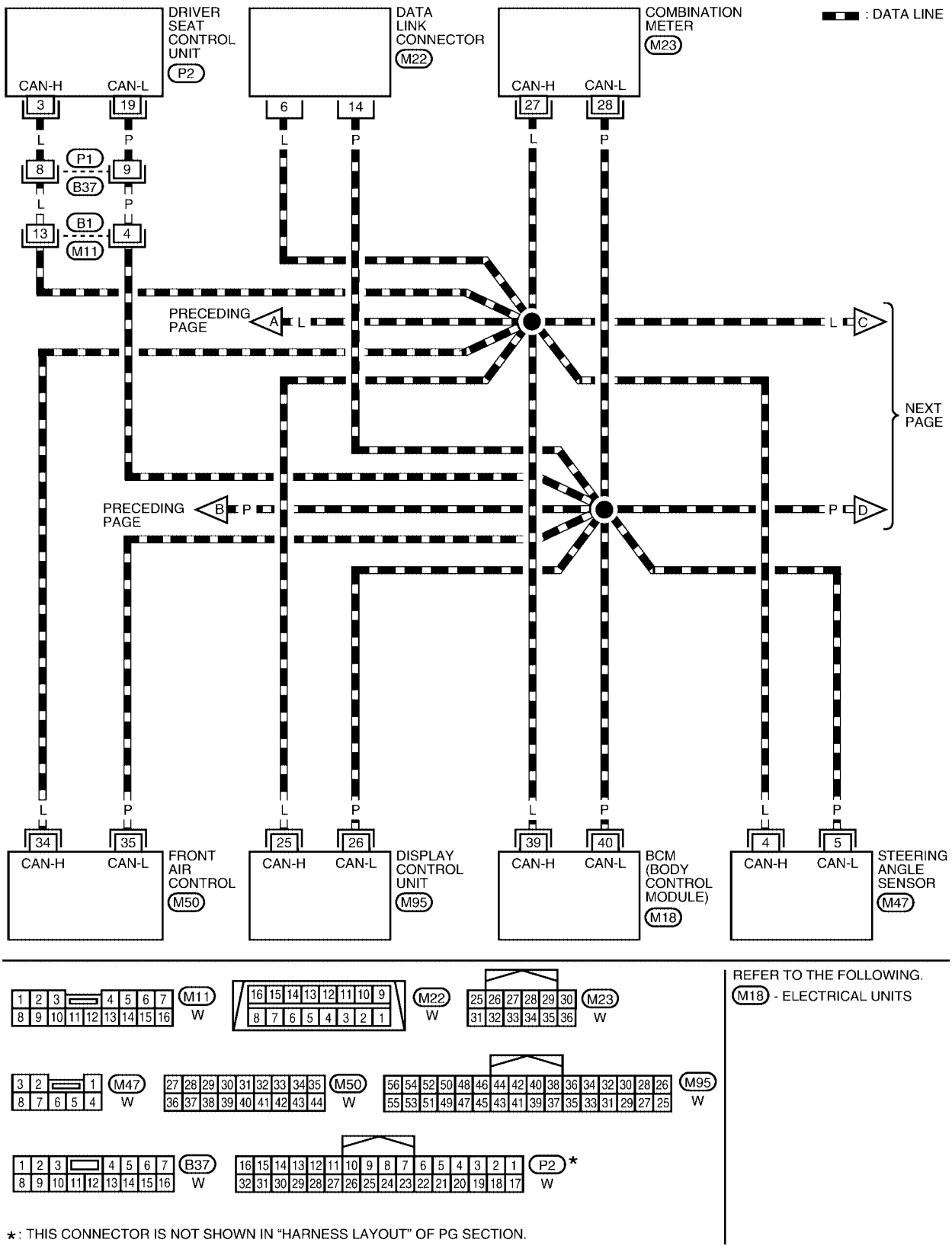
LAN-CAN-13

: DATA LINE

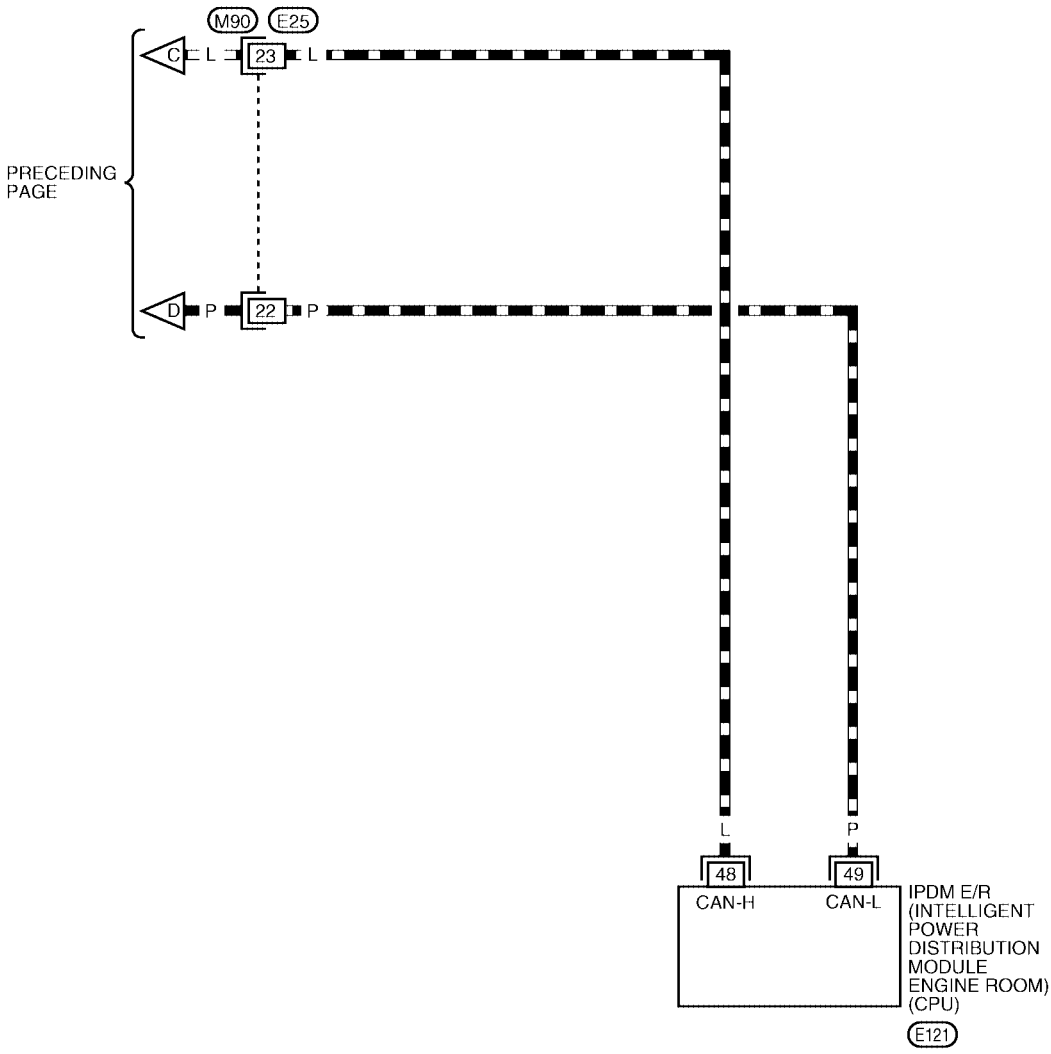


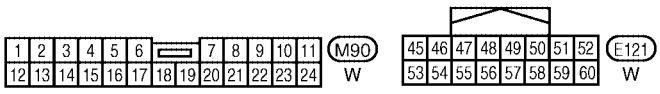


BKWA0343E


DRIVER SEAT CONTROL UNIT
P2
CAN-H
CAN-L
3
19
DATA LINK CONNECTOR
M22
6
14
COMBINATION METER
M23
27
28
: DATA LINE
L
P
P1
B37
8
9
B1
M11
13
4
PRECEDING PAGE
A
NEXT PAGE
C
PRECEDING PAGE
B
D
34
35
FRONT AIR CONTROL
M50
25
26
DISPLAY CONTROL UNIT
M95
39
40
BCM (BODY CONTROL MODULE)
M18
4
5
STEERING ANGLE SENSOR
M47
M11
M22
M23
M47
M50
M95
B37
P2
W
REFER TO THE FOLLOWING.
M18 - ELECTRICAL UNITS
* : THIS CONNECTOR IS NOT SHOWN IN “HARNESS LAYOUT” OF PG SECTION.

BKWA0346E


: DATA LINE
M90
E25
C
L
23
L
PRECEDING PAGE
D
P
22
P
L
P
48
49
CAN-H
CAN-L
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (CPU)
E121

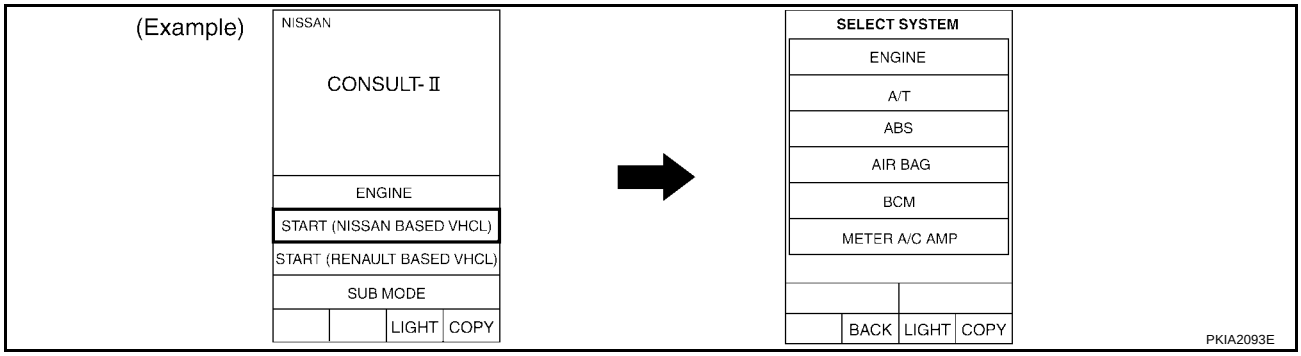

1 2 3 4 5 6 7 8 9 10 11
12 13 14 15 16 17 18 19 20 21 22 23 24
M90
W
45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60
E121
W

BKWA0345E

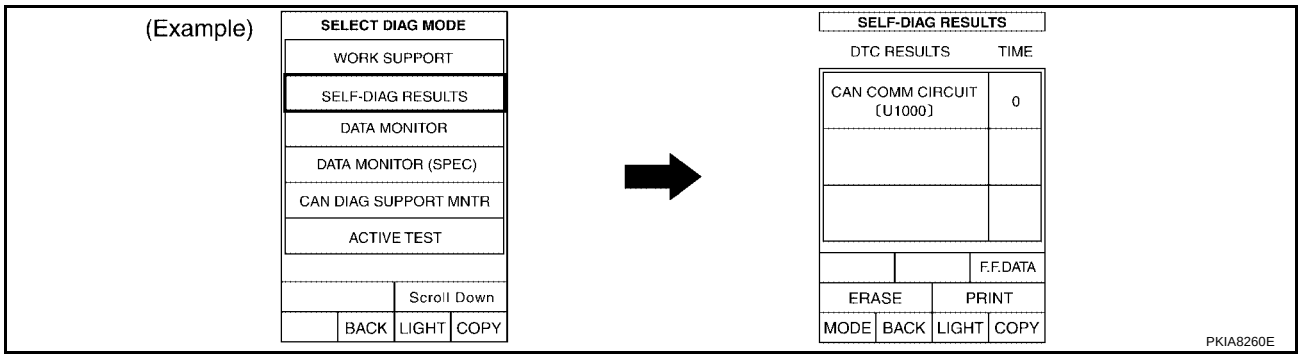
Work Flow

UKS002NI

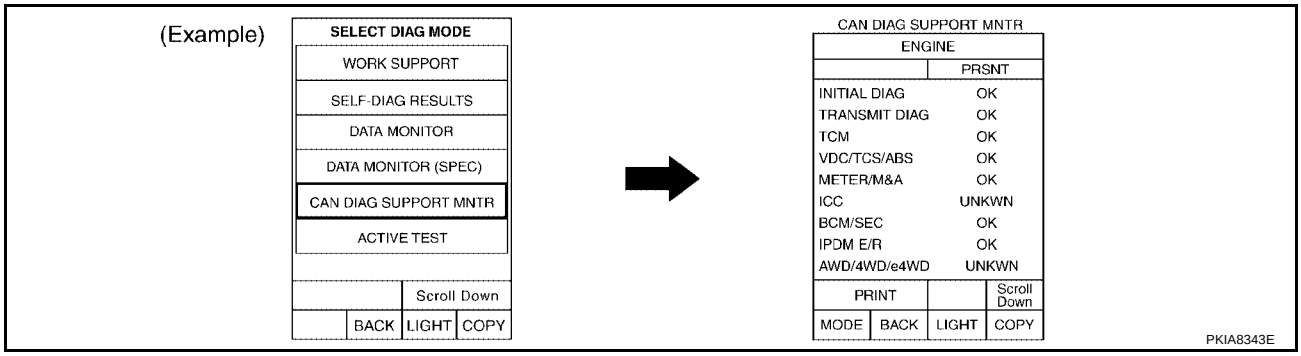
1. When there are no indications of “TRANSMISSION”, “BCM”, “AUTO DRIVE POS.” or “IPDM E/R” on “SELECT SYSTEM” display of CONSULT-II, print the “SELECT SYSTEM”.



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



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



4. Attach the printed sheet of “SELECT SYSTEM”, “SELF-DIAG RESULTS” and “CAN DIAG SUPPORT MNTR” onto the check sheet. Refer to LAN-133, "CHECK SHEET" .

5. Based on the indications of “SELECT SYSTEM” and the results of “CAN DIAG SUPPORT MNTR”, put marks onto the items with “No indication”, “NG” or “UNKWN” in the check sheet table.

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

WKIA2562E

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.
  Therefore, it is not necessary to check the status of the “CAN DIAG SUPPORT MNTR” items not in check sheet table.

6. Check CAN communication line of the navigation system.
7. Attach the CAN DIAG SUPPORT MONITOR check sheet onto the check sheet. Refer to LAN-133, "CHECK SHEET" .
8. Mark the “NG” or “UNKWN” item of the check sheet table from the result of CAN DIAG SUPPORT MONITOR check sheet.

   NOTE:
   If “NG” is displayed on “CAN COMM” as “CAN DIAG SUPPORT MNTR” for the diagnosed control unit, replace the control unit.
9. According to the Check Sheet Results, start inspection.

CHECK SHEET

NOTE:

If “NG” is displayed on “INITIAL DIAG (Initial diagnosis)” or “CAN COMM” 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	VDC/TCS/ ABS	Front air control	BCM/SEC	METER/ M&A	STRG	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 4	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 7
BCM	No indication	NG	UNKWN	UNKWN	-	-	-	-	UNKWN	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	-	UNKWN	UNKWN	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	-

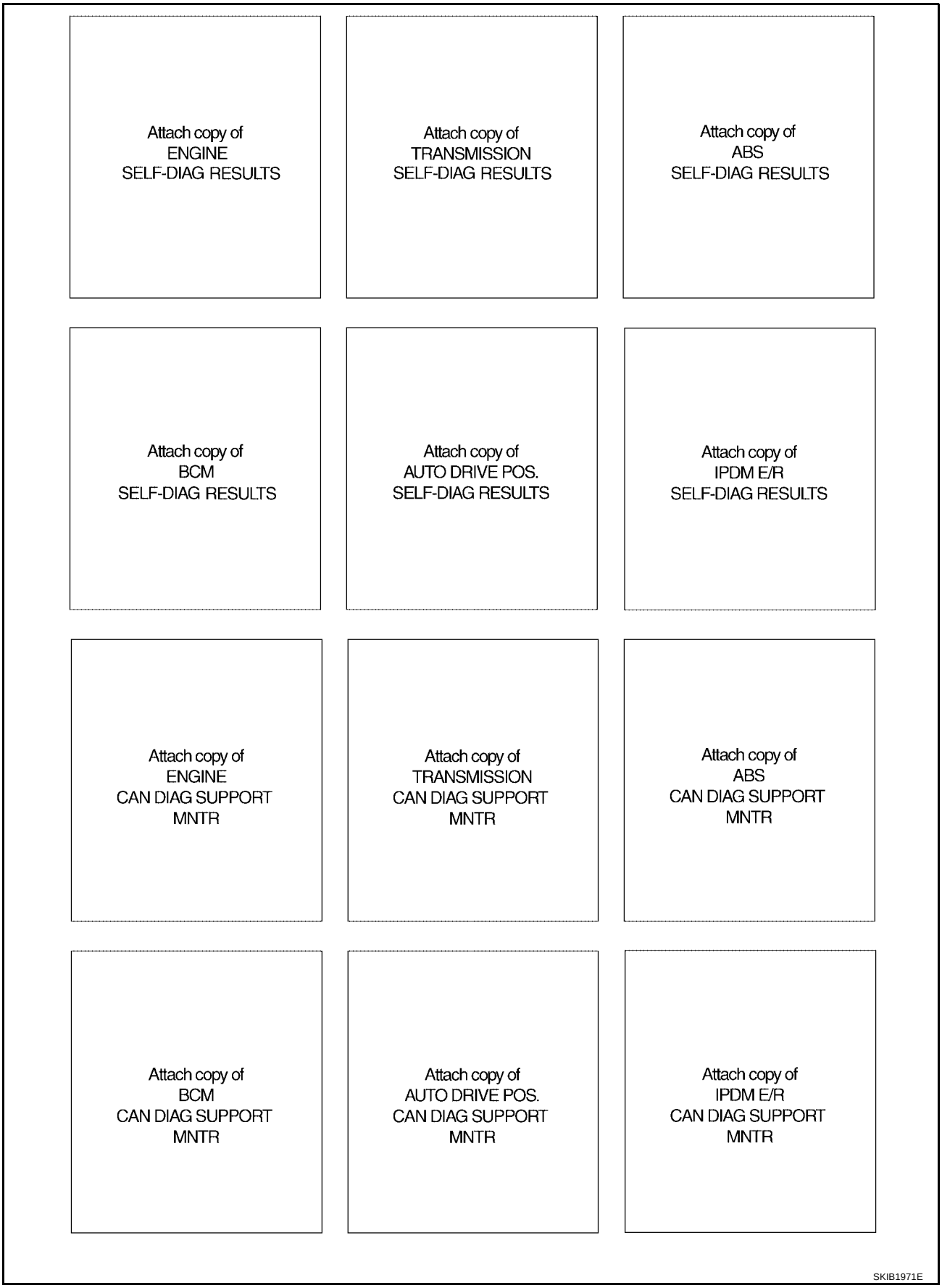
Symptoms:

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

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

SKIB1970E


Attach copy of
ENGINE
SELF-DIAG RESULTS
Attach copy of
TRANSMISSION
SELF-DIAG RESULTS
Attach copy of
ABS
SELF-DIAG RESULTS
Attach copy of
BCM
SELF-DIAG RESULTS
Attach copy of
AUTO DRIVE POS.
SELF-DIAG RESULTS
Attach copy of
IPDM E/R
SELF-DIAG RESULTS
Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR
Attach copy of
TRANSMISSION
CAN DIAG SUPPORT
MNTR
Attach copy of
ABS
CAN DIAG SUPPORT
MNTR
Attach copy of
BCM
CAN DIAG SUPPORT
MNTR
Attach copy of
AUTO DRIVE POS.
CAN DIAG SUPPORT
MNTR
Attach copy of
IPDM E/R
CAN DIAG SUPPORT
MNTR
SKIB1971E

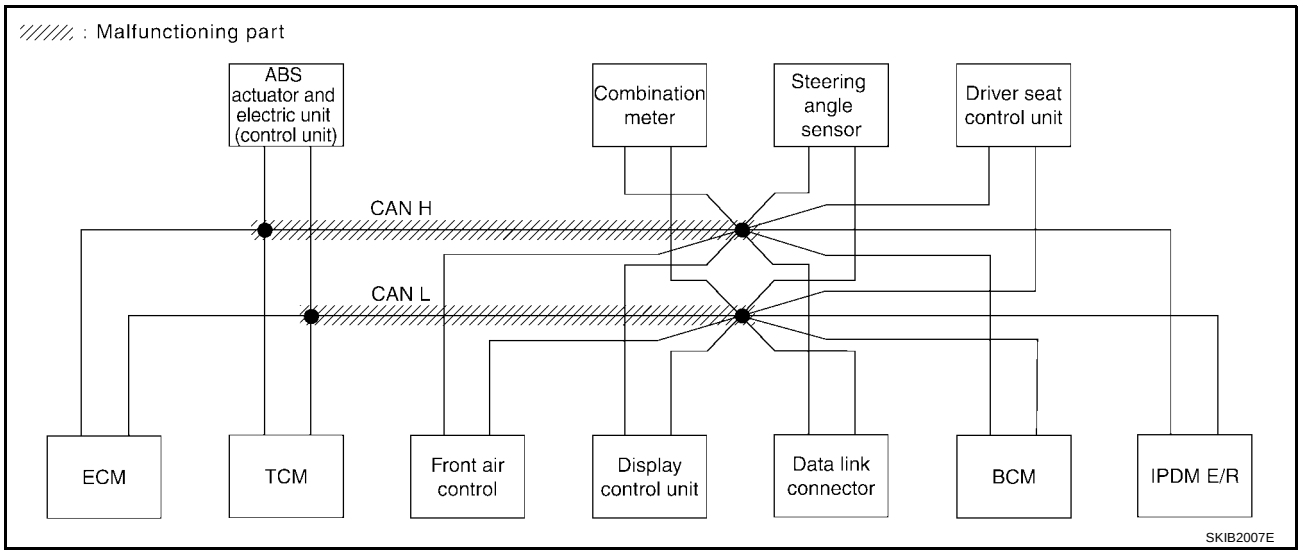
CHECK SHEET RESULTS

Case 1

Check harness between TCM and data link connector. Refer to LAN-148, "Circuit Check Between TCM and Data Link Connector" .

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

WKIA2660E



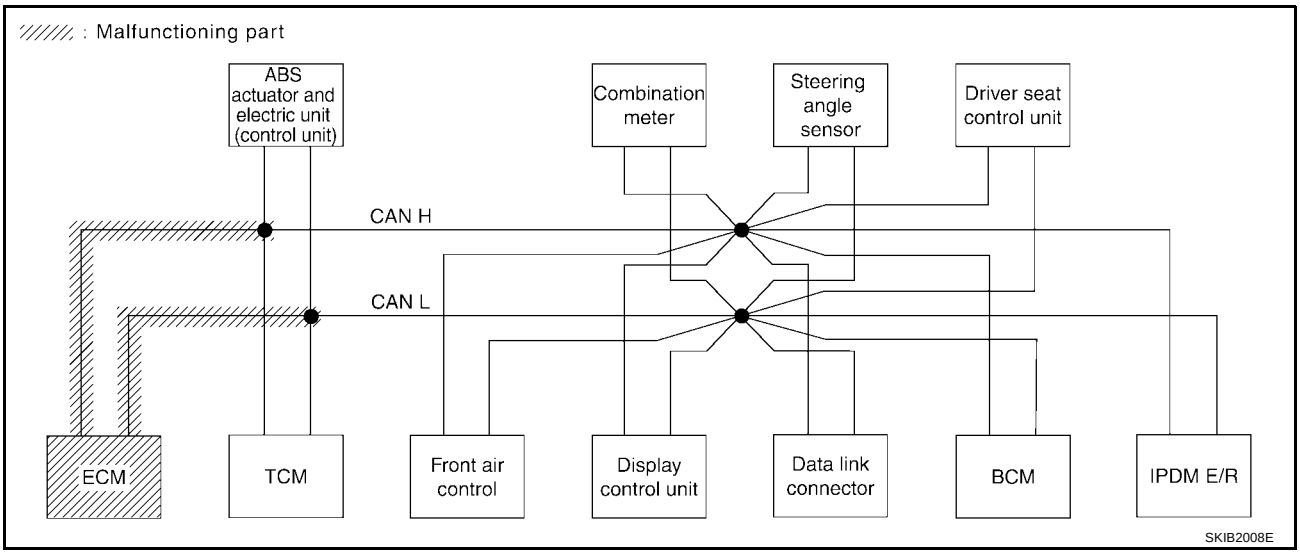
SKIB2007E

Case 2

Check ECM circuit. Refer to LAN-148, "ECM Circuit Check" .

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

WKIA2661E

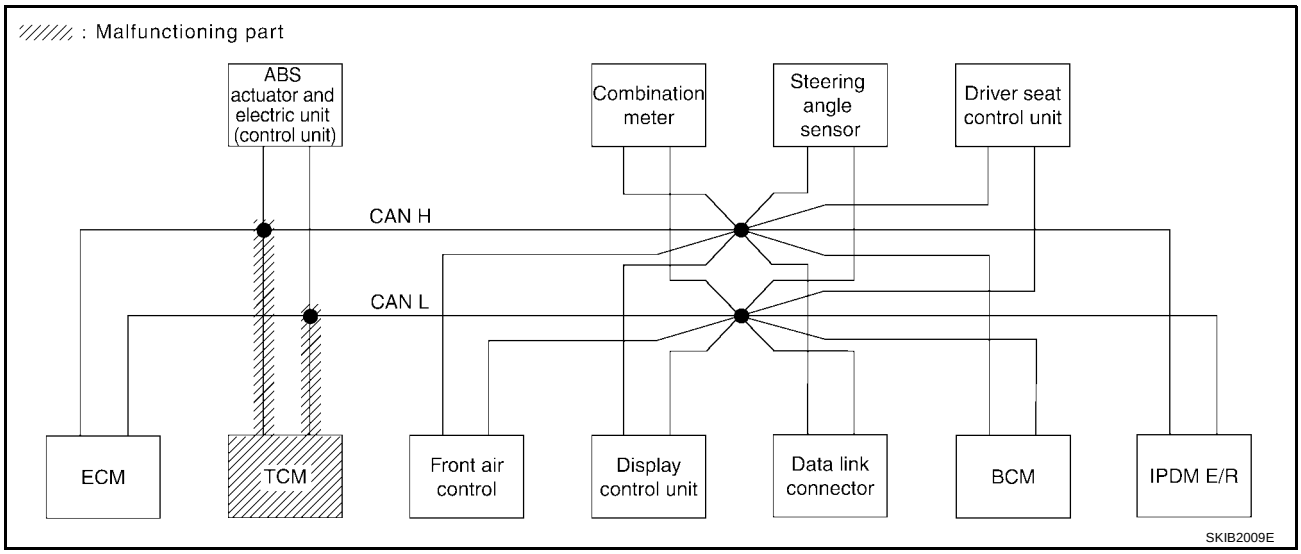


Case 3

Check TCM circuit. Refer to LAN-149, "TCM Circuit Check" .

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

WKIA2663E



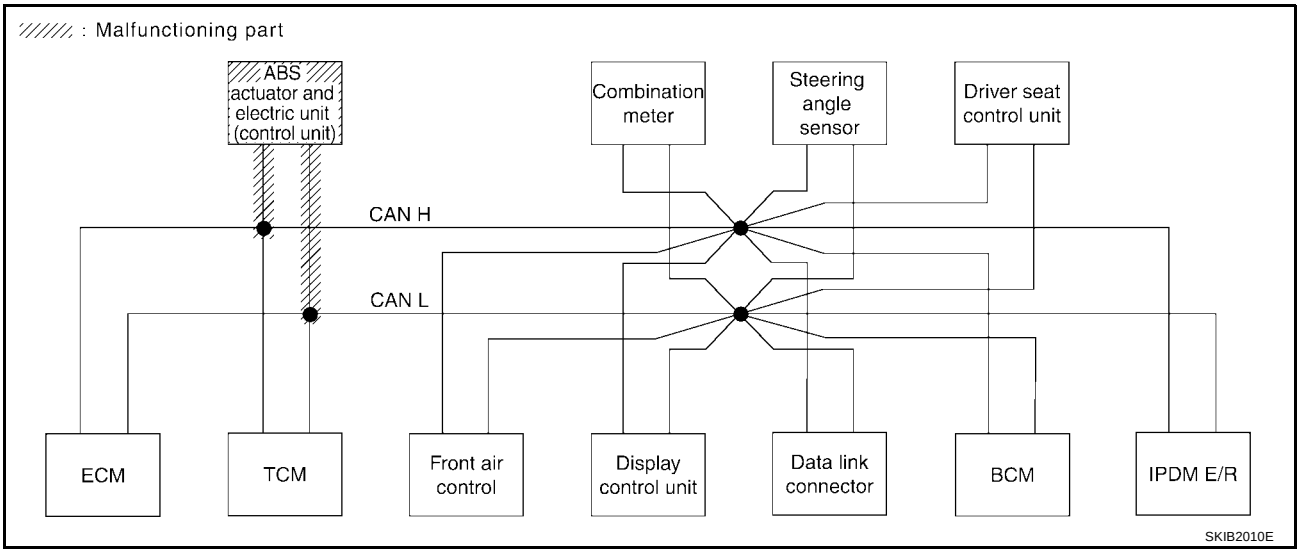
SKIB2009E

Case 4

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-149, "ABS Actuator and Electric Unit (Control Unit) Circuit Check" .

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

SKIB2937E

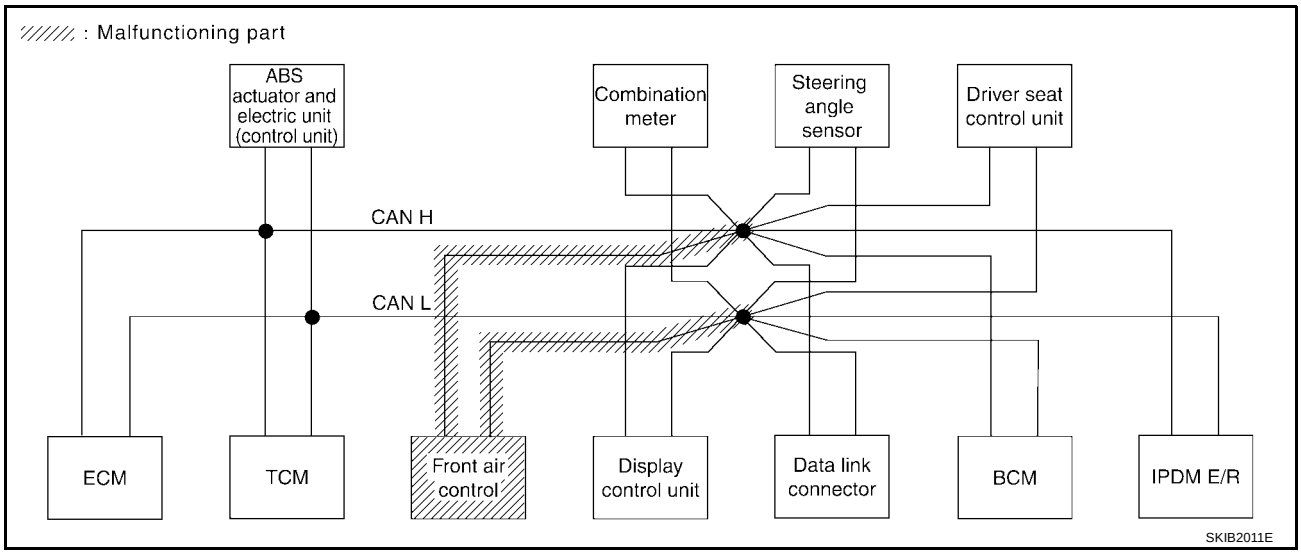


Case 5

Check front air control circuit. Refer to LAN-150, "Front Air Control Circuit Check" .

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

WKIA2670E



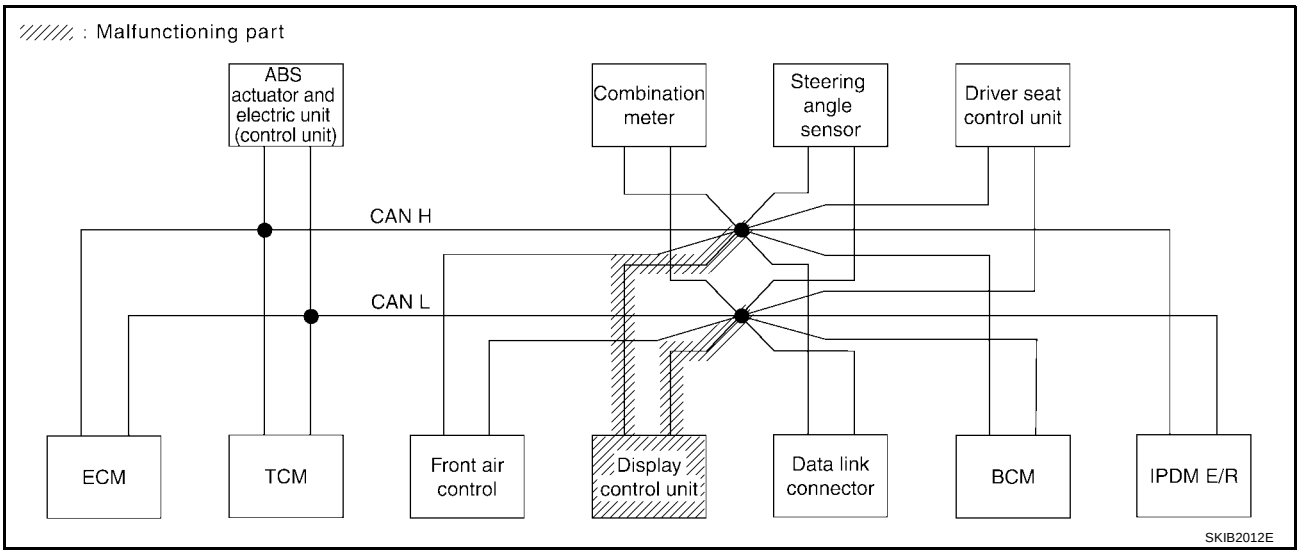
SKIB2011E

Case 6

Check display control unit circuit. Refer to LAN-150, "Display Control Unit Circuit Check" .

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

WKIA2664E



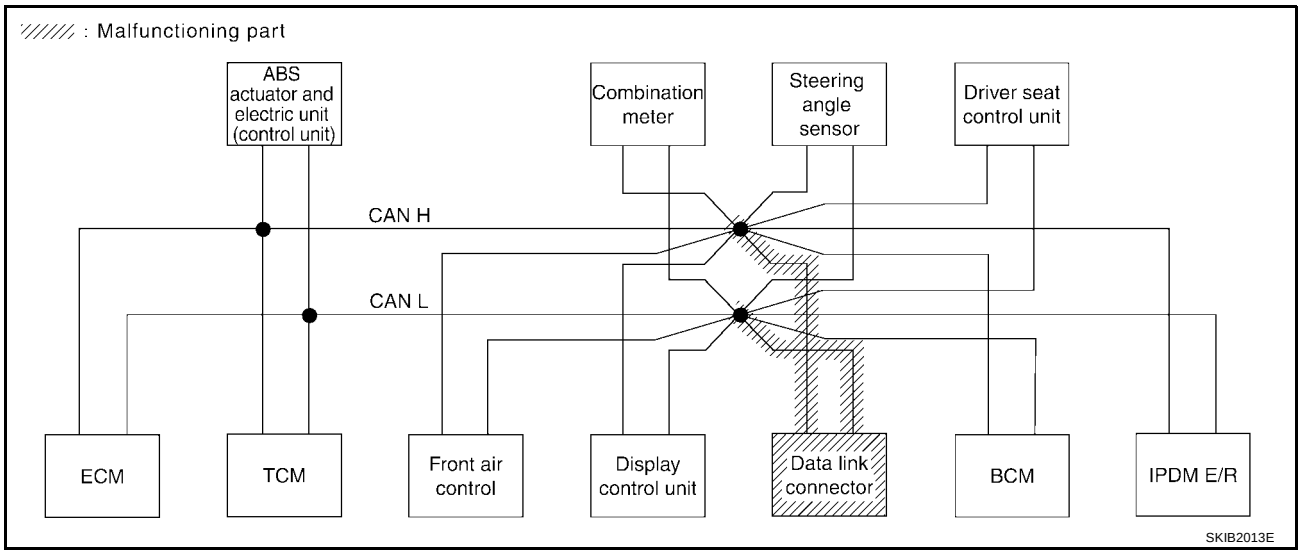
SKIB2012E

Case 7

Check data link connector circuit. Refer to LAN-151, "Data Link Connector Circuit Check" .

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

WKIA2665E



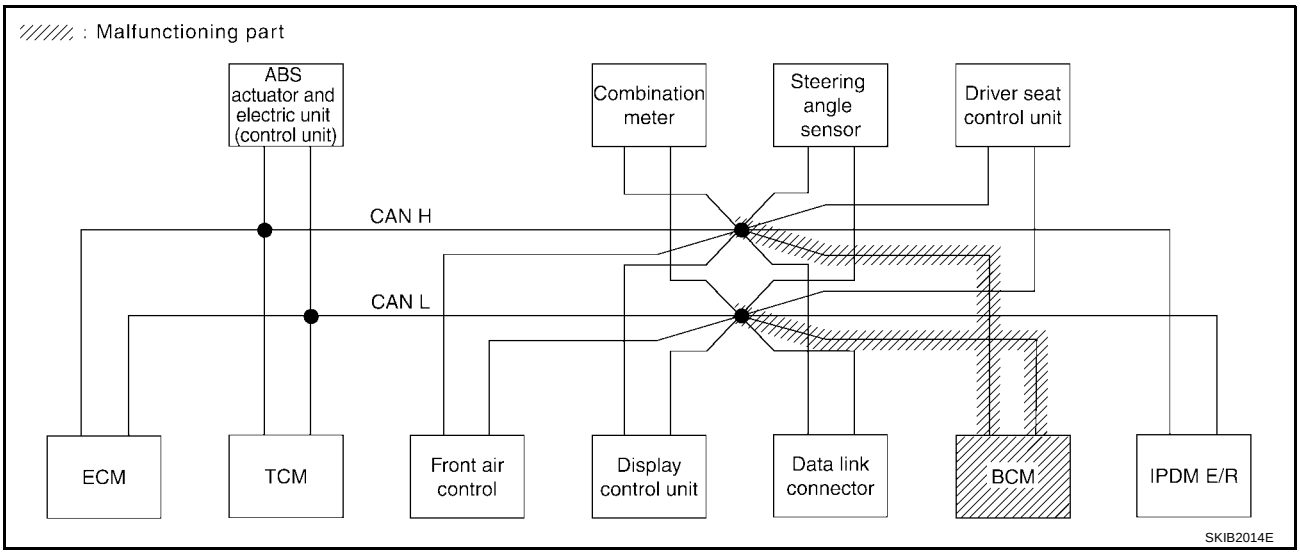
SKIB2013E

Case 8

Check BCM circuit. Refer to LAN-151, "BCM Circuit Check" .

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

WKIA2666E

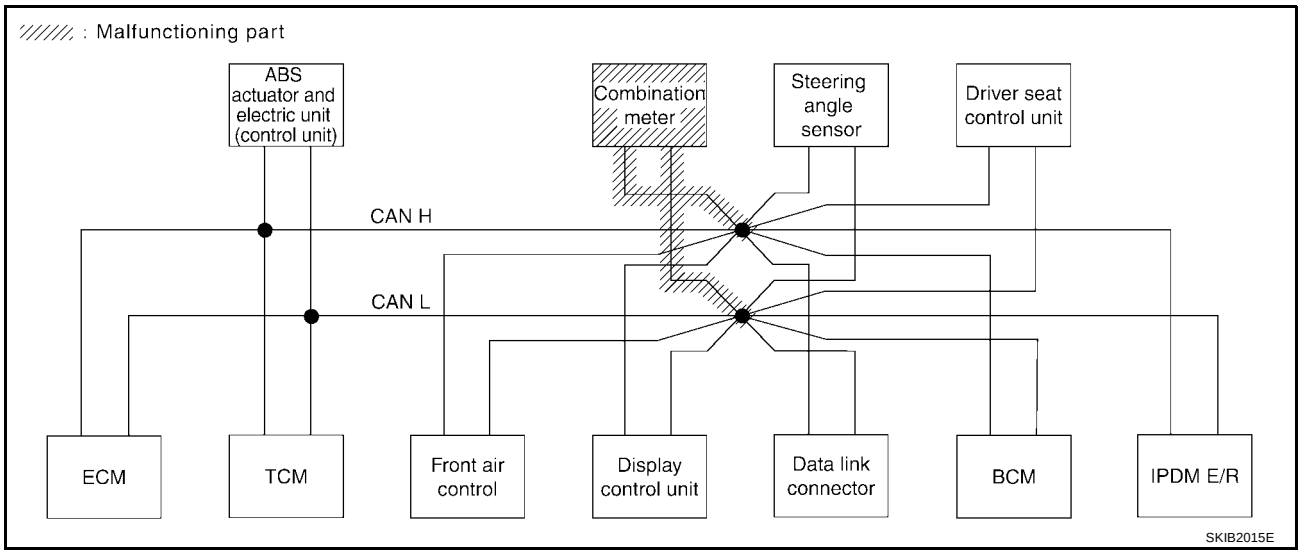


Case 9

Check combination meter circuit. Refer to LAN-152, "Combination Meter Circuit Check" .

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

WKIA2667E



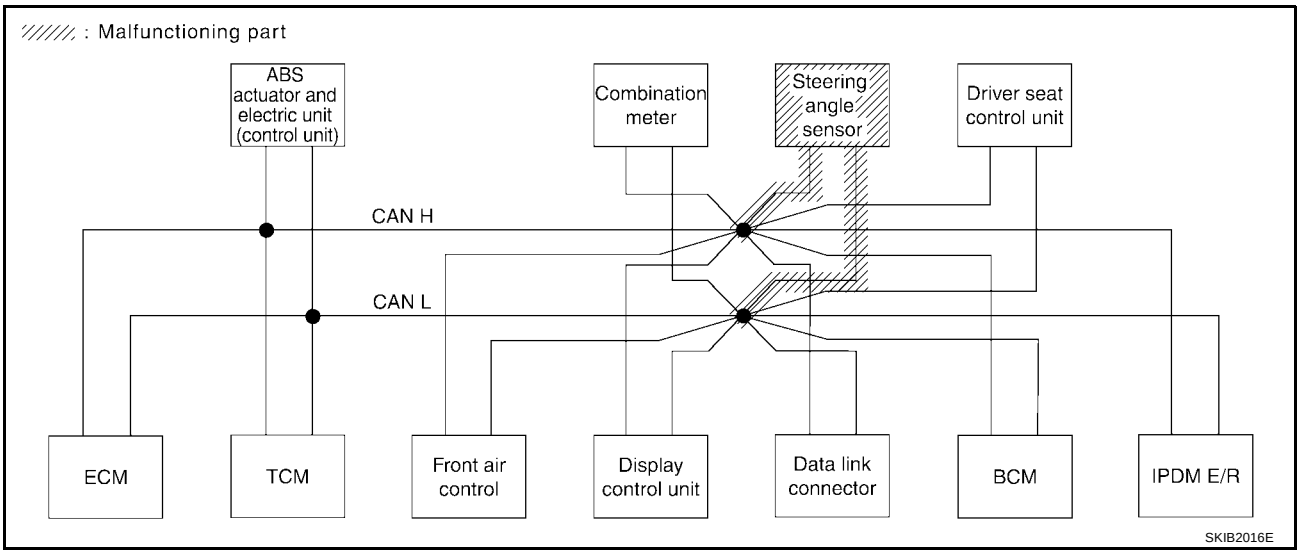
SKIB2015E

Case 10

Check steering angle sensor circuit. Refer to LAN-152, "Steering Angle Sensor Circuit Check" .

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

WKIA2668E



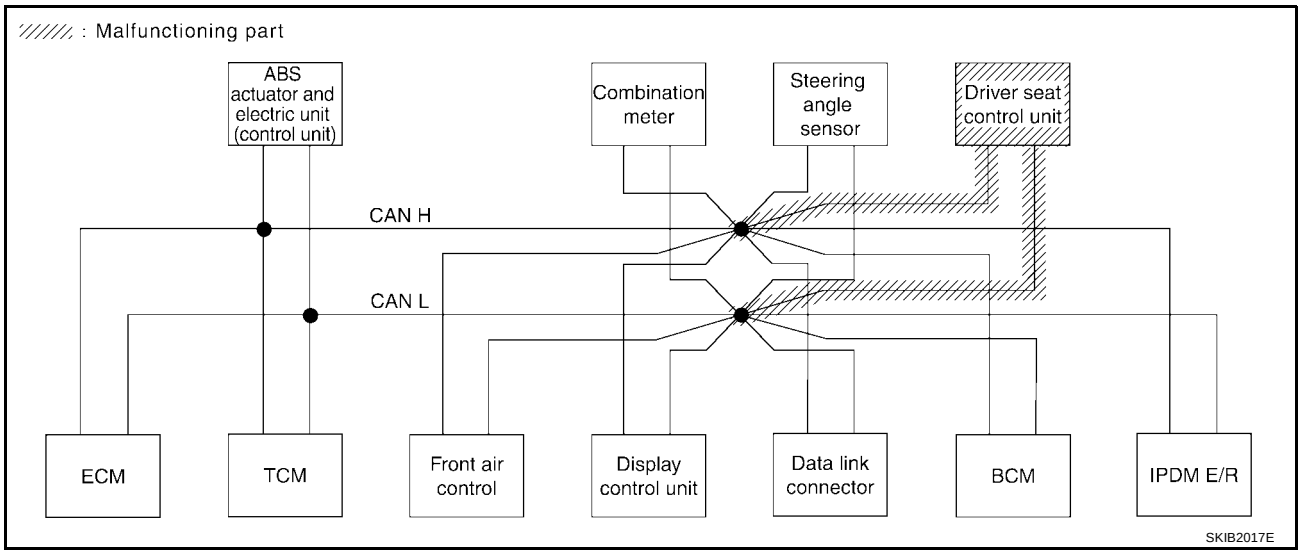
SKIB2016E

Case 11

Check driver seat control unit circuit. Refer to LAN-153, "Driver Seat Control Unit Circuit Check" .

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

WKIA2669E



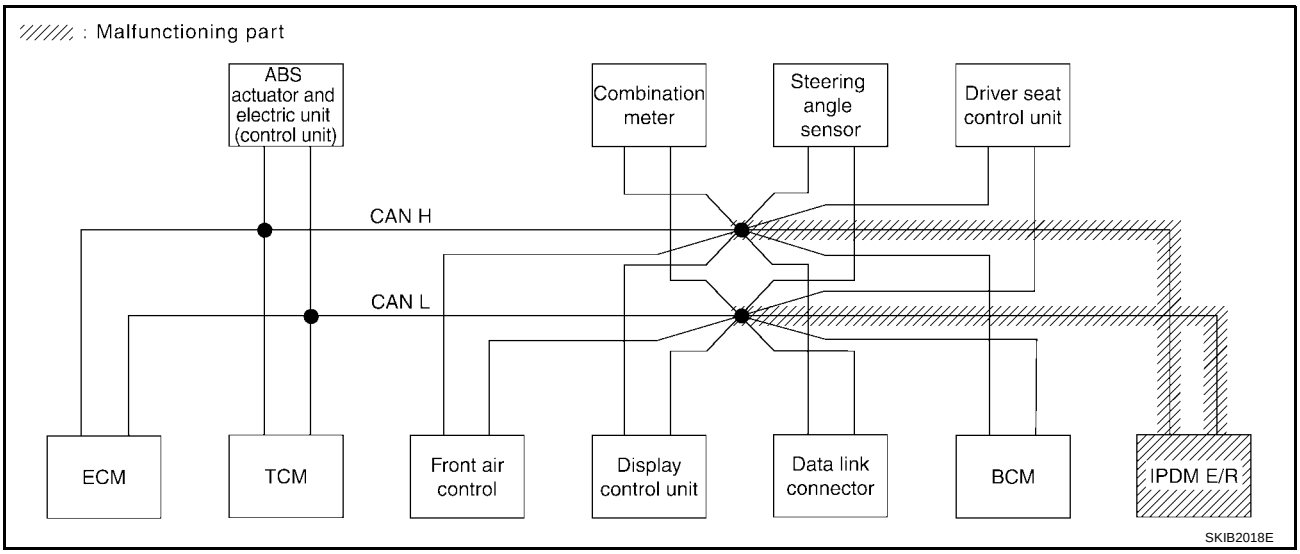
SKIB2017E

Case 12

Check IPDM E/R circuit. Refer to LAN-153, "IPDM E/R Circuit Check" .

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

WKIA2671E



SKIB2018E

Case 13

Check CAN communication circuit. Refer to LAN-154, "CAN Communication Circuit Check" .

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

SKIB2141E

Case 14

Check IPDM E/R ignition relay circuit continuously sticks “OFF”. Refer to LAN-154, "IPDM E/R Ignition Relay Circuit Check" .

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

WKIA2673E

Case 15

Check IPDM E/R ignition relay circuit continuously sticks “ON”. Refer to LAN-154, "IPDM E/R Ignition Relay Circuit Check" .

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

WKIA2674E

Circuit Check Between TCM and Data Link Connector

UKS002NJ

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143 and ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

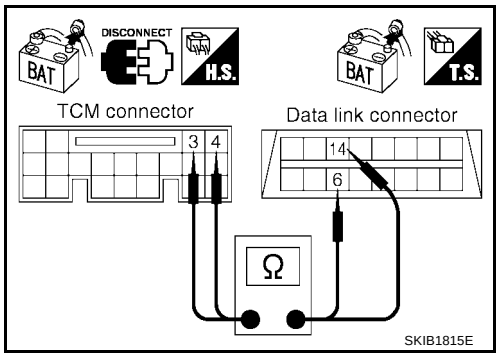
2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector E143 terminals 3 (L), 4 (P) and data link connector M22 terminals 6 (L), 14 (P).

3 (L) - 6 (L) : Continuity should exist.
4 (P) - 14 (P) : Continuity should exist.

OK or NG

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



ECM Circuit Check

UKS002NK

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ECM connector E16.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

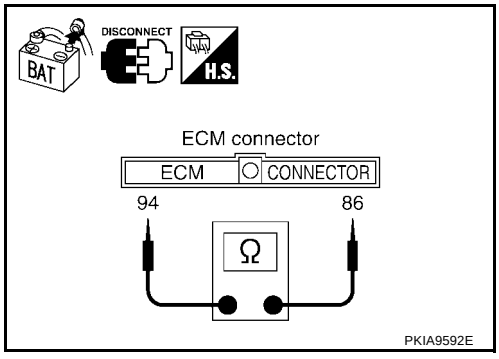
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector E16 terminal 94 (L) and terminal 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.
NG >> Repair harness between ECM connector E16 and TCM connector E143.



TCM Circuit Check

UKS002NM

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect TCM connector E143.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

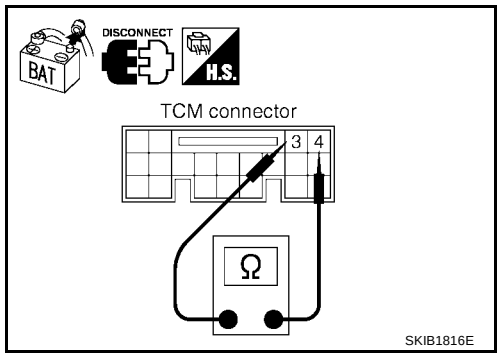
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector E143 terminal 3 (L) and terminal 4 (P).

3 (L) - 4 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.
NG >> Repair harness between TCM connector E143 and ECM connector E16.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS002NL

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect ABS actuator and electric unit (control unit) connector E125.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

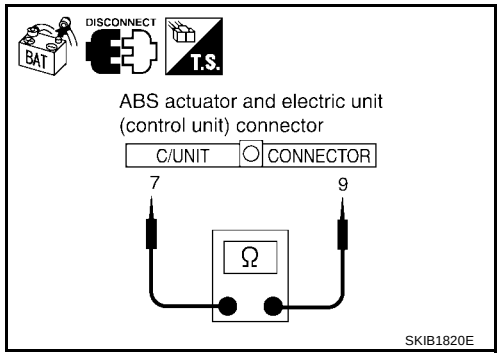
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 7 (L) and terminal 9 (P).

7 (L) - 9 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).
NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and ECM connector E16.



Front Air Control Circuit Check

UKS002NT

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect front air control connector M50.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

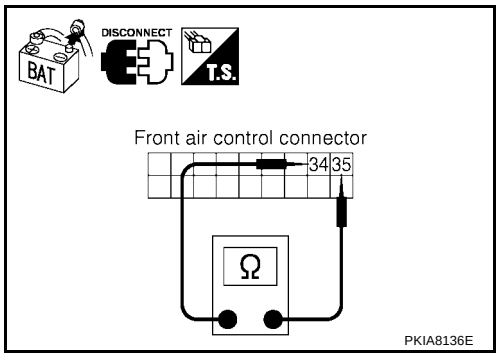
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between front air control connector M50 terminal 34 (L) and terminal 35 (P).

34 (L) - 35 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace front air control.
NG >> Repair harness between front air control connector M50 and data link connector M22.



Display Control Unit Circuit Check

UKS002NN

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect display control unit connector M95.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

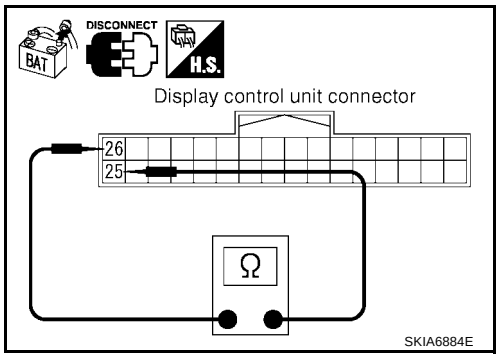
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (P).

25 (L) - 26 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace display control unit.
NG >> Repair harness between display control unit connector M95 and data link connector M22.



Data Link Connector Circuit Check

UKS002NO

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

OK or NG

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

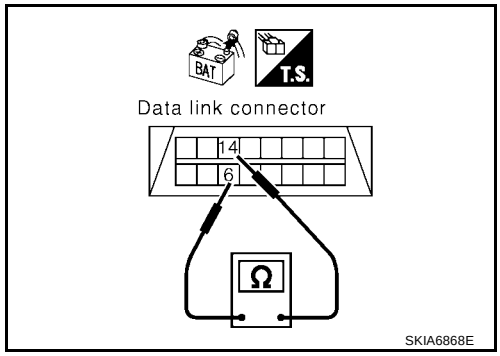
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (P).

6 (L) - 14 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Diagnose again. Refer to LAN-131, "Work Flow" .
NG >> Repair harness between data link connector M22 and BCM connector M18.



BCM Circuit Check

UKS002NP

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect BCM connector M18.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

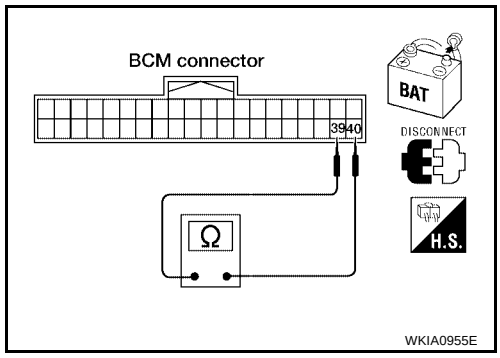
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (P).

39 (L) - 40 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace BCM.
NG >> Repair harness between BCM connector M18 and data link connector M22.



Combination Meter Circuit Check

UKS002NQ

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect combination meter connector M23.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

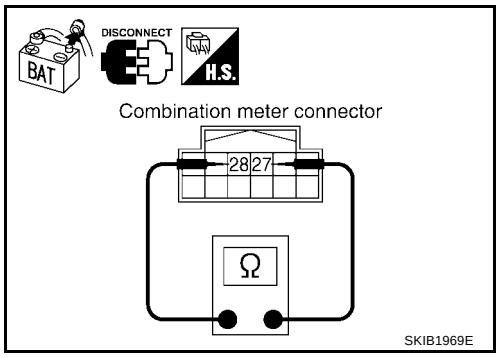
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between combination meter connector M23 terminal 27 (L) and terminal 28 (P).

27 (L) - 28 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.
NG >> Repair harness between combination meter connector M23 and data link connector M22.



Steering Angle Sensor Circuit Check

UKS002NR

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect steering angle sensor connector M47.
4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

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

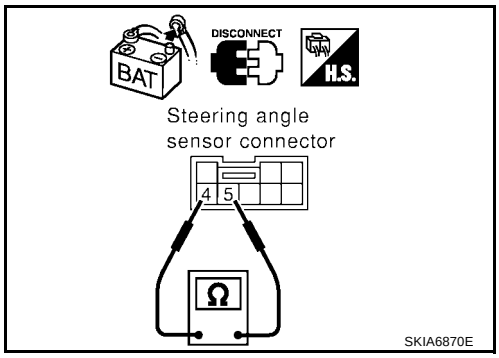
2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between steering angle sensor connector M47 terminal 4 (L) and terminal 5 (P).

4 (L) - 5 (P) : Approx. 54 - 66 Ω

OK or NG

OK >> Replace steering angle sensor.
NG >> Repair harness between steering angle sensor connector M47 and data link connector M22.



Driver Seat Control Unit Circuit Check

UKS002NS

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect driver seat control unit connector P2.
4. Check the terminals for deformation, disconnection, looseness or damage.

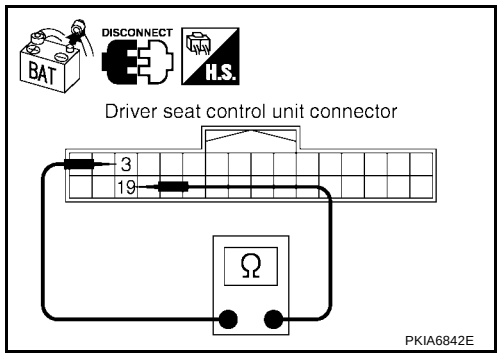
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (L) and terminal 19 (P).

3 (L) - 19 (P) : Approx. 54 - 66 Ω



OK or NG

OK >> Replace driver seat control unit.
NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.

IPDM E/R Circuit Check

UKS002NU

1. CONNECTOR INSPECTION

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Disconnect IPDM E/R connector E121.
4. Check the terminals for deformation, disconnection, looseness or damage.

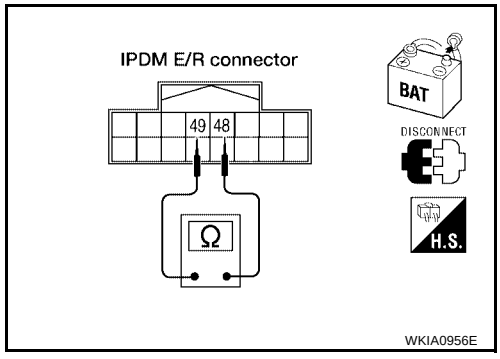
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (P).

48 (L) - 49 (P) : Approx. 108 - 132 Ω



OK or NG

OK >> Replace IPDM E/R.
NG >> Repair harness between IPDM E/R connector E121 and data link connector M22.

CAN Communication Circuit Check

UKS002NV

1. CONNECTOR INSPECTION

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

- ECM
- TCM (Transmission control module)
- ABS actuator and electric unit (control unit)
- Front air control
- Display control unit
- BCM (Body control module)
- Combination meter
- Steering angle sensor
- Driver seat control unit
- IPDM E/R (Intelligent power distribution module engine room)

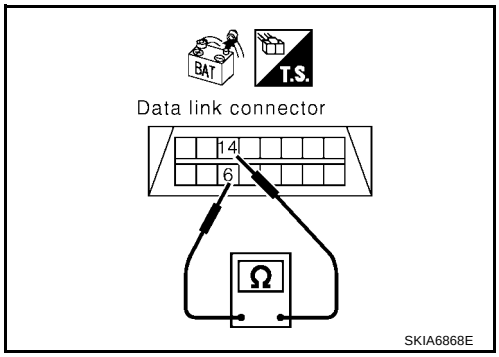
OK or NG

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

2. CHECK HARNESS FOR SHORTED CIRCUITS

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

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



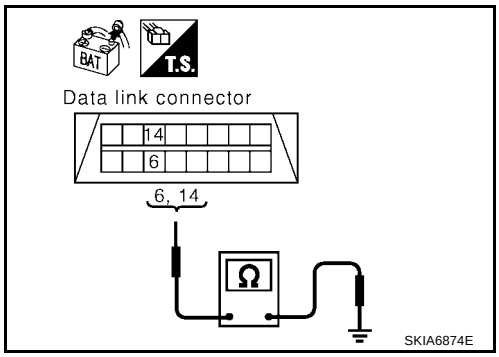
OK or NG

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

3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 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 >> Check ECM and IPDM E/R. Refer to LAN-155, "Component Inspection" .
NG >> Repair the harness.

IPDM E/R Ignition Relay Circuit Check

UKS002NW

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-12, "IGNITION POWER SUPPLY — IGNITION SW. IN ON AND/OR START" .

Component Inspection

UKS002NX

ECM AND IPDM E/R INTERNAL CIRCUIT INSPECTION

- Disconnect ECM and IPDM E/R harness connectors.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 Ω

- Check resistance between IPDM E/R terminals 48 and 49.

48 - 49 : Approx. 108 - 132 Ω