SECTION LAN

LAN SYSTEM

CONTENTS

CAN

PRECAUTIONS

PFP:00001

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

BKS000N2

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. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

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

Precautions for Trouble Diagnosis

BKS000N3

CAN SYSTEM

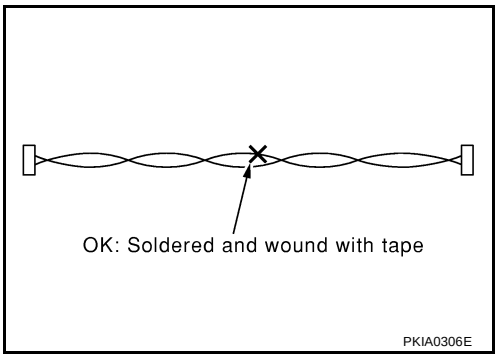
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch off and disconnect the battery cable from the negative terminal before checking the circuit.

Precautions for Harness Repair

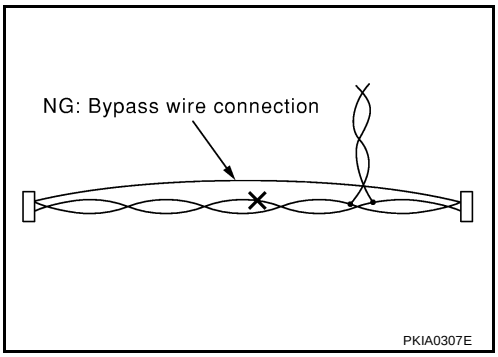
BKS000N4

CAN SYSTEM

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



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



TROUBLE DIAGNOSES WORK FLOW

PFP:00004

When Displaying CAN Communication System Errors

BKS000SB

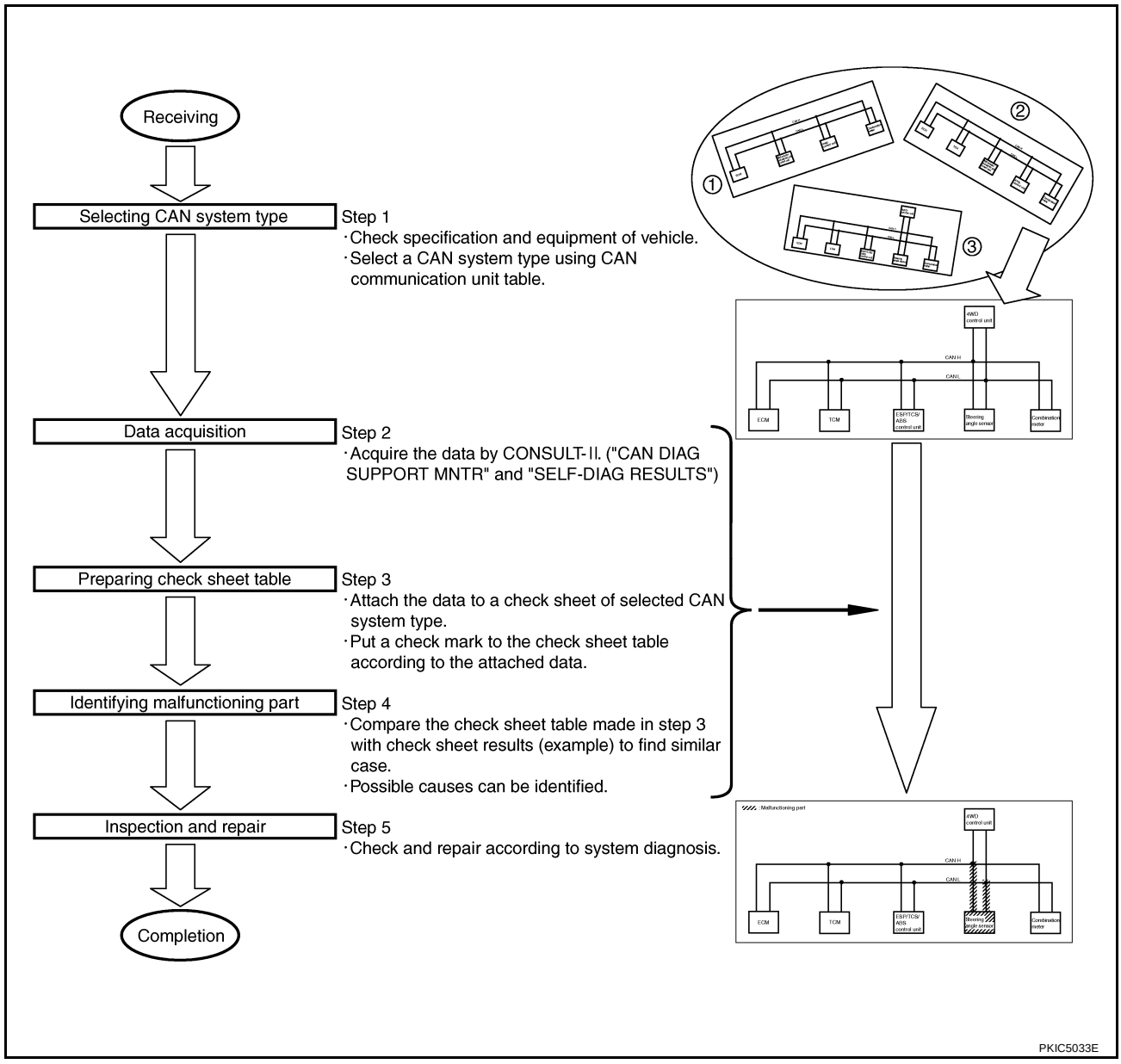
WHEN A MALFUNCTION IS DETECTED BY CAN COMMUNICATION SYSTEM

- CAN communication line is open. (CAN H, CAN L, or both)
- CAN communication line is shorted. (Ground, between CAN lines, or other harnesses)
- The areas related to CAN communication of unit is malfunctioning.

WHEN A MALFUNCTION IS DETECTED EXCEPT CAN COMMUNICATION SYSTEM

- Removal and installation of parts: When the units that perform CAN communication or the sensors related to CAN communication are removed and installed, malfunction may be detected (or DTC other than CAN communication may be detected).
- Fuse blown out (removed): CAN communication of the unit may be stopped at such time.
- Low voltage: If the voltage decreases because of battery discharge when IGN is ON, malfunction may be detected by self-diagnosis according to the units.

TROUBLE DIAGNOSIS FLOW CHART



- Step 1: Refer to LAN-6, "SELECTING CAN SYSTEM TYPE (HOW TO USE SPECIFICATION TABLE)" .
- Step 2: Refer to LAN-7, "ACQUISITION OF DATA BY CONSULT-II" .
- Step 3: Refer to LAN-8, "HOW TO USE CHECK SHEET TABLE" .
- Step 4: Refer to LAN-9, "Example of Filling in Check Sheet When Initial Conditions Are Reproduced" .
- Step 5: Refer to LAN-98, "TROUBLE DIAGNOSIS FOR SYSTEM" .

Diagnosis Procedure

BKS000SC

SELECTING CAN SYSTEM TYPE (HOW TO USE SPECIFICATION TABLE)

Determine CAN system type from the equipment of the vehicle to select applicable check sheet.

(Example) Wagon/4WD/QR25DE/AT/ESP

CAN Communication Unit

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

Body type	Wagon								
Axle	4WD						2WD		
Engine	YD22D DTi	QR20DE/QR25DE		YD22D DTi	QR25DE		QR20D E	YD22DDTi	
Transmission	M/T		A/T	M/T		A/T	M/T		
Brake control	ABS			ESP			ABS		ESP
CAN system type	1	2	3	4	5	6	7	8	9
CAN system trouble diagnosis	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX	XX-XX

Check basic specification of the vehicle.

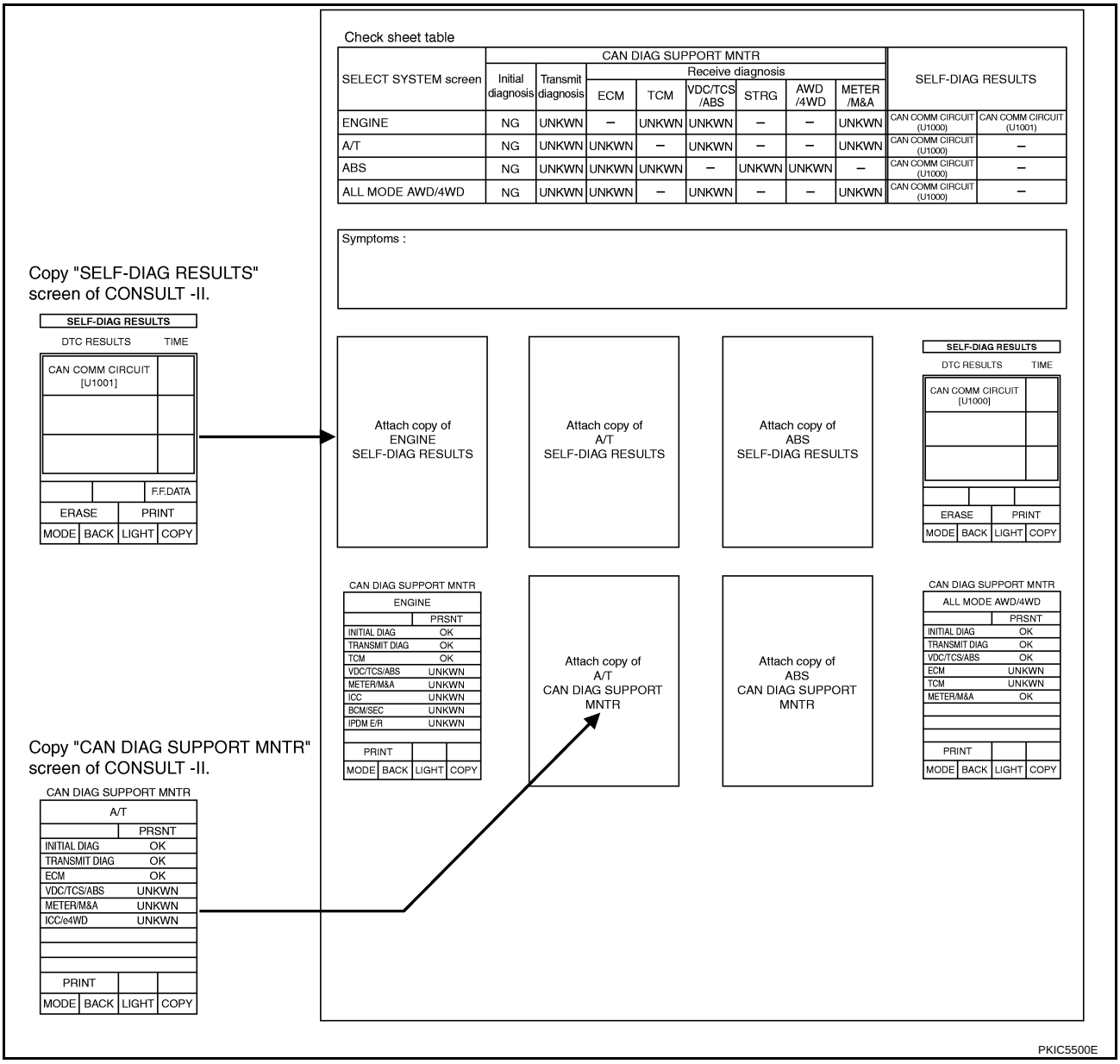
Which number is selected when sequentially selecting from the top of the specification table?
The number is "CAN system type" of the applicable vehicle.

In the case of this example:
It corresponds to type 6.

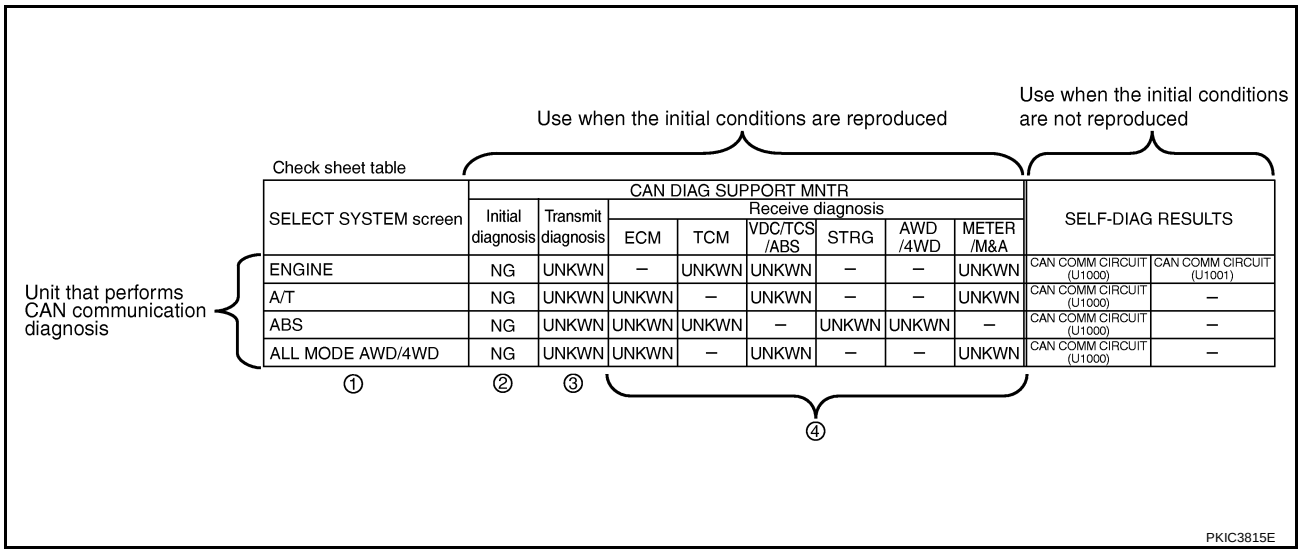
PKIC5034E

ACQUISITION OF DATA BY CONSULT-II

Attach the data acquired by CONSULT-II on the check sheet determined according to CAN system type.



HOW TO USE CHECK SHEET TABLE

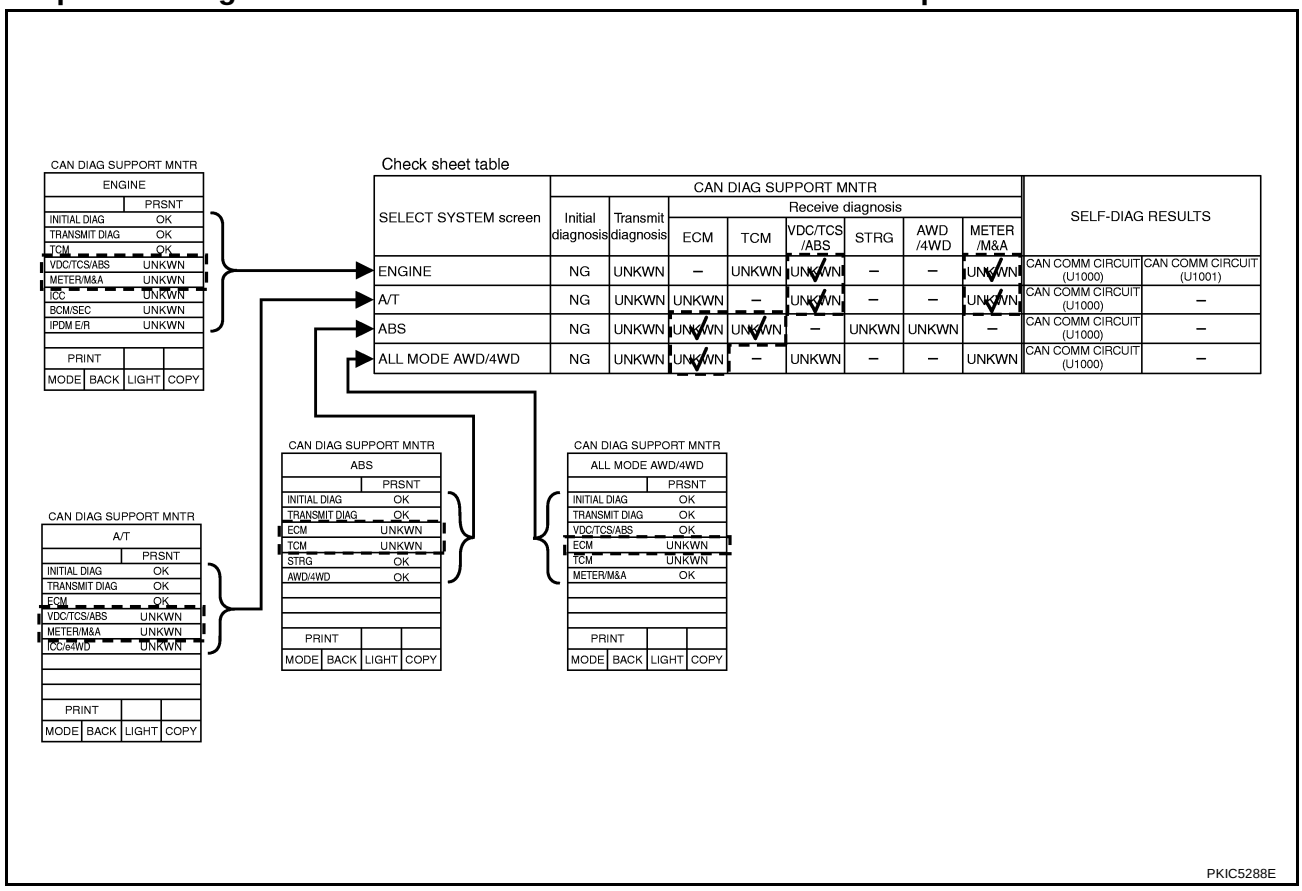


1. Unit names displayed on CONSULT-II
2. “NG”: Display “NG” when malfunction is detected in the initial diagnosis of the diagnosed unit. Replace the unit if “NG” is displayed.
3. “UNKWN”: Display “UNKWN” when the diagnosed unit does not transmit the data normally. Put a check mark to it if “UNKWN” is displayed on CONSULT-II.
4. “UNKWN”: Display “UNKWN” when the diagnosed unit does not receive the data normally. Put a check mark to it if “UNKWN” is displayed on CONSULT-II.
   “–”: Column not used (It is not necessary for CAN communication trouble diagnosis.)

NOTE:
CAN communication diagnosis checks if CAN communication works normally. (Contents of data are not diagnosed.)

- When the initial conditions are reproduced, refer to LAN-9, "Example of Filling in Check Sheet When Initial Conditions Are Reproduced" .
- When the initial conditions are not reproduced, refer to LAN-11, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced" .

Example of Filling in Check Sheet When Initial Conditions Are Reproduced



1. Confirm the unit name that “UNKWN” is displayed from the copy of “CAN DIAG SUPPORT MNTR” screen of “ENGINE” attached to the check sheet, and then put a check mark to the check sheet table.

   NOTE:
   In “CAN DIAG SUPPORT MNTR” screen, “UNKWN” is displayed on “VDC/TCS/ABS”, “METER/M&A”, “ICC”, “BCM/SEC” and “IPDM E/R”. But put a check mark to “VDC/TCS/ABS” and “METER/M&A” because “UNKWN” is listed on the column of reception diagnosis of the check sheet table.

2. Confirm the unit name that “UNKWN” is displayed on the copy of “CAN DIAG SUPPORT MNTR” screen of “A/T”, “ABS” and “ALL MODE AWD/4WD” as well as “ENGINE”. And then, put a check mark to the check sheet table.

   NOTE:
   - For “A/T”, “UNKWN” is displayed on “VDC/TCS/ABS”, “METER/M&A” and “ICC/e4WD”. But put a check mark to “VDC/TCS/ABS” and “METER/M&A” because “UNKWN” is listed on the column of reception diagnosis of the check sheet table.
   - For “ABS”, “UNKWN” is displayed on “ECM” and “TCM”. Put a check mark to it.
   - For “ALL MODE AWD/4WD”, “UNKWN” is displayed on “ECM” and “TCM”. But put a check mark to “ECM” because “UNKWN” is listed on the column of reception diagnosis of the check sheet table.

The arranged results of CAN diagnosis support monitor

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	UNKWN ✓	–	–	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	–	UNKWN ✓	–	–	UNKWN ✓	CAN COMM CIRCUIT (U1000)	–
ABS	NG	UNKWN	UNKWN ✓	UNKWN ✓	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN ✓	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–

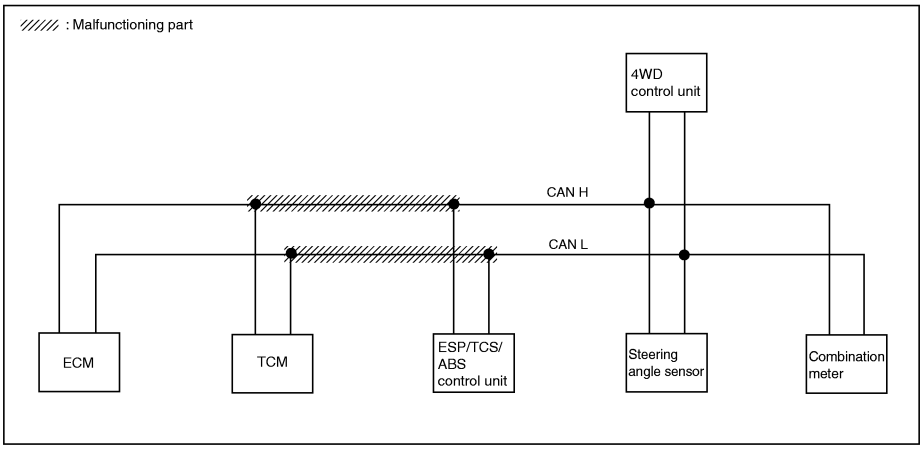
Choose similar indications between the results of CAN diagnosis support monitor and the results of the check sheet. Malfunctioning parts are found.

Case 1

Check harness between TCM and ESP/TCS/ABS control unit.

Check sheet results (example)

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	UNKWN ✓	–	–	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	–	UNKWN ✓	–	–	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	–
ABS	NG	UNKWN	UNKWN ✓	UNKWN ✓	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000) ✓	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN ✓	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000) ✓	–



PKIC5035E

NOTE:

There is a case that some of “CAN DIAG SUPPORT MNTR” and “SELF-DIAG RESULTS” are not needed for diagnosis. In the case, “UNKWN” and “CAN COMM CIRCUIT [U1000]” in “Check sheet results (example)” change to “–”. Then, ignore check marks on the check sheet table.

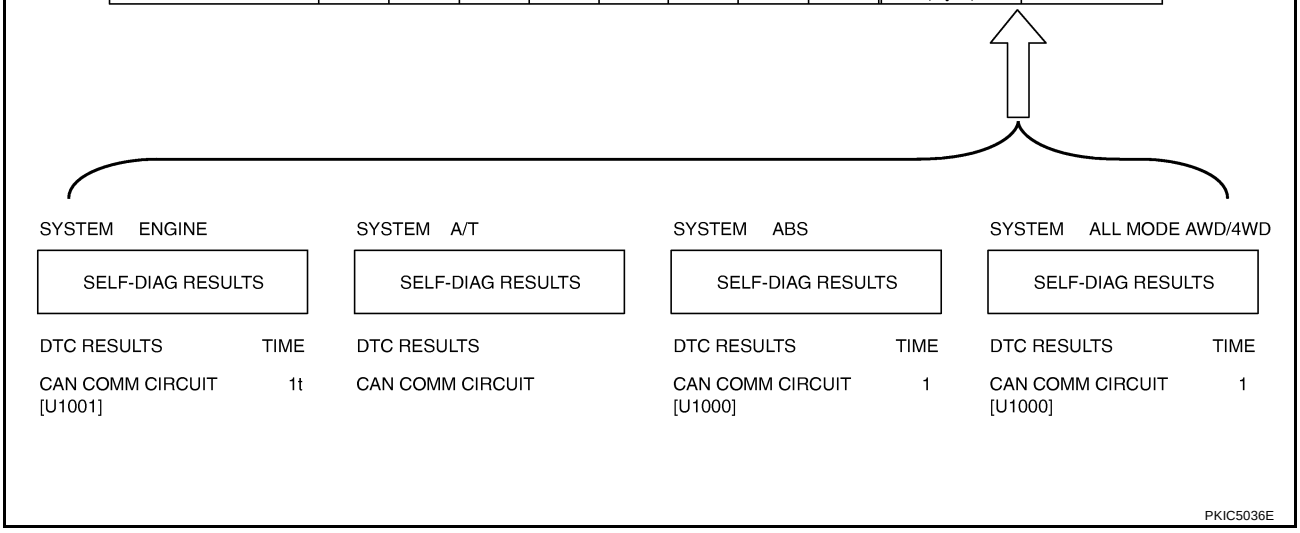
3. Perform system diagnosis for possible causes identified.
4. Perform diagnosis again after inspection and repair. Make sure that repair is completely performed, and then end the procedure.

Start CAN system trouble diagnosis if this procedure can be confirmed. Refer to LAN-25, "CAN Communication Unit" .

Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) √
A/T	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000) √	–
ABS	NG	UNKWN	UNKWN	UNKWN	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000) √	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000) √	–



1. See “SELF-DIAG RESULTS” of all units attached to the check sheet. If “CAN COMM CIRCUIT”, “CAN COMM CIRCUIT [U1000]” or “CAN COMM CIRCUIT [U1001]” is displayed, put a check mark to the applicable column of self-diagnostic results of the check sheet table.

NOTE:

- For “ENGINE”, “CAN COMM CIRCUIT [U1001]” is displayed. Put a check mark to it.
- For “A/T”, “CAN COMM CIRCUIT” is displayed. Put a check mark to it.
- For “ABS”, “CAN COMM CIRCUIT [U1000]” is displayed. Put a check mark to it.
- For “ALL MODE AWD/4WD”,“CAN COMM CIRCUIT [U1000]” is displayed. Put a check mark to it.

The arranged results of self-diagnosis

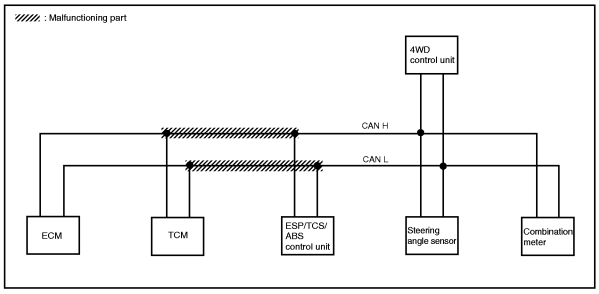
Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–
ABS	NG	UNKWN	UNKWN	UNKWN	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–

When the arranged results of self-diagnosis and check sheet results (example) are corresponding, possible causes can be selected.

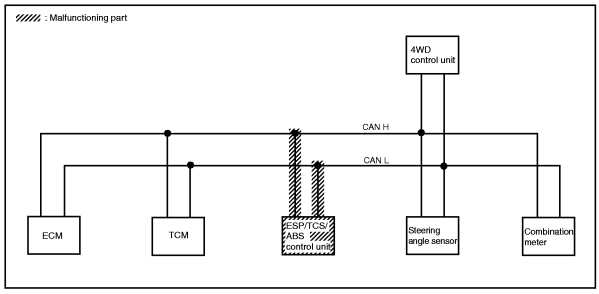
Case 1
Check harness between TCM and ESP/TCS/ABS control unit.

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–
ABS	NG	UNKWN	UNKWN	UNKWN	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–



Case 5
Check ESP/TCS/ABS control unit circuit.

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–
ABS	NG	UNKWN	UNKWN	UNKWN	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–



PKIC5037E

NOTE:
There is a case that some of “CAN DIAG SUPPORT MNTR” and “SELF-DIAG RESULTS” are not needed for diagnosis. In the case, “UNKWN” and “CAN COMM CIRCUIT [U1000]” in “Check sheet results (example)” change to “–”. Then, ignore check marks on the check sheet table.

2. For the selected possible causes, it is expected that malfunctions have been found in the past.

CAN Diagnostic Support Monitor

BKS000SD

DESCRIPTION OF “CAN DIAG SUPPORT MNTR” SCREEN FOR ECM

(Example)

CAN DIAG SUPPORT MNTR

ENGINE	
	PRSNT
INITIAL DIAG	OK
TRANSMIT DIAG	OK
TCM	OK
VDC/TCS/ABS	OK
METER/M&A	OK
ICC	UNKWN
BCM/SEC	OK
IPDM E/R	UNKWN

PRINT			
MODE	BACK	LIGHT	COPY

PKIC5040E

“SELECT SYSTEM” screen	“CAN DIAG SUPPORT MNTR” screen	Description	Present
ENGINE	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	TCM	Make sure of normal reception from TCM.	OK/UNKWN
	VDC/TCS/ABS	VDC/TCS/ABS is not diagnosed. (ABS models)	UNKWN
		Make sure of normal reception from ESP/TCS/ABS control unit. (ESP models)	OK/UNKWN
	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN
	ICC	ICC is not diagnosed.	UNKWN
	BCM/SEC	BCM/SEC is not diagnosed. (YD engine models)	OK
		BCM/SEC is not diagnosed. (QR engine models)	UNKWN
	IPDM E/R	IPDM E/R is not diagnosed.	UNKWN

Display Results (Present)

- OK: Normal
- NG: Malfunction
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF “CAN DIAG SUPPORT MNTR” SCREEN FOR TCM

(Example)

CAN DIAG SUPPORT MNTR

A/T	
	PRSNT
INITIAL DIAG	OK
TRANSMIT DIAG	OK
ECM	OK
VDC/TCS/ABS	OK
METER/M&A	OK
ICC/e4WD	UNKWN
PRINT	
MODE / BACK / LIGHT / COPY	

PKIA8946E

“SELECT SYSTEM” screen	“CAN DIAG SUPPORT MNTR” screen	Description	Present
A/T	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN
	VDC/TCS/ABS	VDC/TCS/ABS is not diagnosed. (ABS models)	UNKWN
		Make sure of normal reception from ESP/TCS/ABS control unit. (ESP models)	OK/UNKWN
	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN
	ICC/e4WD	ICC/e4WD is not diagnosed.	UNKWN

Display Results (Present)

- OK: Normal
- NG: Malfunction
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF “CAN DIAG SUPPORT MNTR” SCREEN FOR ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

(Example)

CAN DIAG SUPPORT MNTR

ABS	
	PRSNT
INITIAL DIAG	OK
TRANSMIT DIAG	OK
ECM	OK
PRINT	
MODE / BACK / LIGHT / COPY	

PKIA8949E

“SELECT SYSTEM” screen	“CAN DIAG SUPPORT MNTR” screen	Description	Present
ABS	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN

Display Results (Present)

- OK: Normal
- NG: Malfunction
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF “CAN DIAG SUPPORT MNTR” SCREEN FOR ESP/TCS/ABS CONTROL UNIT

(Example)

CAN DIAG SUPPORT MNTR

ABS	
	PRSNT
INITIAL DIAG	OK
TRANSMIT DIAG	OK
ECM	OK
TCM	OK
STRG	OK
AWD/4WD	OK
PRINT	
MODE BACK LIGHT COPY	

PKIA8947E

“SELECT SYSTEM” screen	“CAN DIAG SUPPORT MNTR” screen	Description	Present
ABS	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN
	TCM	Make sure of normal reception from TCM.	OK/UNKWN
	STRG	Make sure of normal reception from steering angle sensor.	OK/UNKWN
	AWD/4WD	Make sure of normal reception from 4WD control unit.	OK/UNKWN

Display Results (Present)

- OK: Normal
- NG: Malfunction
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF “CAN DIAG SUPPORT MNTR” SCREEN FOR 4WD CONTROL UNIT

(Example)

CAN DIAG SUPPORT MNTR

ALL MODE AWD/4WD	
	PRSNT
INITIAL DIAG	OK
TRANSMIT DIAG	OK
VDC/TCS/ABS	OK
ECM	OK
TCM	UNKWN
METER/M&A	OK
PRINT	
MODE BACK LIGHT COPY	

PKIA8948E

“SELECT SYSTEM” screen	“CAN DIAG SUPPORT MNTR” screen	Description	Present
ALL MODE AWD/ 4WD	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	VDC/TCS/ABS	Make sure of normal reception from ABS actuator and electric unit (control unit).	OK/UNKWN
		Make sure of normal reception from ESP/TCS/ABS control unit.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN
	TCM	TCM is not diagnosed.	UNKWN
	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN

Display Results (Present)

- OK: Normal
- NG: Malfunction
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

CAN COMMUNICATION

PFP:23710

System Description

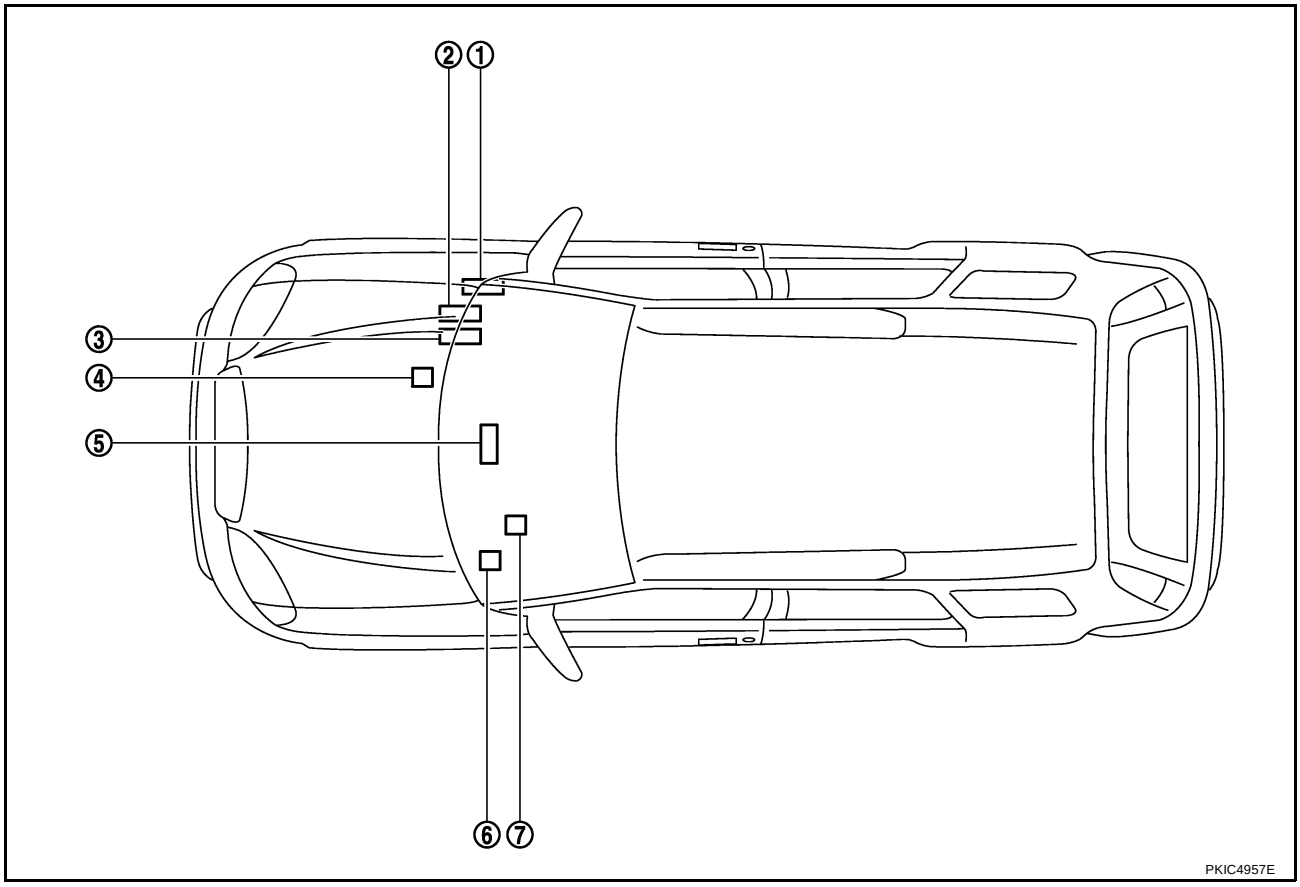
BKS000SE

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

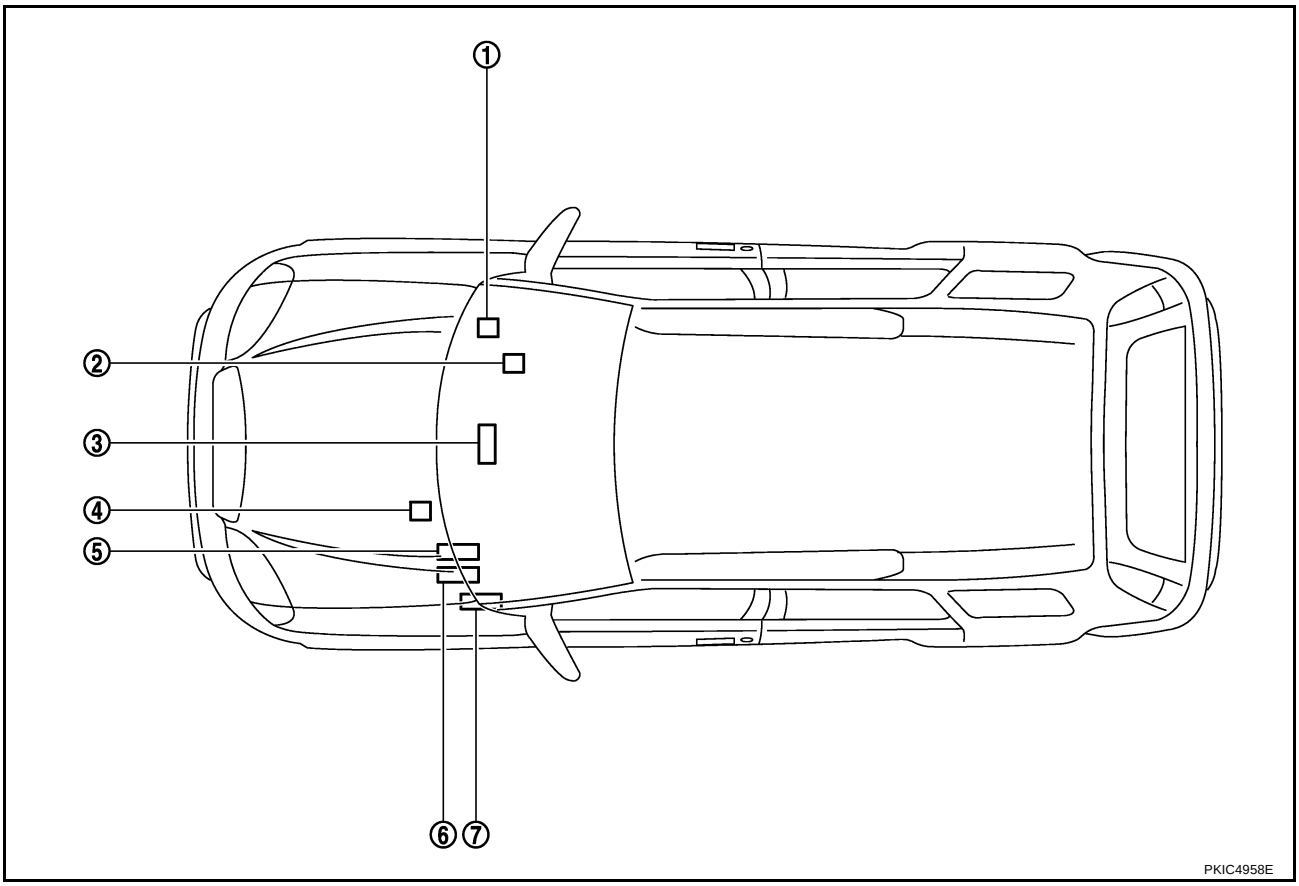
BKS000SF

LHD MODELS



1. TCM F46 (with A/T)
2. ESP/TCS/ABS control unit E122 (with ESP)
3. ECM M118
4. ABS actuator and electric unit (control unit) E69 (with ABS)
5. Combination meter M44
6. 4WD control unit M107 (with 4WD)
7. Steering angle sensor M81 (with ESP)

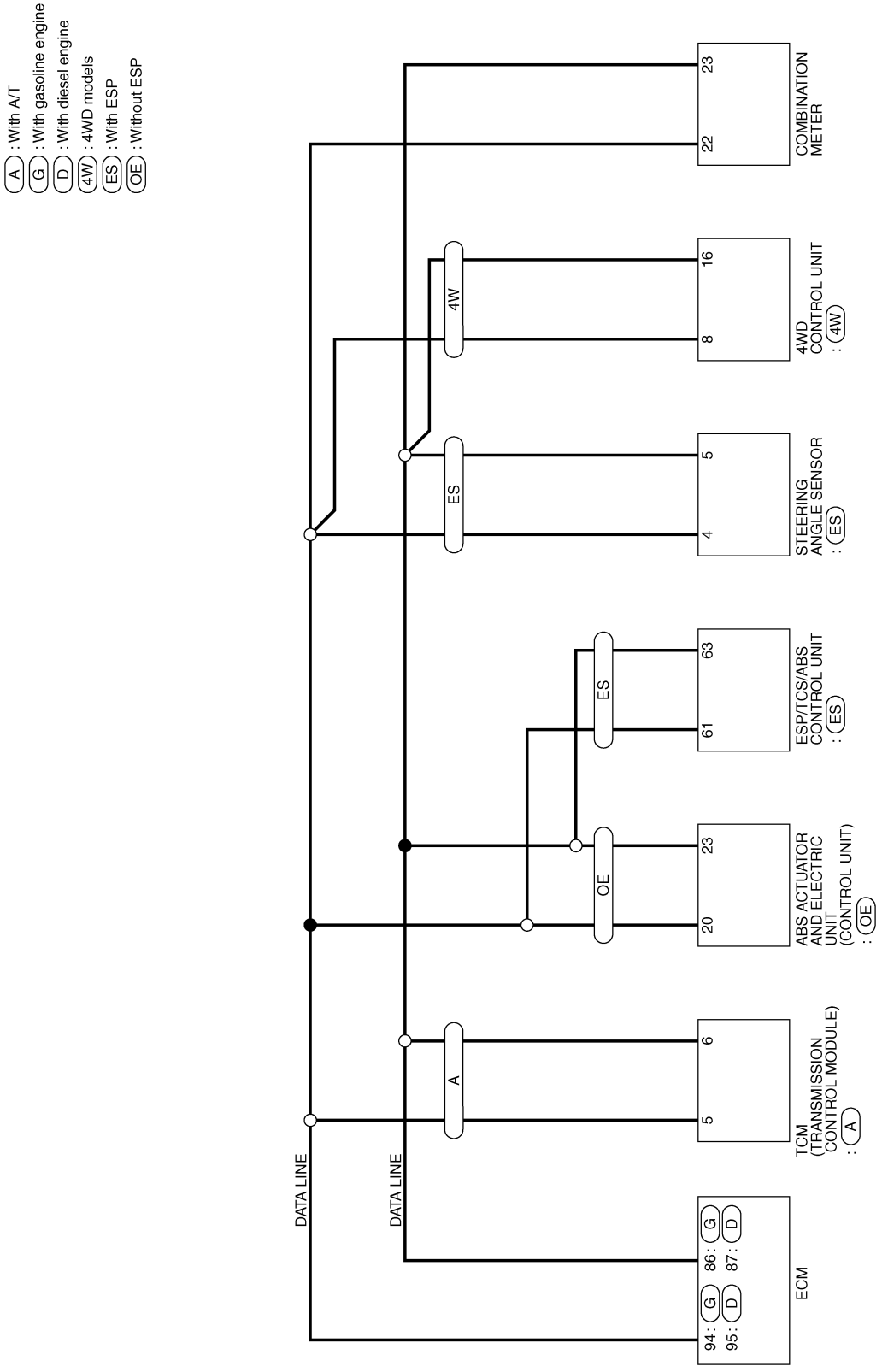
RHD MODELS



1. 4WD control unit M107 (with 4WD)
2. Steering angle sensor M81 (with ESP)
3. Combination meter M44
4. ABS actuator and electric unit (control unit) E69 (with ABS)
5. ECM M118
6. ESP/TCS/ABS control unit E122 (with ESP)
7. TCM F46 (with A/T)

Schematic

BKS000SG



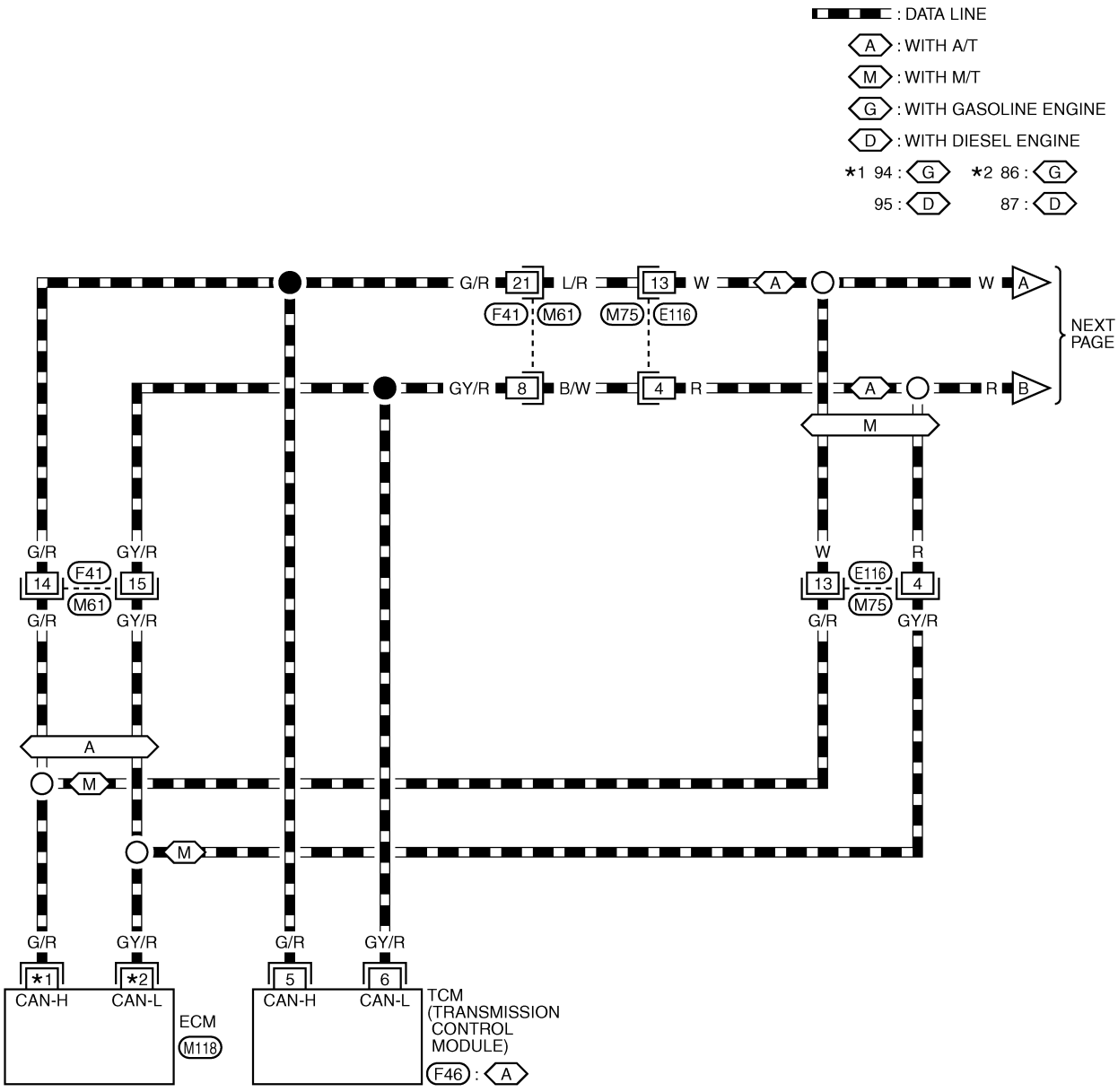
TKWB2825E

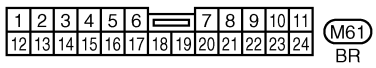
Wiring Diagram — CAN —

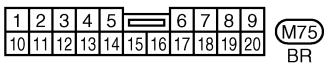
BKS000SH

LHD MODELS

LAN-CAN-01





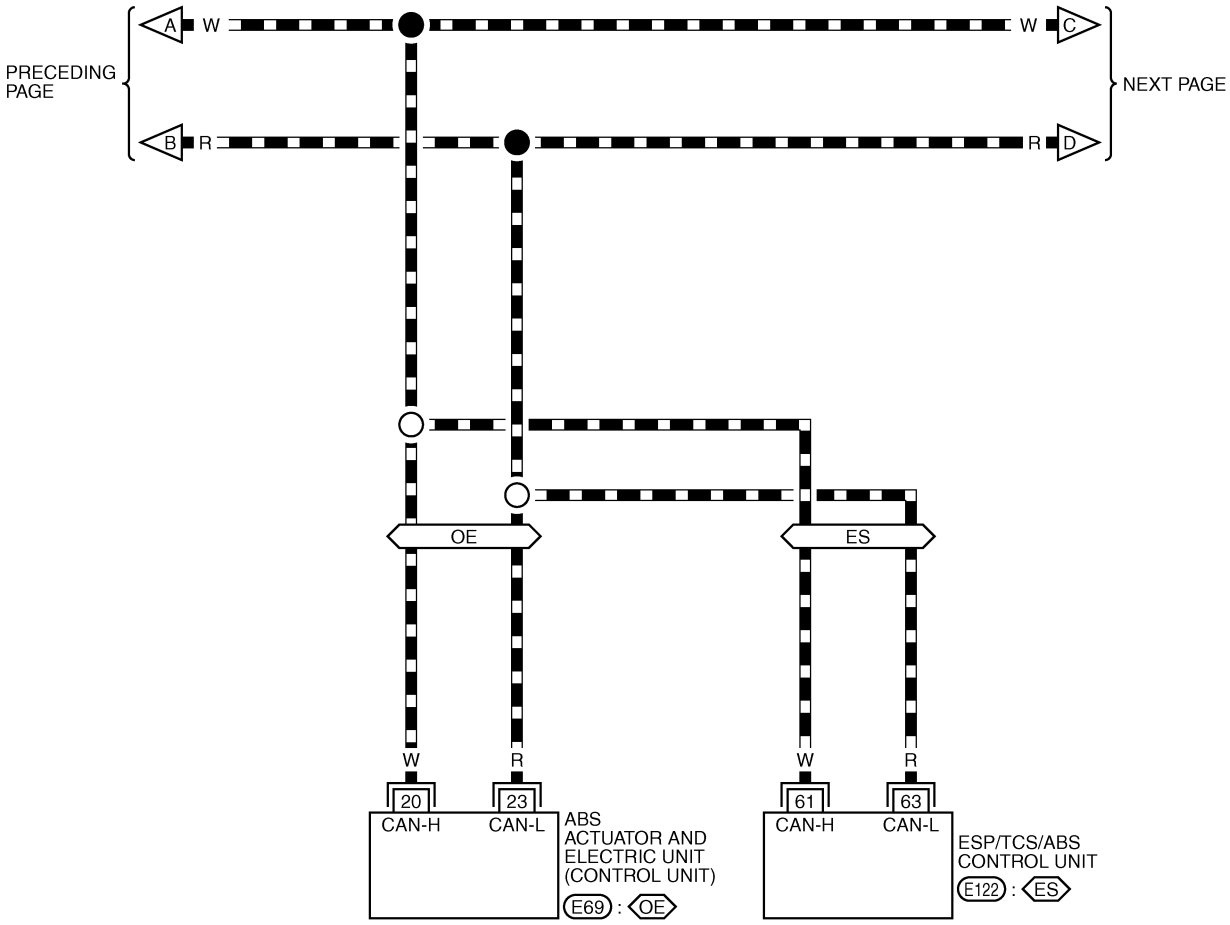


REFER TO THE FOLLOWING.
M118 , F46 -ELECTRICAL UNITS

TKWB2826E

LAN-CAN-02

: DATA LINE
ES : WITH ESP
OE : WITHOUT ESP



REFER TO THE FOLLOWING.
E69 , E122 -ELECTRICAL UNITS

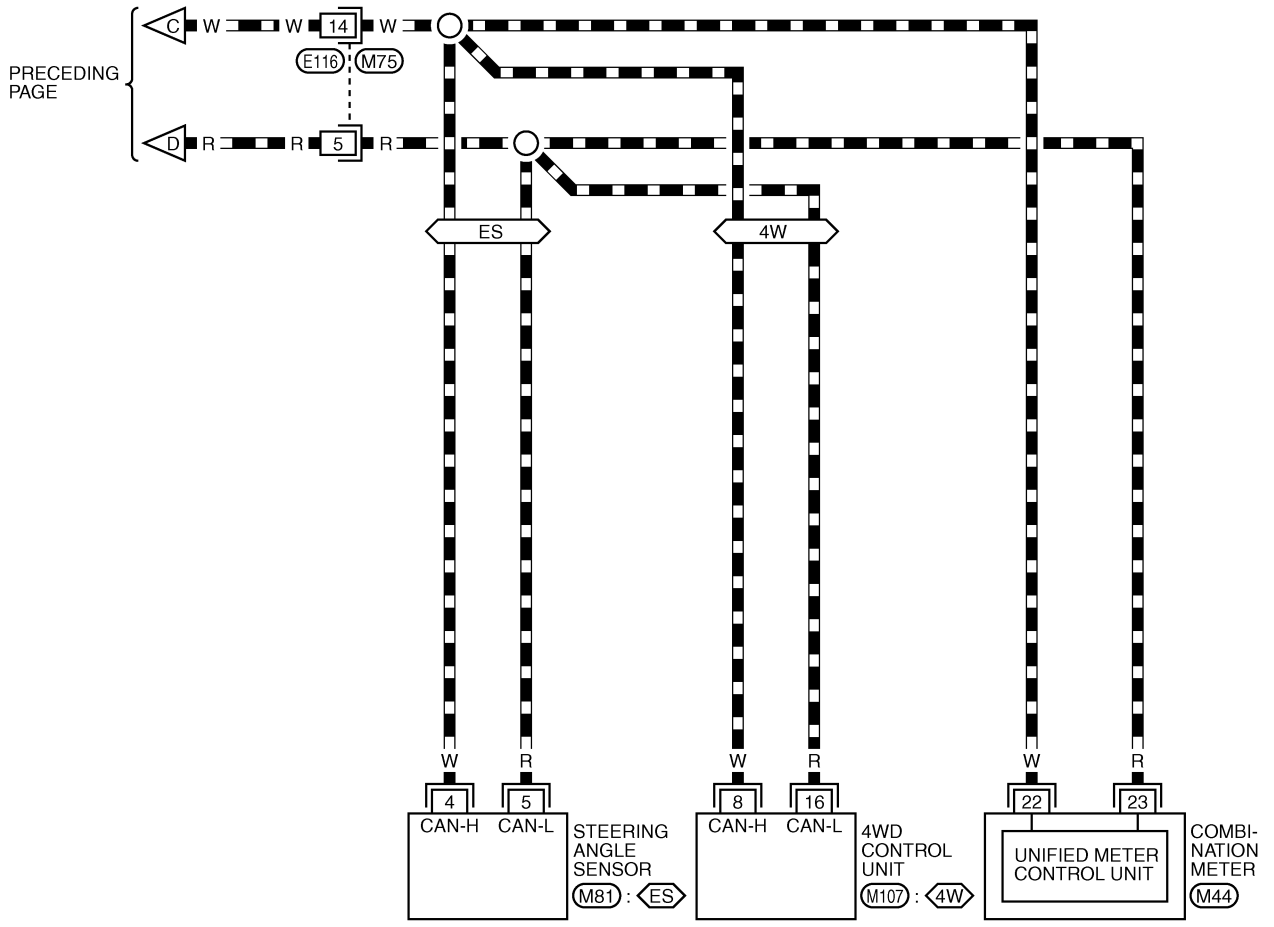
TKWB2827E

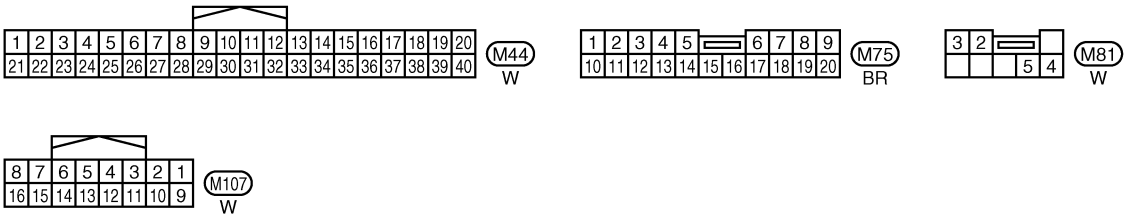
LAN-CAN-03

: DATA LINE

4W : 4WD MODELS

ES : WITH ESP

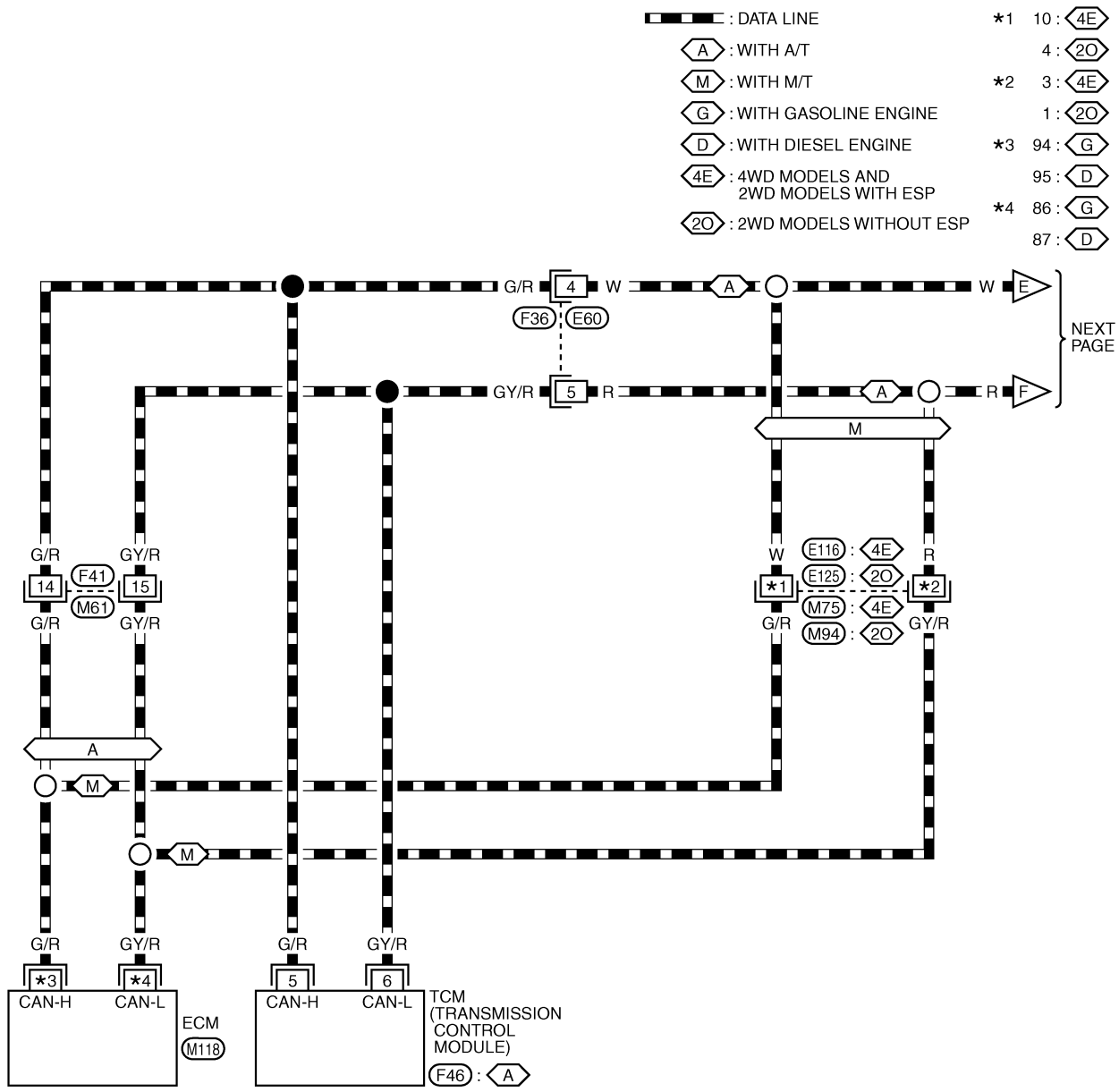


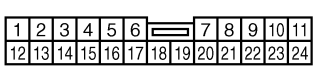


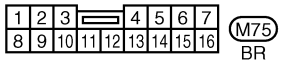
TKWB2828E

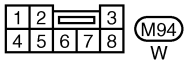
RHD MODELS

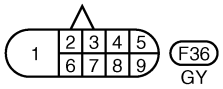
LAN-CAN-04









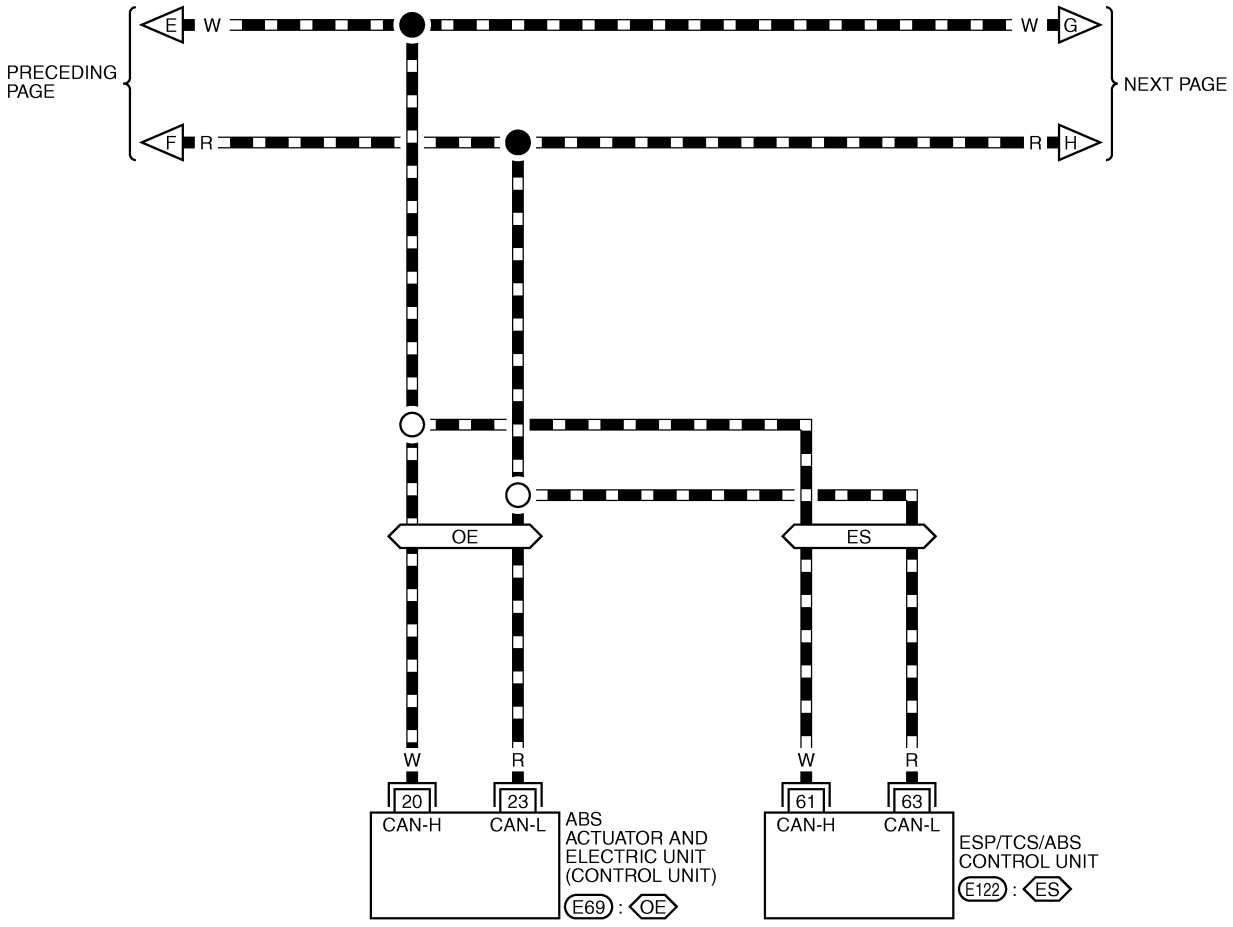


REFER TO THE FOLLOWING.
M118 , F46 -ELECTRICAL UNITS

TKWB2829E

LAN-CAN-05

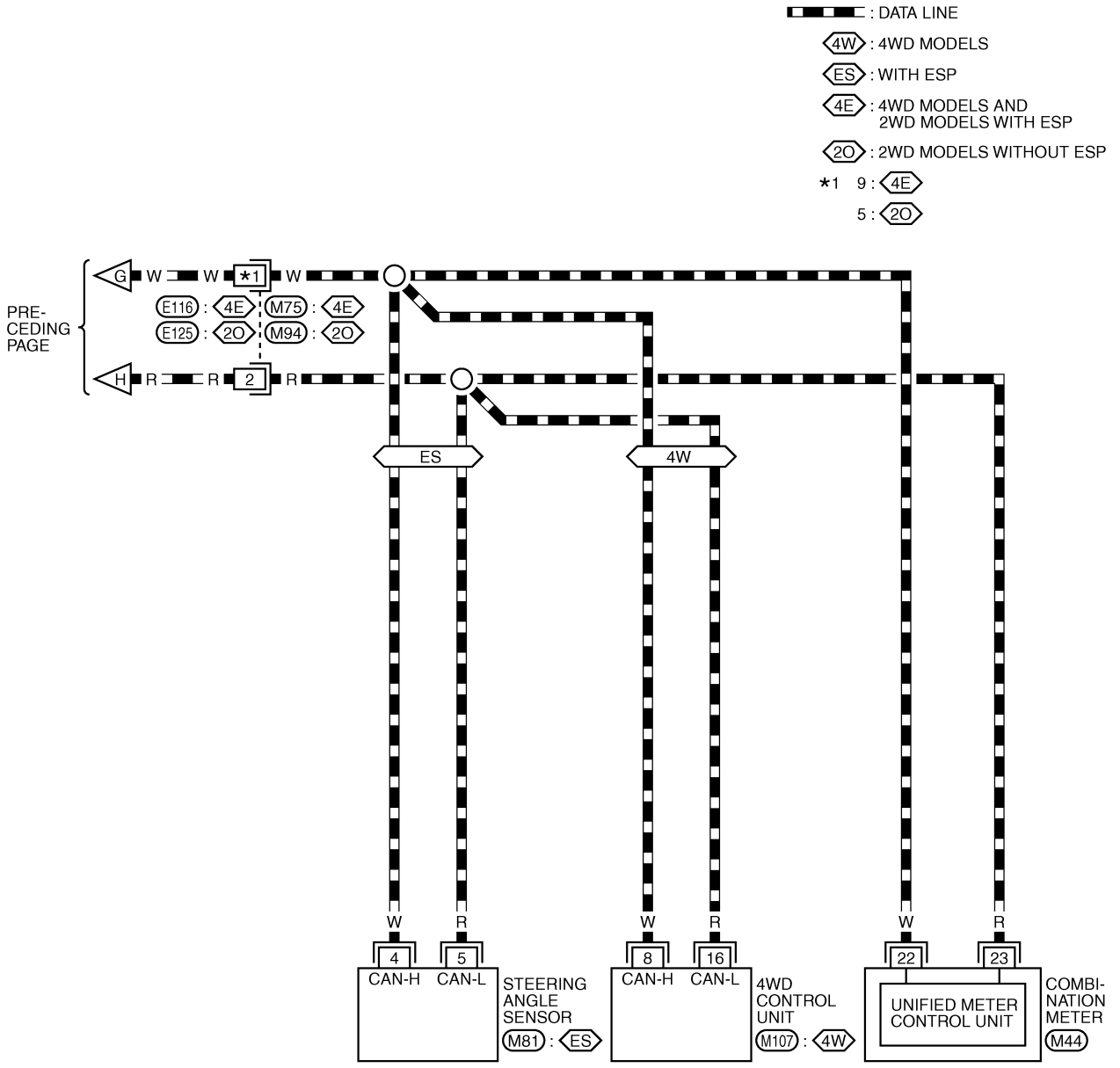
: DATA LINE
ES : WITH ESP
OE : WITHOUT ESP



REFER TO THE FOLLOWING.
E69 , E122 -ELECTRICAL UNITS

TKWB2830E

LAN-CAN-06



TKWB2831E

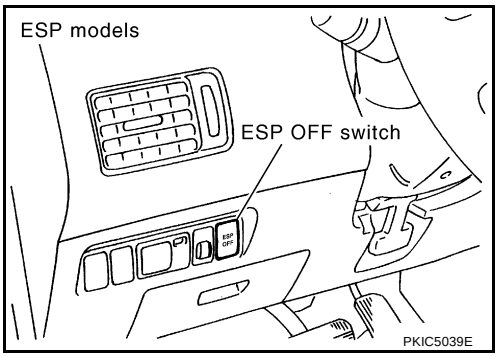
CAN Communication Unit

BKS000N6

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

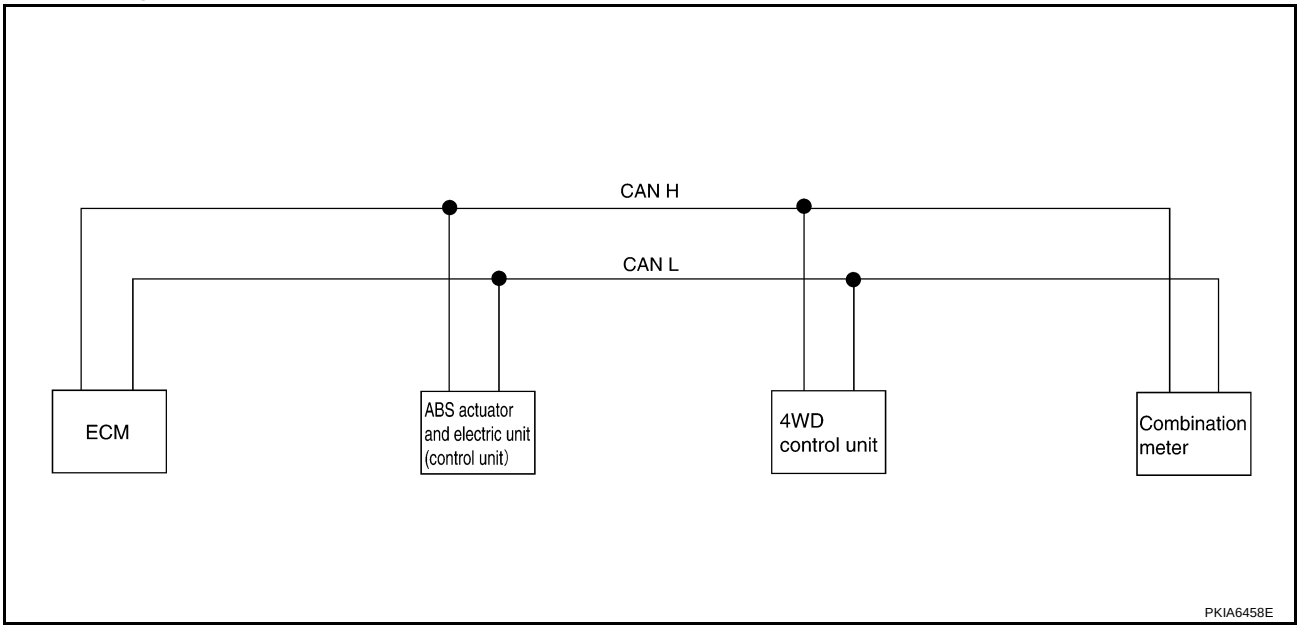
Body type	Wagon								
Axle	4WD						2WD		
Engine	YD22D DTi	QR20DE/QR25DE		YD22D DTi	QR25DE		QR20D E	YD22DDTi	
Transmission	M/T		A/T	M/T		A/T	M/T		
Brake control	ABS			ESP			ABS		ESP
CAN system type	1	2	3	4	5	6	7	8	9
CAN system trouble diagnosis	LAN-32	LAN-39	LAN-46	LAN-55	LAN-63	LAN-71	LAN-81	LAN-86	LAN-91

Vehicle equipped with ESP can be identified by the presence of a ESP OFF switch.



TYPE 1/TYPE 2

System diagram



Input/output signal chart

T: Transmit R: Receive

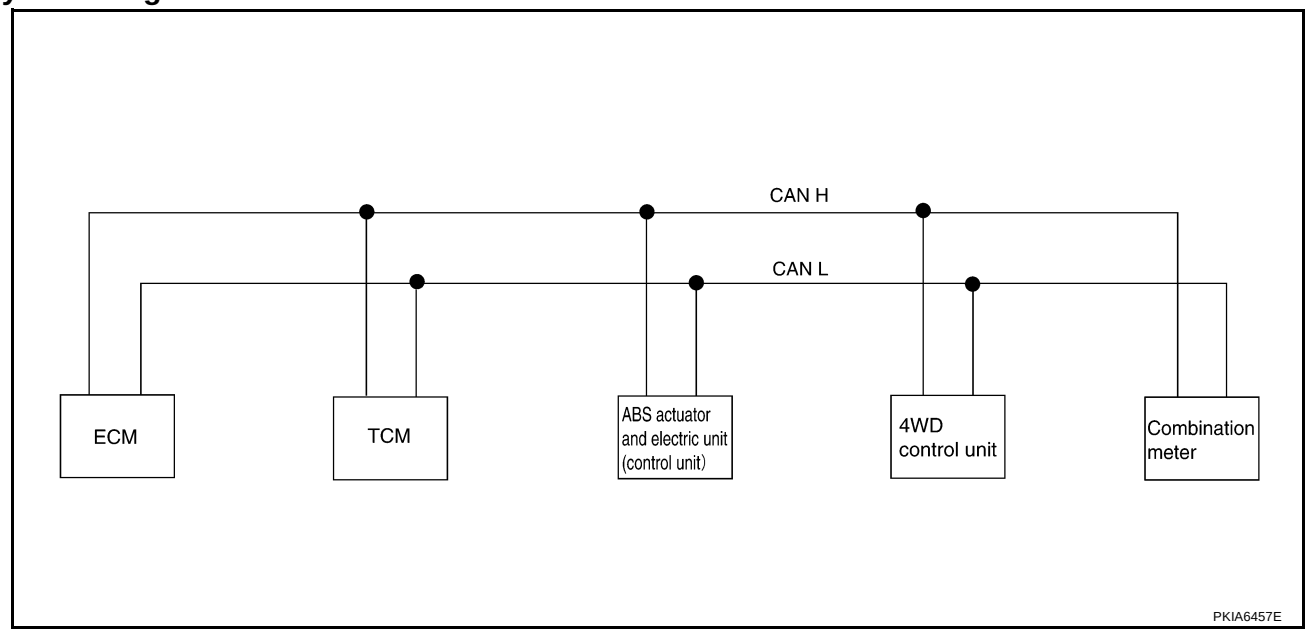
Signals	ECM	ABS actuator and electric unit (control unit)	4WD control unit	Combination meter
A/C compressor feedback signal	T			R
Accelerator pedal position signal	T		R	
ASCD CRUISE lamp signal	T			R
ASCD SET lamp signal	T			R
Engine coolant temperature signal	T			R

Signals	ECM	ABS actuator and electric unit (control unit)	4WD control unit	Combination meter
Engine speed signal	T		R	R
Glow indicator lamp signal*	T			R
MI signal	T			R
Stop lamp switch signal	T			R
		T	R	
ABS warning lamp signal		T		R
Vehicle speed signal		T	R	R
	R			T
4WD mode indicator lamp signal			T	R
4WD warning lamp signal			T	R
A/C switch signal*	R			T
Parking brake switch signal			R	T

*: YD engine models only

TYPE 3

System diagram



Input/output signal chart

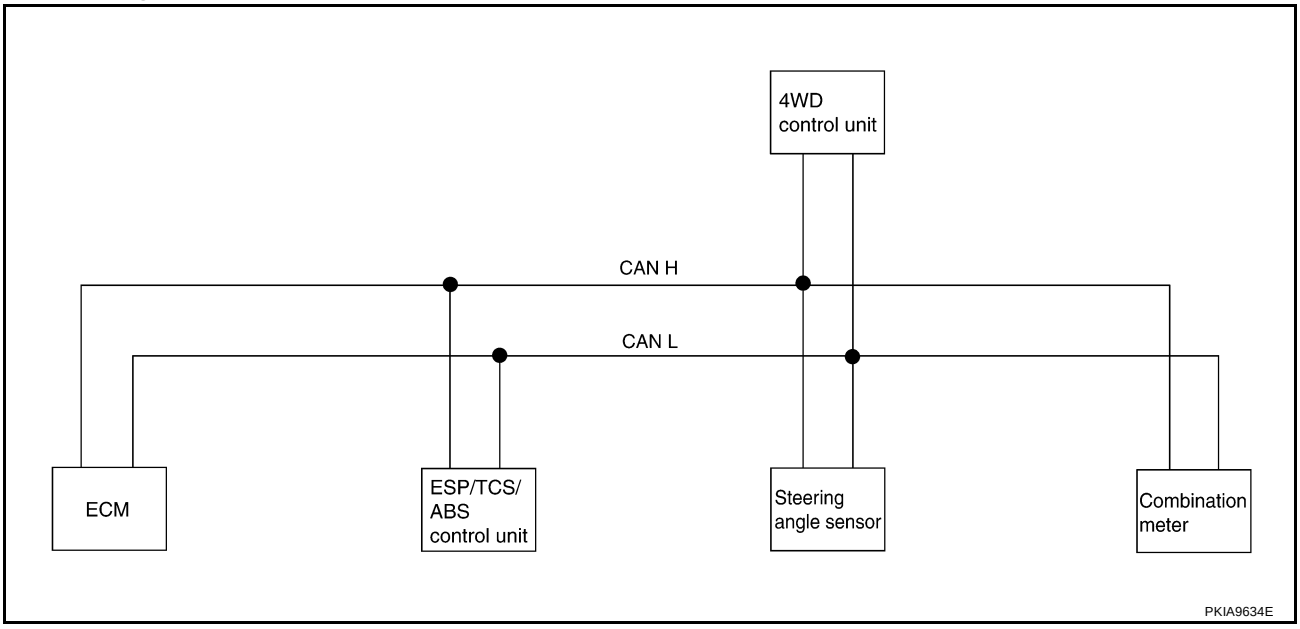
T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	4WD control unit	Combination meter
A/C compressor feedback signal	T				R
Accelerator pedal position signal	T			R	
ASCD CRUISE lamp signal	T				R
ASCD SET lamp signal	T				R
Closed throttle position signal	T	R			
Engine and A/T integrated control signal	T	R			
	R	T			
Engine coolant temperature signal	T				R
Engine speed signal	T			R	R

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	4WD control unit	Combination meter
MI signal	T				R
Wide open throttle position signal	T	R			
A/T position indicator lamp signal		T			R
A/T self-diagnosis signal	R	T			
OD OFF indicator signal		T			R
Output shaft revolution signal	R	T			
ABS warning lamp signal			T		R
Stop lamp switch signal			T	R	
		R			T
Vehicle speed signal			T	R	R
	R				T
4WD mode indicator lamp signal				T	R
4WD warning lamp signal				T	R
Overdrive control switch signal		R			T
P·N range signal		R			T
Parking brake switch signal				R	T

TYPE 4/TYPE 5

System diagram



Input/output signal chart

T: Transmit R: Receive

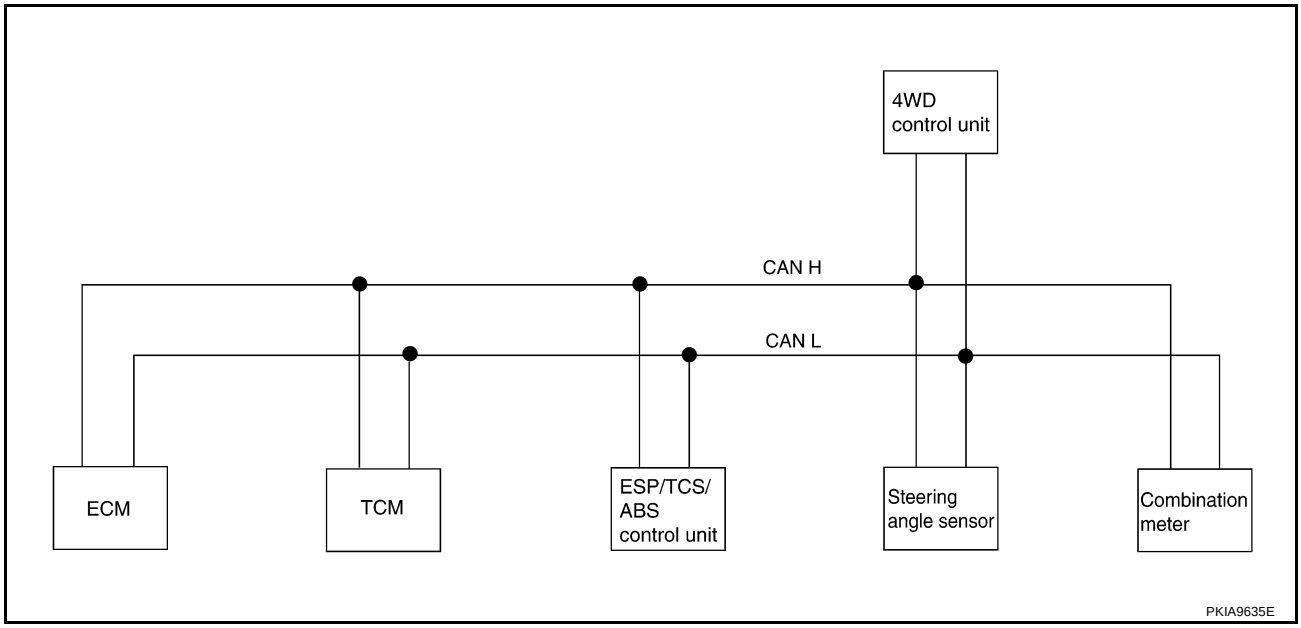
Signals	ECM	ESP/TCS/ABS control unit	Steering angle sensor	4WD control unit	Combination meter
A/C compressor feedback signal*2	T				R
Accelerator pedal position signal	T	R		R	
ASCD CRUISE lamp signal	T				R
ASCD SET lamp signal	T				R
Engine coolant temperature signal	T				R
Engine speed signal	T	R		R	R

Signals	ECM	ESP/TCS/ABS control unit	Steering angle sensor	4WD control unit	Combination meter
Glow indicator lamp signal*1	T				R
MI signal	T				R
ABS warning lamp signal		T			R
Brake warning lamp signal		T			R
ESP OFF indicator lamp signal		T			R
SLIP indicator lamp signal		T			R
Stop lamp switch signal		T		R	
Vehicle speed signal		T		R	R
	R				T
Steering angle sensor signal		R	T		
4WD mode indicator lamp signal				T	R
4WD warning lamp signal				T	R
A/C switch signal*1	R				T
Parking brake switch signal				R	T

*1: YD engine models only
*2: QR engine models only

TYPE 6

System diagram



Input/output signal chart

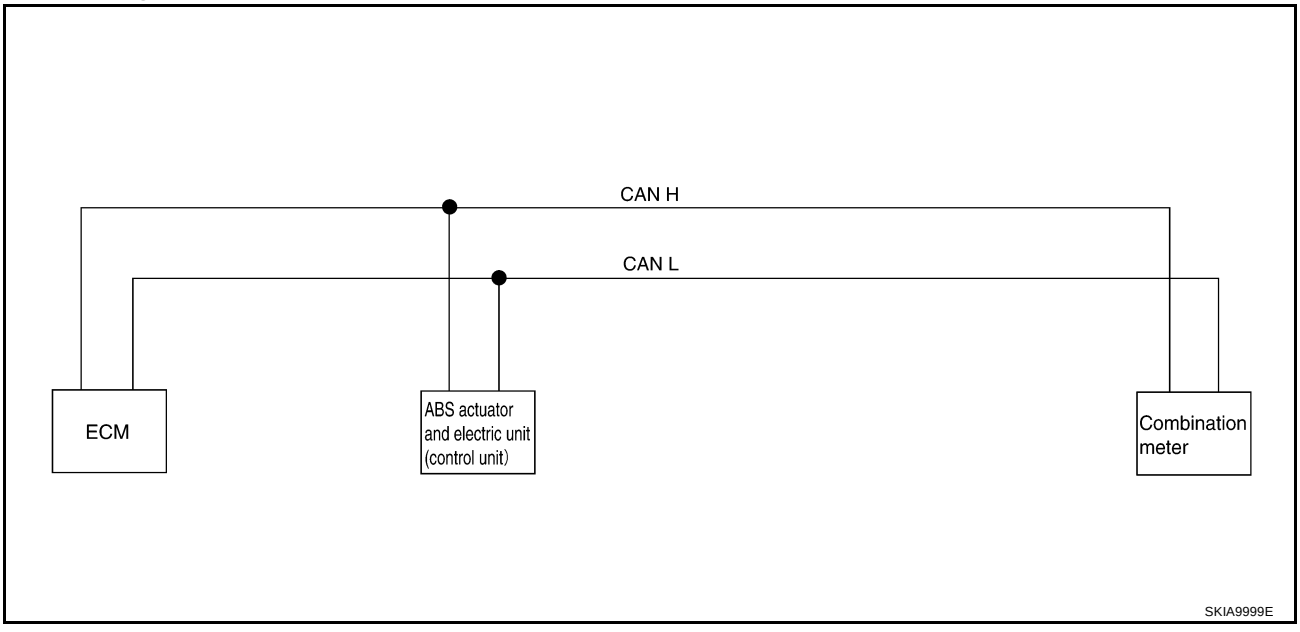
T: Transmit R: Receive

Signals	ECM	TCM	ESP/TCS/ ABS control unit	Steering angle sensor	4WD control unit	Combination meter
A/C compressor feedback signal	T					R
Accelerator pedal position signal	T		R		R	
ASCD CRUISE lamp signal	T					R
ASCD SET lamp signal	T					R
Closed throttle position signal	T	R				
Engine and A/T integrated control signal	T	R				

Signals	ECM	TCM	ESP/TCS/ ABS control unit	Steering angle sensor	4WD control unit	Combination meter
	R	T				
Engine coolant temperature signal	T					R
Engine speed signal	T		R		R	R
MI signal	T					R
Wide open throttle position signal	T	R				
A/T position indicator lamp signal		T	R			R
A/T self-diagnosis signal	R	T				
OD OFF indicator signal		T				R
Output shaft revolution signal	R	T				
ABS warning lamp signal			T			R
Brake warning lamp signal			T			R
ESP OFF indicator lamp signal			T			R
SLIP indicator lamp signal			T			R
Stop lamp switch signal			T		R	
		R				T
Vehicle speed signal			T		R	R
	R					T
Steering angle sensor signal			R	T		
4WD mode indicator lamp signal					T	R
4WD warning lamp signal					T	R
Overdrive control switch signal		R				T
P·N range signal		R				T
Parking brake switch signal					R	T

TYPE 7/TYPE 8

System diagram



Input/output signal chart

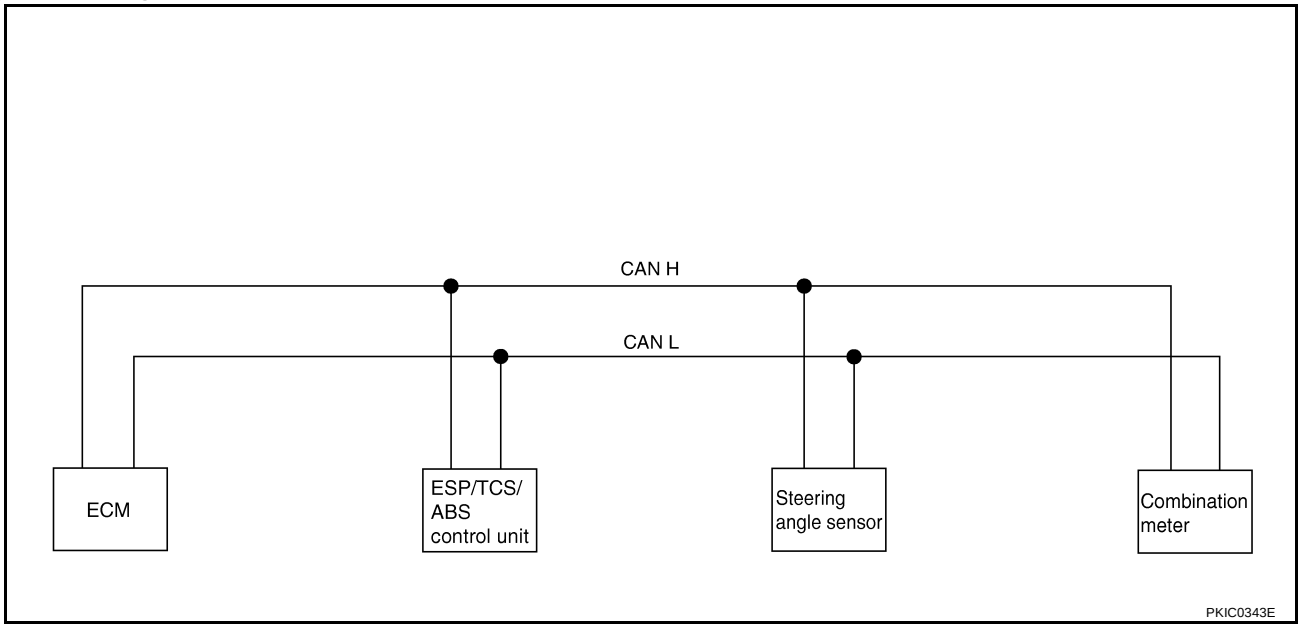
T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Combination meter
A/C compressor feedback signal	T		R
ASCD CRUISE lamp signal	T		R
ASCD SET lamp signal	T		R
Engine coolant temperature signal	T		R
Engine speed signal	T		R
Glow indicator lamp signal*	T		R
MI signal	T		R
Stop lamp switch signal	T		R
ABS warning lamp signal		T	R
Vehicle speed signal		T	R
	R		T
A/C switch signal*	R		T

*: YD engine models only

TYPE 9

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/TCS/ABS control unit	Steering angle sensor	Combination meter
Accelerator pedal position signal	T	R		
ASCD CRUISE lamp signal	T			R
ASCD SET lamp signal	T			R
Engine coolant temperature signal	T			R
Engine speed signal	T	R		R
Glow indicator lamp signal	T			R
MI signal	T			R
ABS warning lamp signal		T		R
Brake warning lamp signal		T		R
ESP OFF indicator lamp signal		T		R

Signals	ECM	ESP/TCS/ABS control unit	Steering angle sensor	Combination meter
SLIP indicator lamp signal		T		R
Vehicle speed signal		T		R
	R			T
Steering angle sensor signal		R	T	
A/C switch signal	R			T

CAN SYSTEM (TYPE 1)

PFP:23710

Component Parts and Harness Connector Location

BKS000SI

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000SJ

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000SK

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000SL

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)

Symptoms :

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS	Attach copy of ALL MODE AWD/4WD SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR

PKIC4925E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

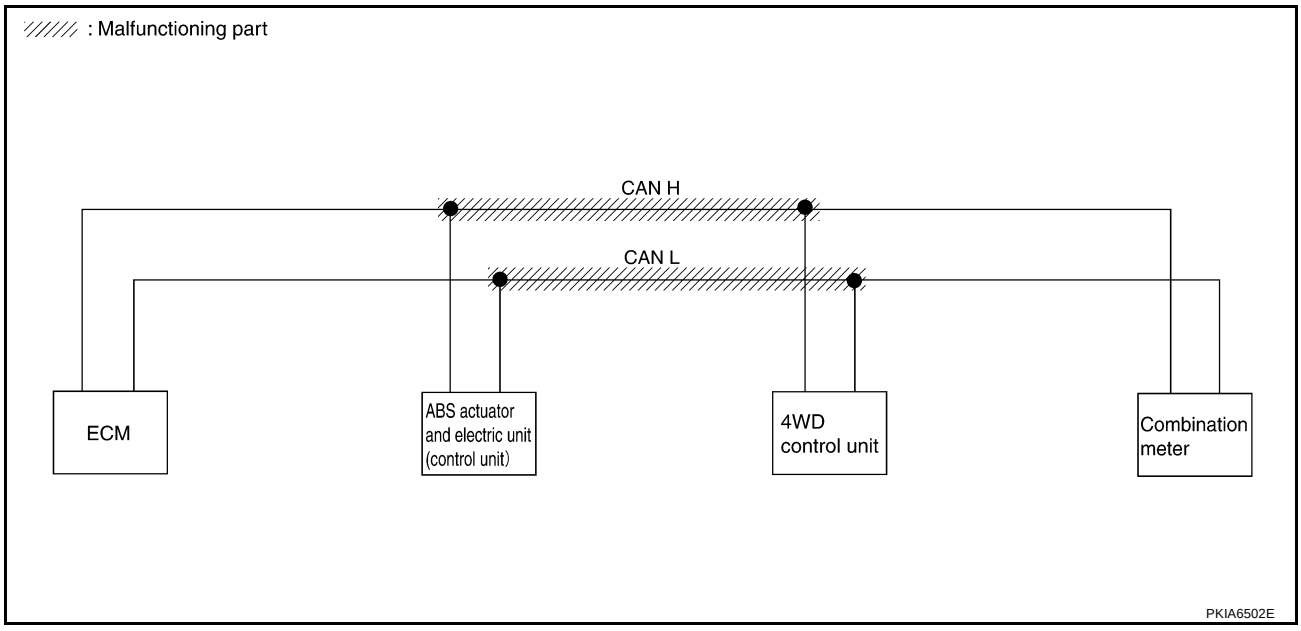
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between ABS actuator and electric unit (control unit) and 4WD control unit. Refer to LAN-102, "Inspection Between ABS Actuator and Electric Unit (Control Unit) and 4WD Control Unit Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4926E

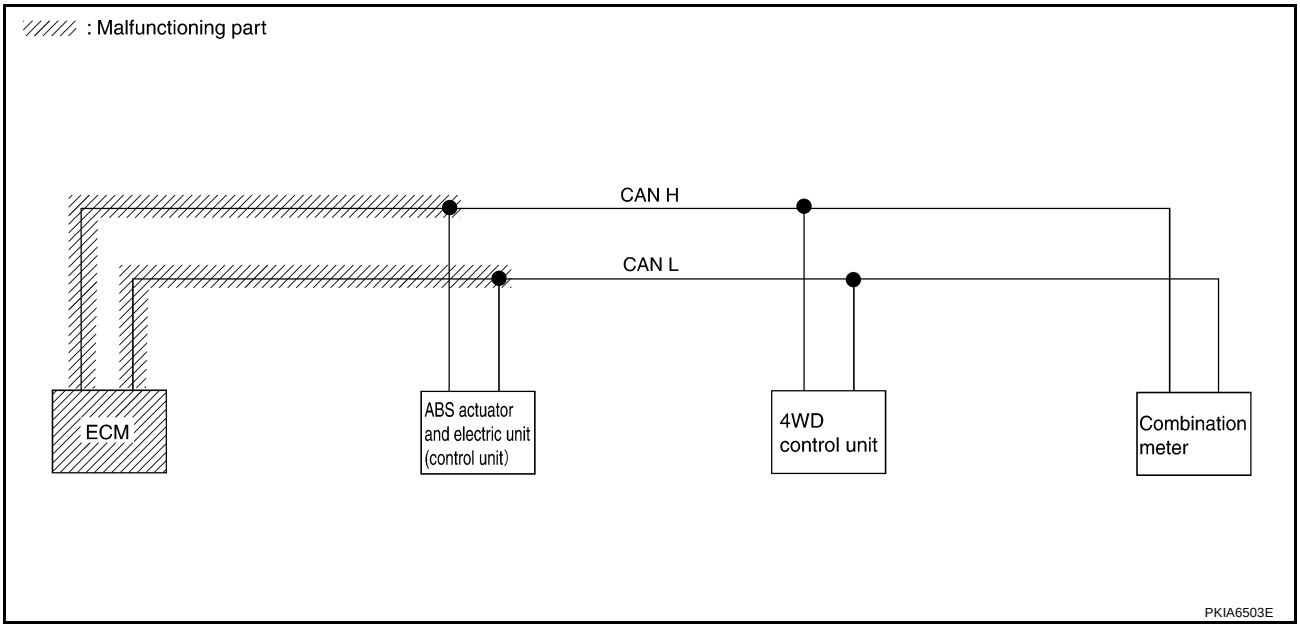


Case 2

Check ECM circuit. Refer to LAN-106, "ECM Circuit Inspection for 4WD with M/T Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4927E

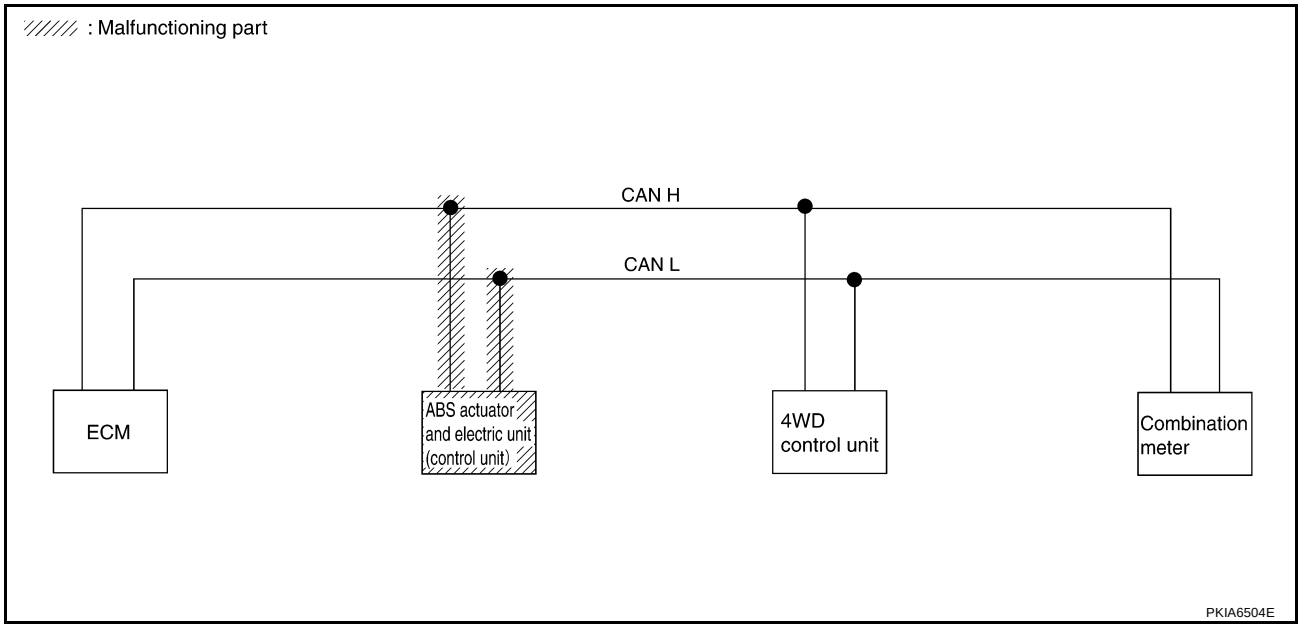


Case 3

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-109, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4928E



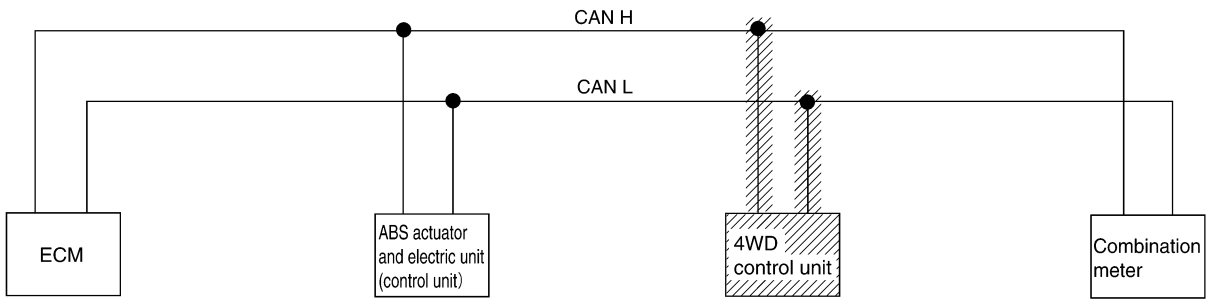
Case 4

Check 4WD control unit circuit. Refer to LAN-111, "4WD Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	–	–	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN ✓	–	–	–	CAN COMM CIRCUIT (U1000) ✓

PKIC4929E

: Malfunctioning part



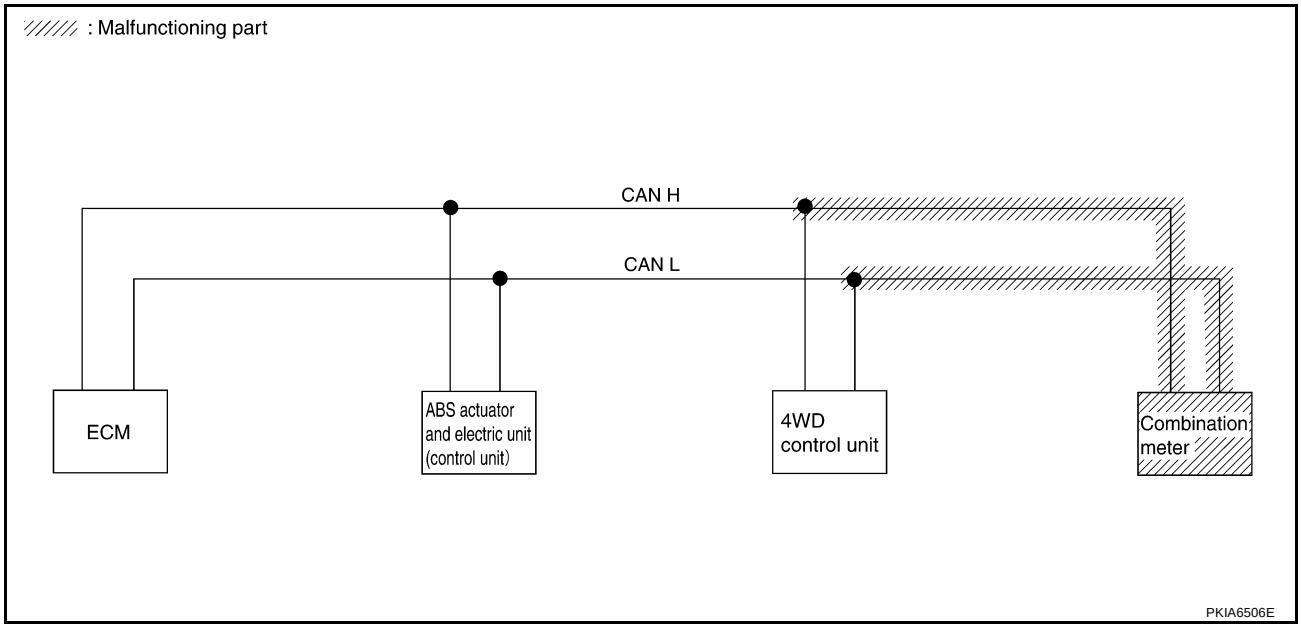
PKIA6505E

Case 5

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4930E



PKIA6506E

Case 6

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	VDC/TCS /ABS	METER /M&A	
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)

PKIC4931E

CAN SYSTEM (TYPE 2)

PFP:23710

Component Parts and Harness Connector Location

BKS000SM

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000SN

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000SO

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000SP

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	—

Symptoms :

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

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

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

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

PKIC3740E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

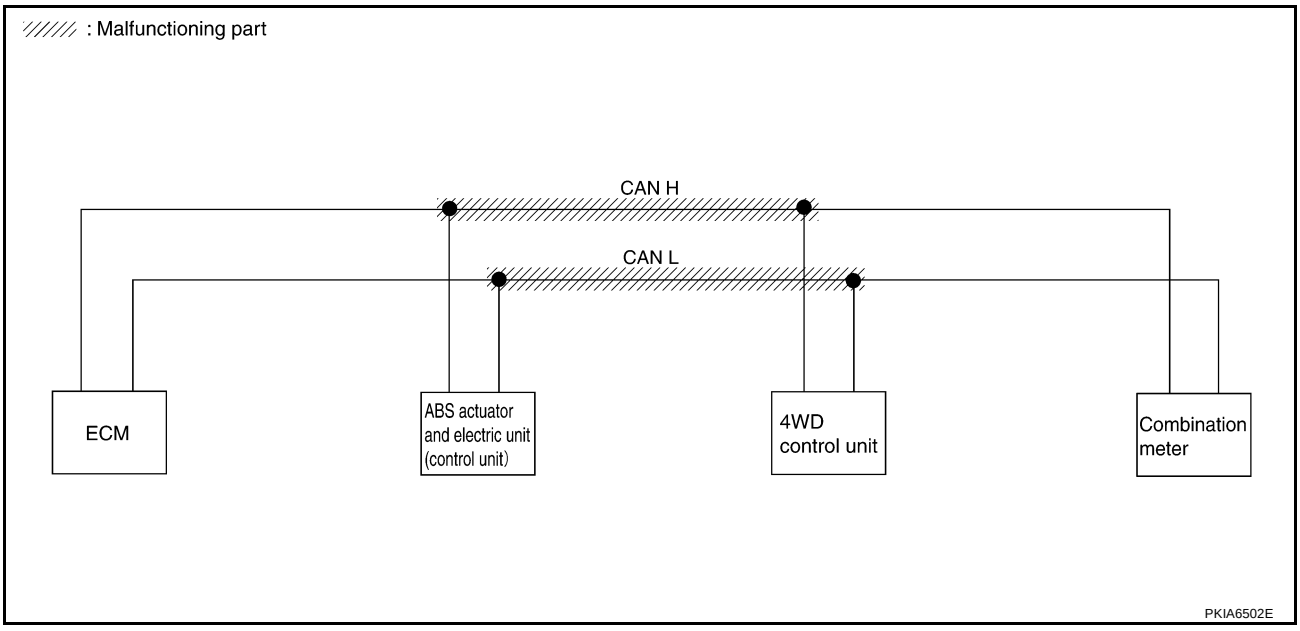
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between ABS actuator and electric unit (control unit) and 4WD control unit. Refer to LAN-102, "Inspection Between ABS Actuator and Electric Unit (Control Unit) and 4WD Control Unit Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3750E



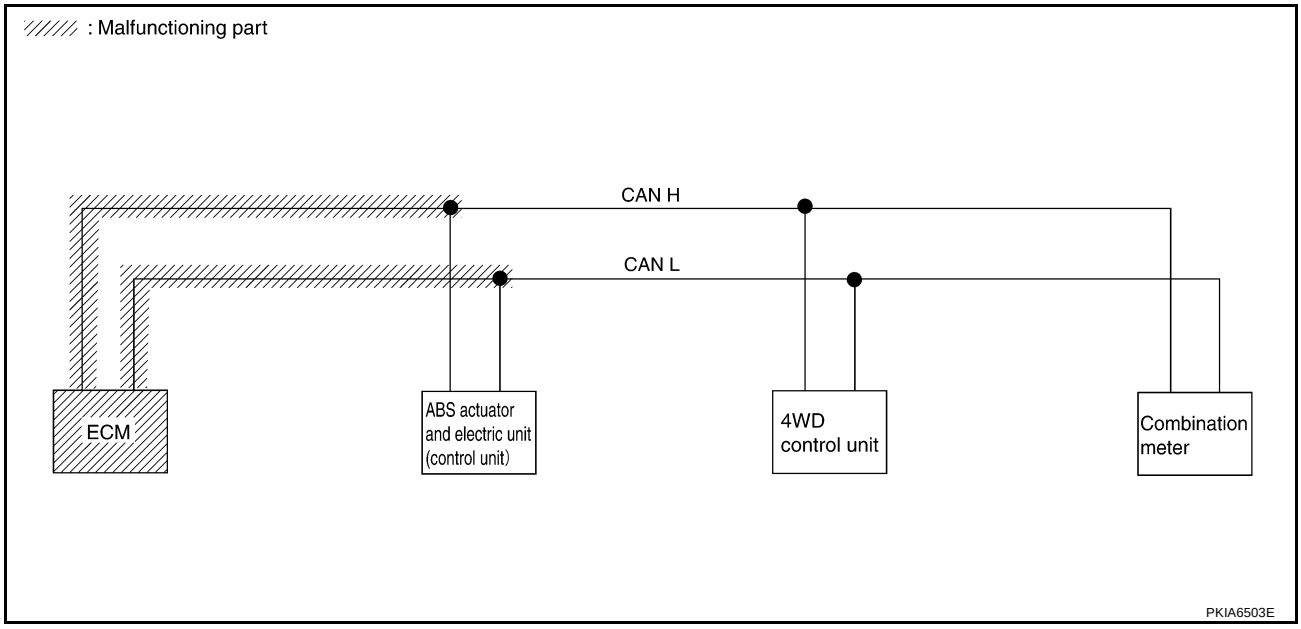
PKIA6502E

Case 2

Check ECM circuit. Refer to LAN-106, "ECM Circuit Inspection for 4WD with M/T Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	–	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	–

PKIC3751E

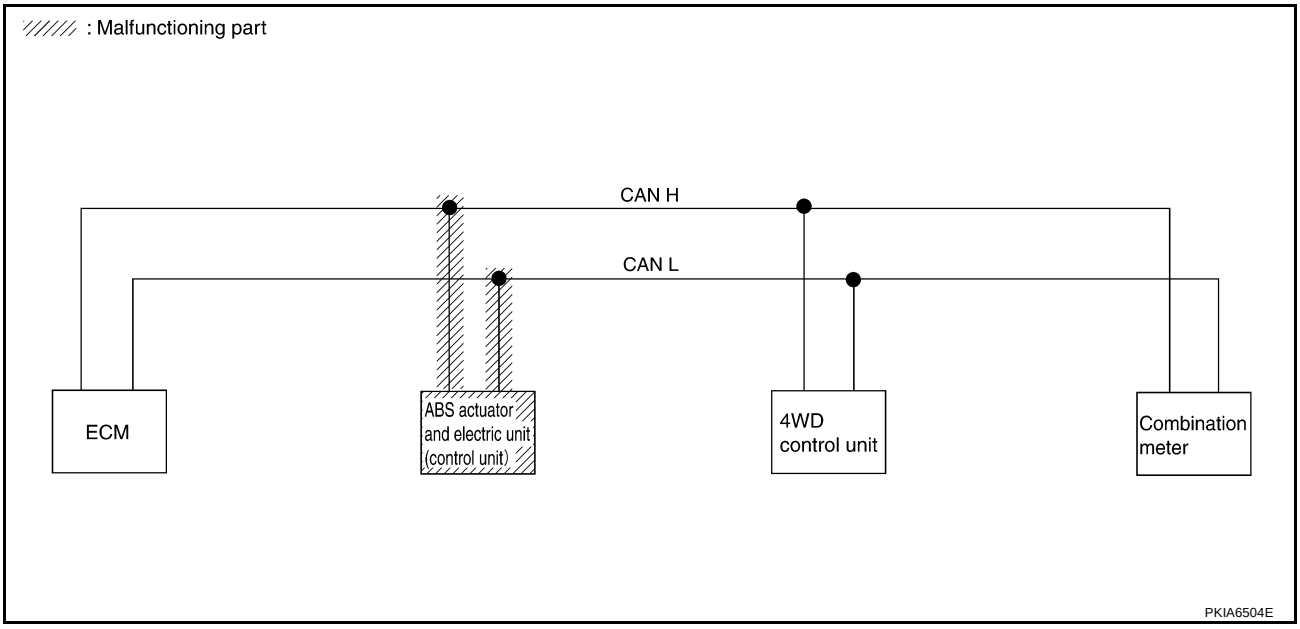


Case 3

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-109, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3752E

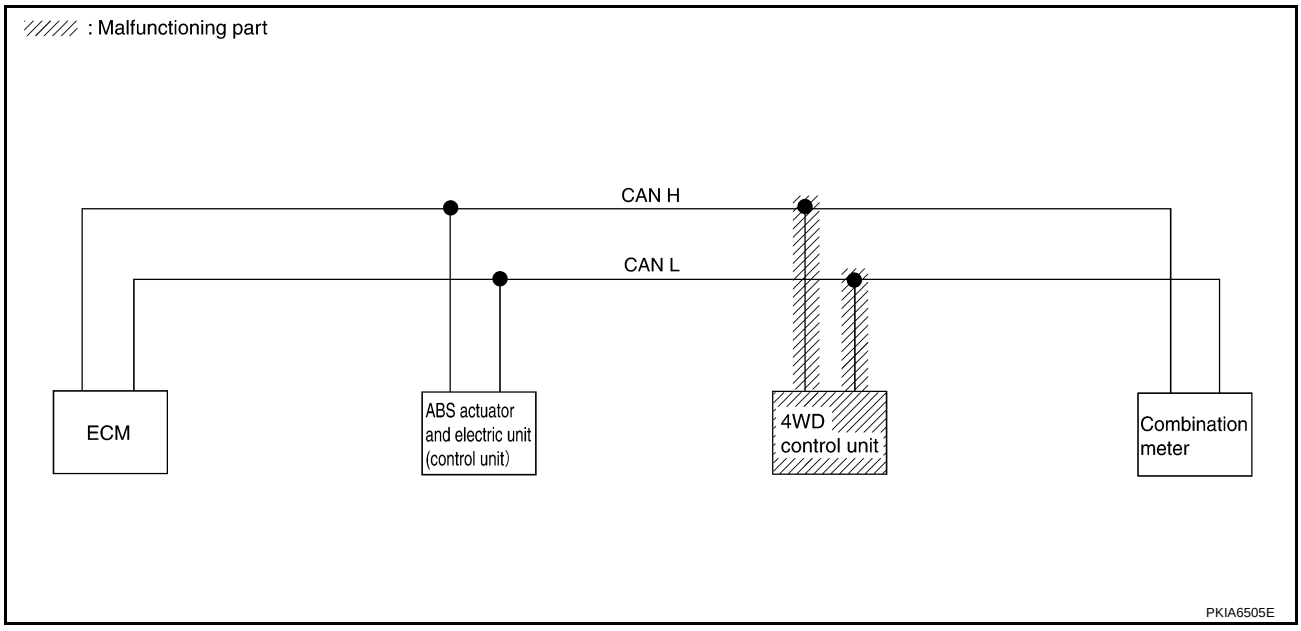


Case 4

Check 4WD control unit circuit. Refer to LAN-111, "4WD Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—

PKIC3753E

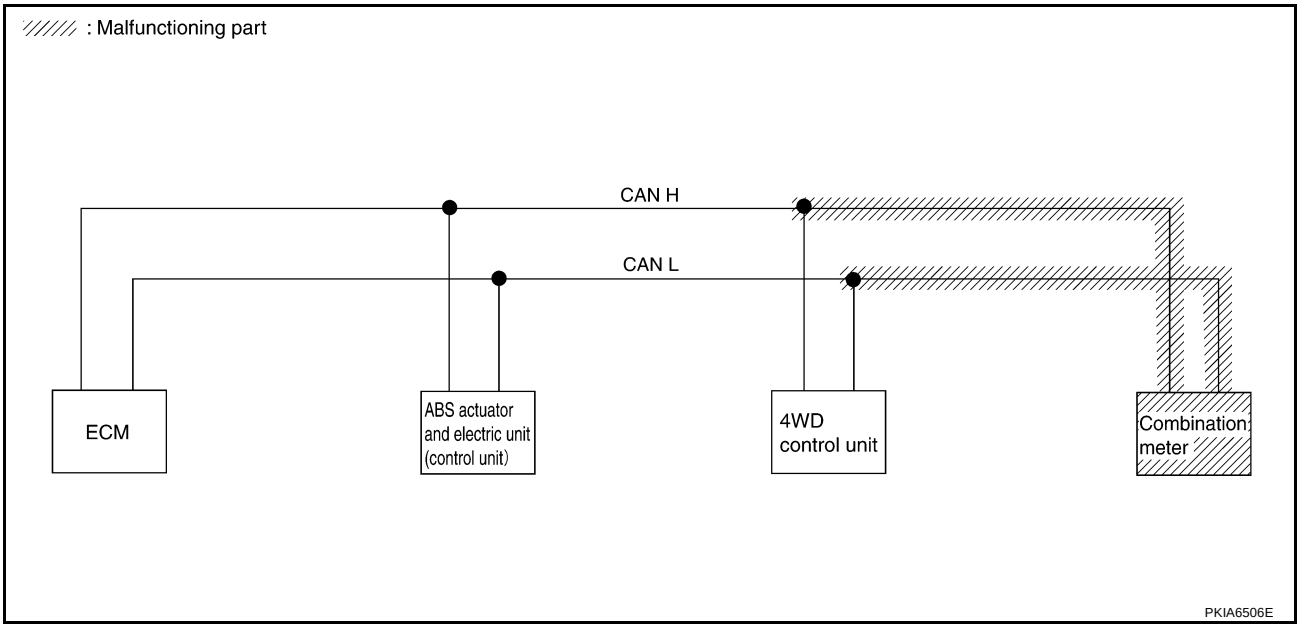


Case 5

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3754E



PKIA6506E

Case 6

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR					SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—

PKIC3755E

CAN SYSTEM (TYPE 3)

PFP:23710

Component Parts and Harness Connector Location

BKS000SQ

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000SR

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000SS

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000ST

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	—

Symptoms :

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 ALL MODE AWD/4WD 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 ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR

PKIC3741E

CHECK SHEET RESULTS (EXAMPLE)

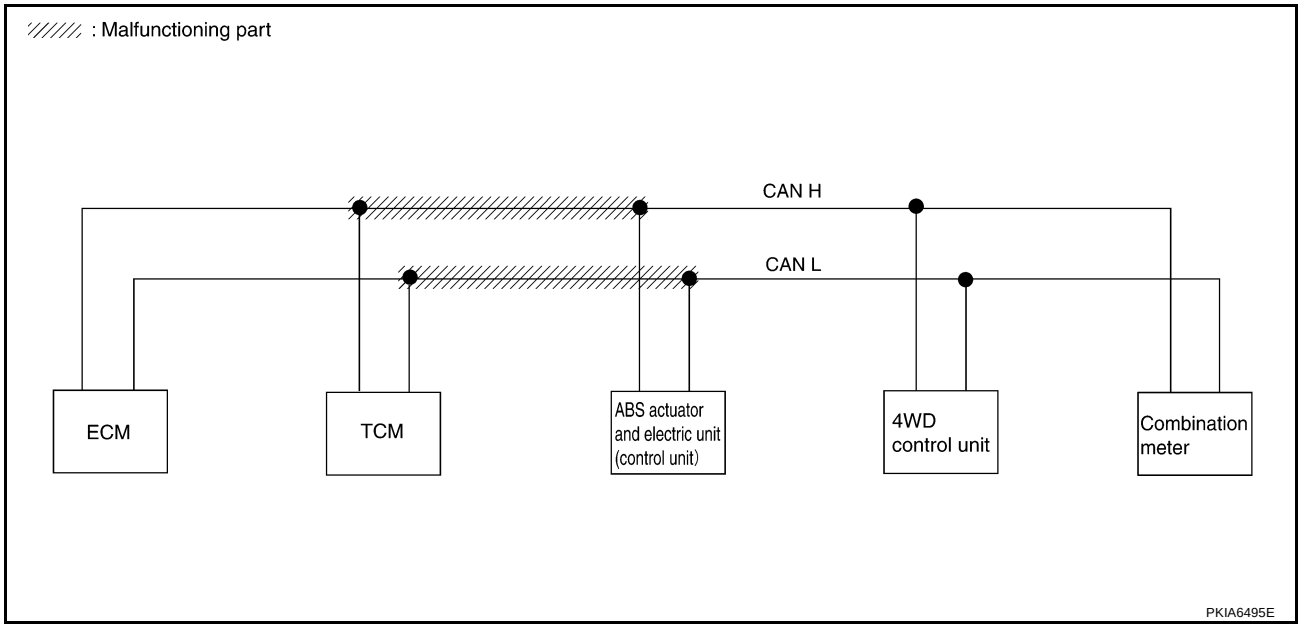
NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between TCM and ABS actuator and electric unit (control unit). Refer to LAN-98, "Inspection Between TCM and ABS Actuator and Electric Unit (Control Unit) Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG ✓	UNKWN ✓	UNKWN ✓	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN ✓	—	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3756E



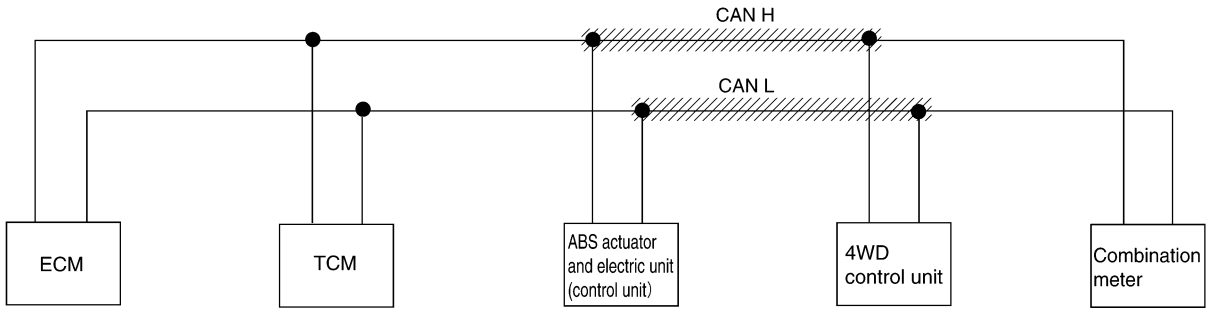
Case 2

Check harness between ABS actuator and electric unit (control unit) and 4WD control unit. Refer to LAN-102, "Inspection Between ABS Actuator and Electric Unit (Control Unit) and 4WD Control Unit Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3757E

: Malfunctioning part



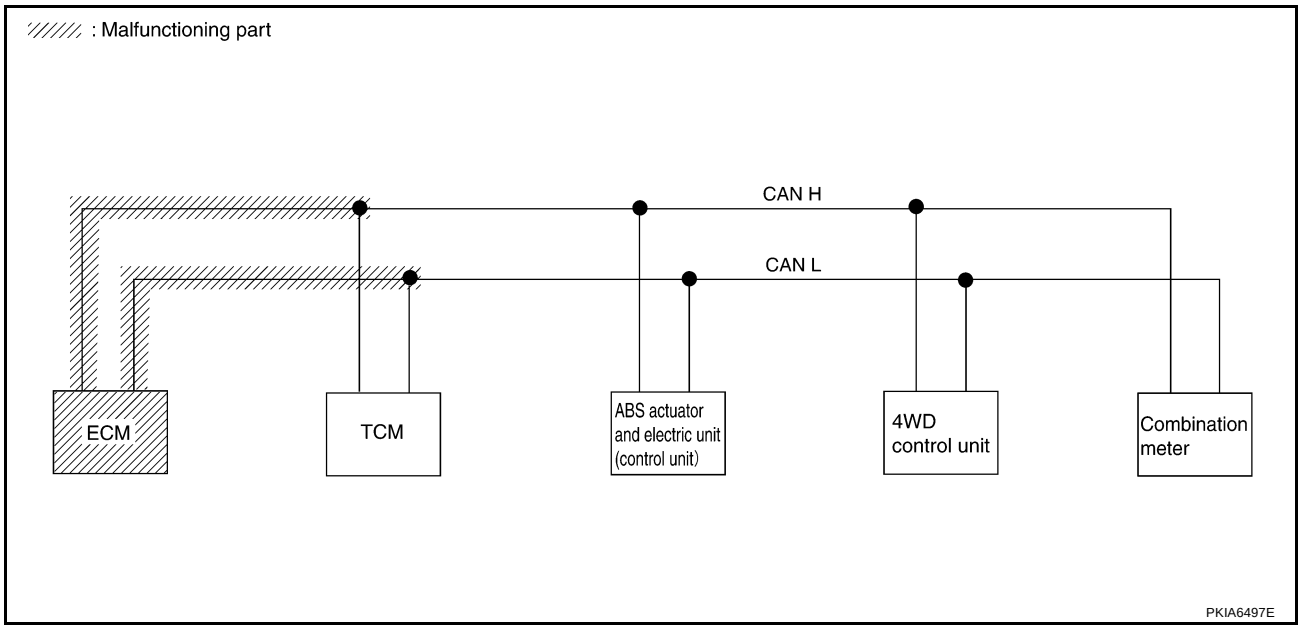
PKIA6496E

Case 3

Check ECM circuit. Refer to LAN-107, "ECM Circuit Inspection for A/T Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3758E

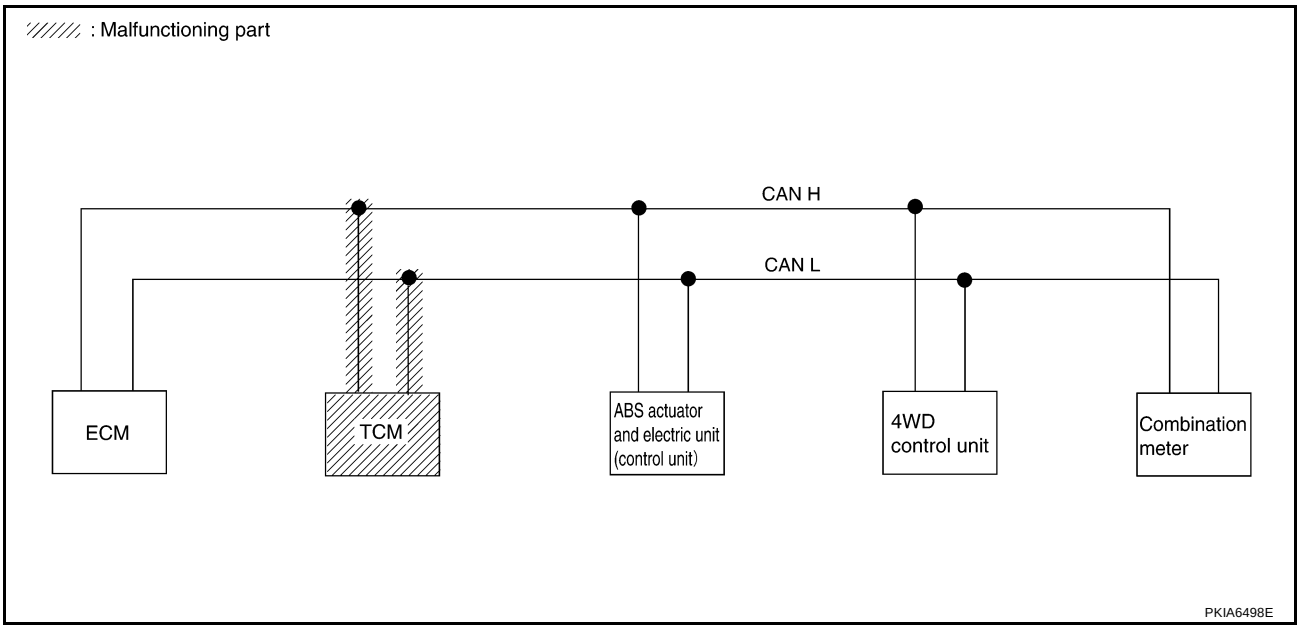


Case 4

Check TCM circuit. Refer to LAN-109, "TCM Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–
ABS	NG	UNKWN	UNKWN	–	–	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	–	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	–

PKIC3759E

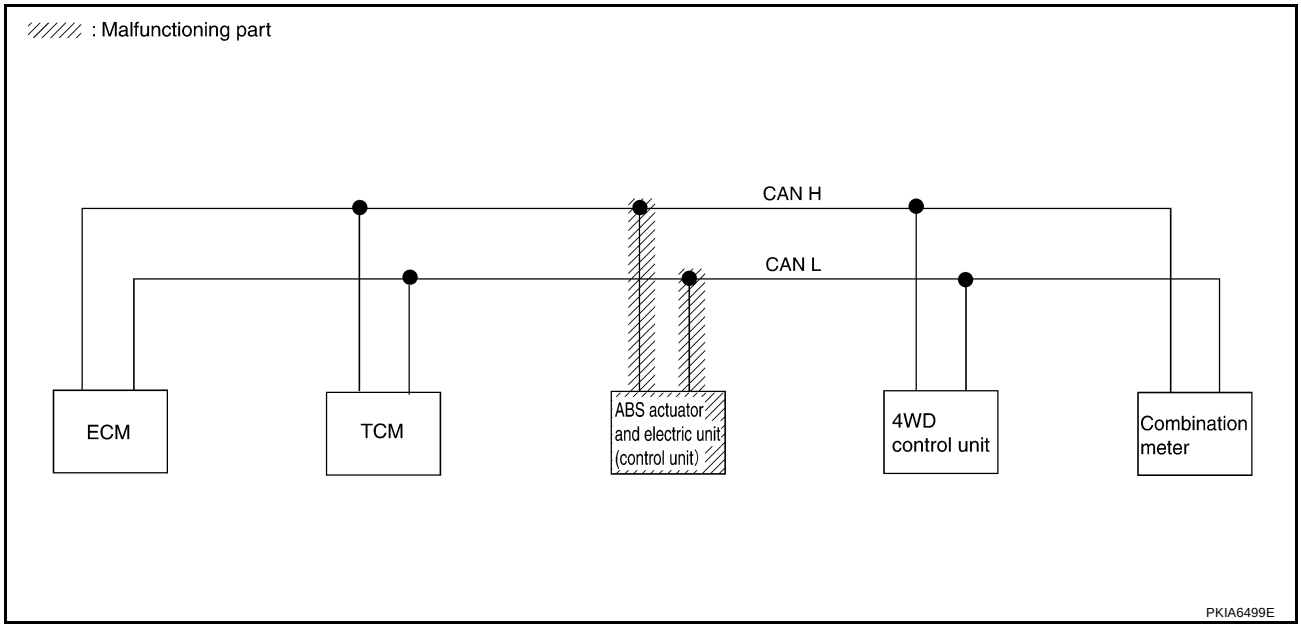


Case 5

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-109, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3760E

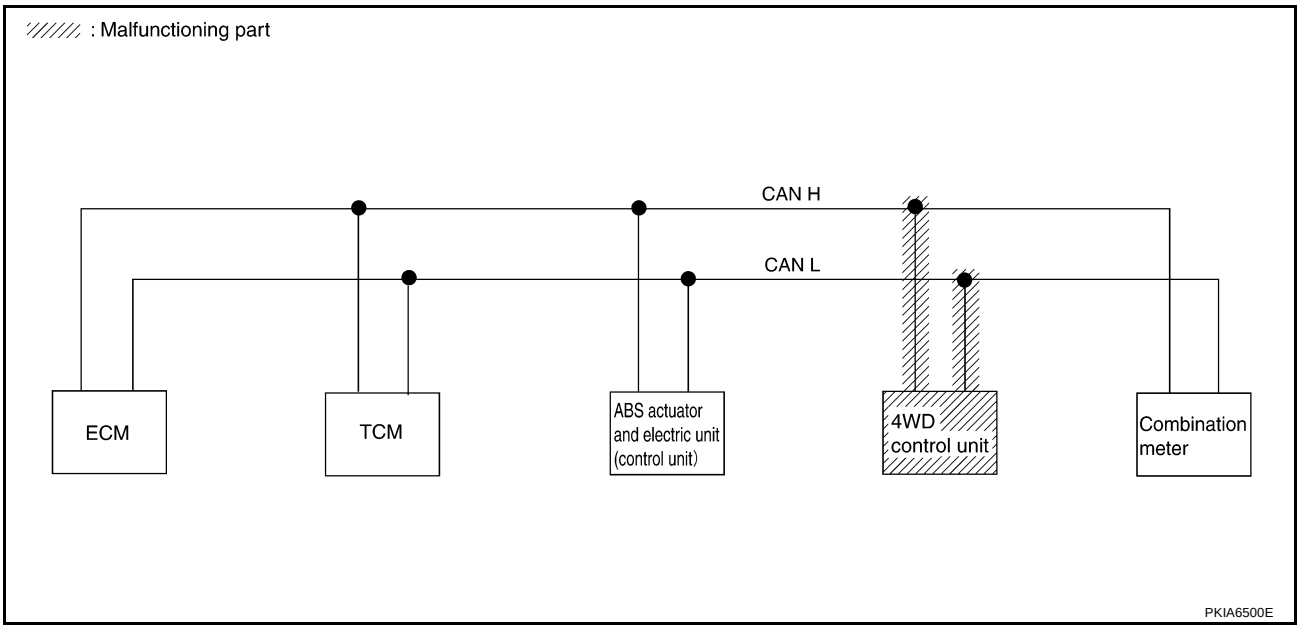


Case 6

Check 4WD control unit circuit. Refer to LAN-111, "4WD Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	–
ABS	NG	UNKWN	UNKWN	–	–	–	CAN COMM CIRCUIT (U1000)	–
ALL MODE AWD/4WD	NG	UNKWN ✓	–	–	–	–	CAN COMM CIRCUIT (U1000) ✓	–

PKIC3761E

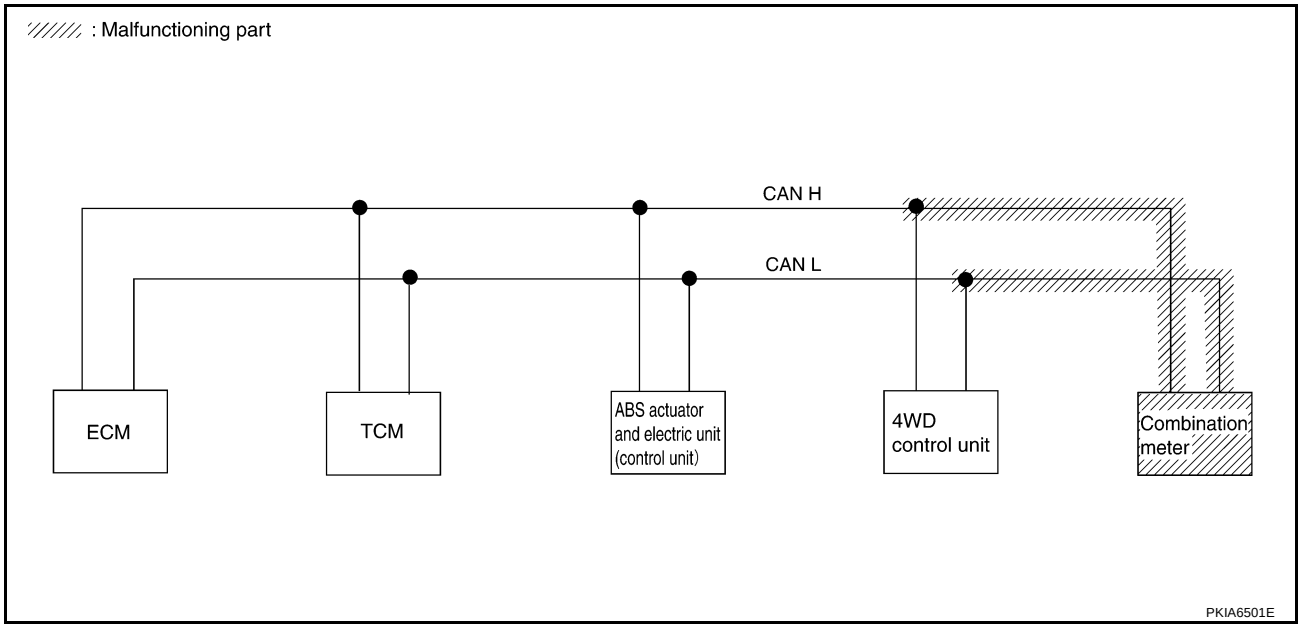


Case 7

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG	UNKWN	UNKWN	—	—	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3762E



PKIA6501E

Case 8

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	TCM	VDC/TCS /ABS	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN ✓	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG ✓	UNKWN ✓	UNKWN ✓	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN ✓	—	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3763E

CAN SYSTEM (TYPE 4)

PFP:23710

Component Parts and Harness Connector Location

BKS000SU

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000SV

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000SW

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000SX

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)

Symptoms :

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

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

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

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

PKIC4932E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

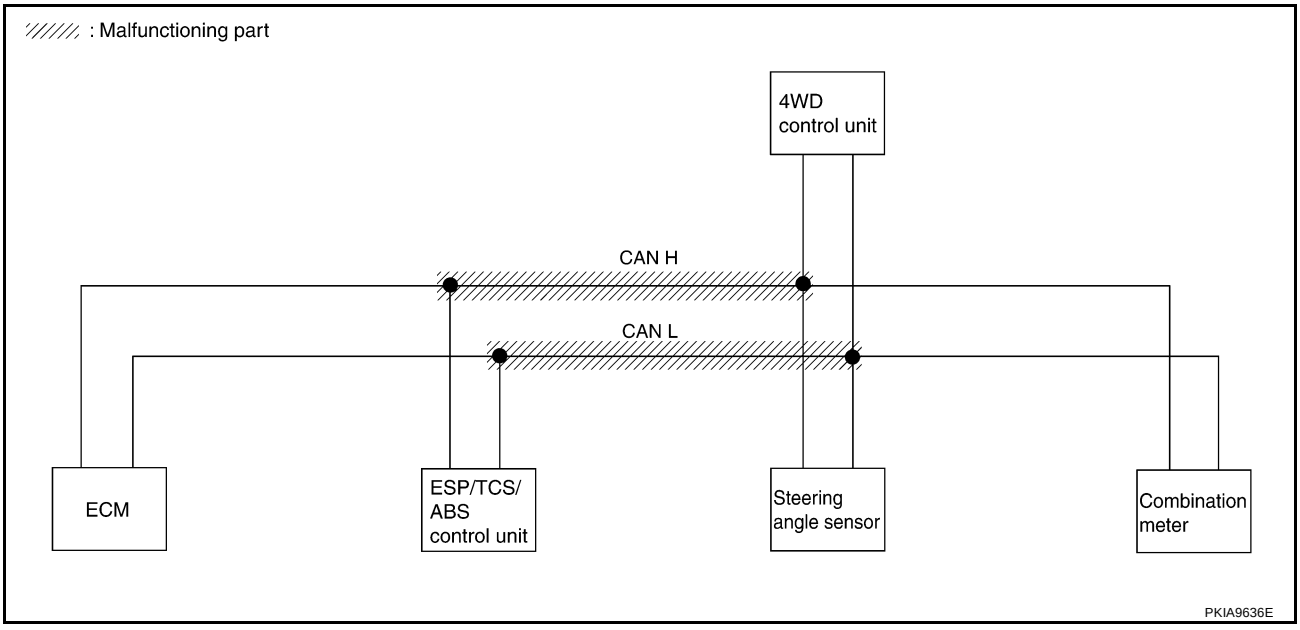
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between ESP/TCS/ABS control unit and steering angle sensor. Refer to LAN-104, "Inspection Between ESP/TCS/ABS Control Unit and Steering Angle Sensor Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓
ABS	NG	UNKWN	UNKWN	—	UNKWN ✓	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓

PKIC4933E



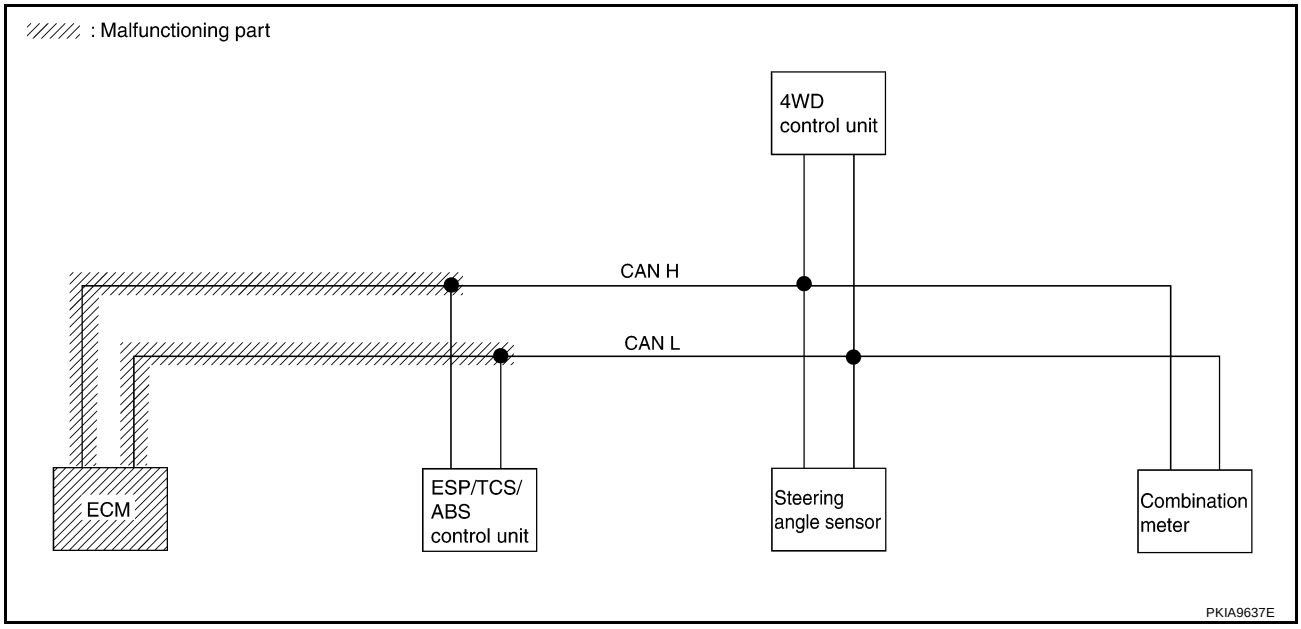
PKIA9636E

Case 2

Check ECM circuit. Refer to LAN-106, "ECM Circuit Inspection for 4WD with M/T Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4934E



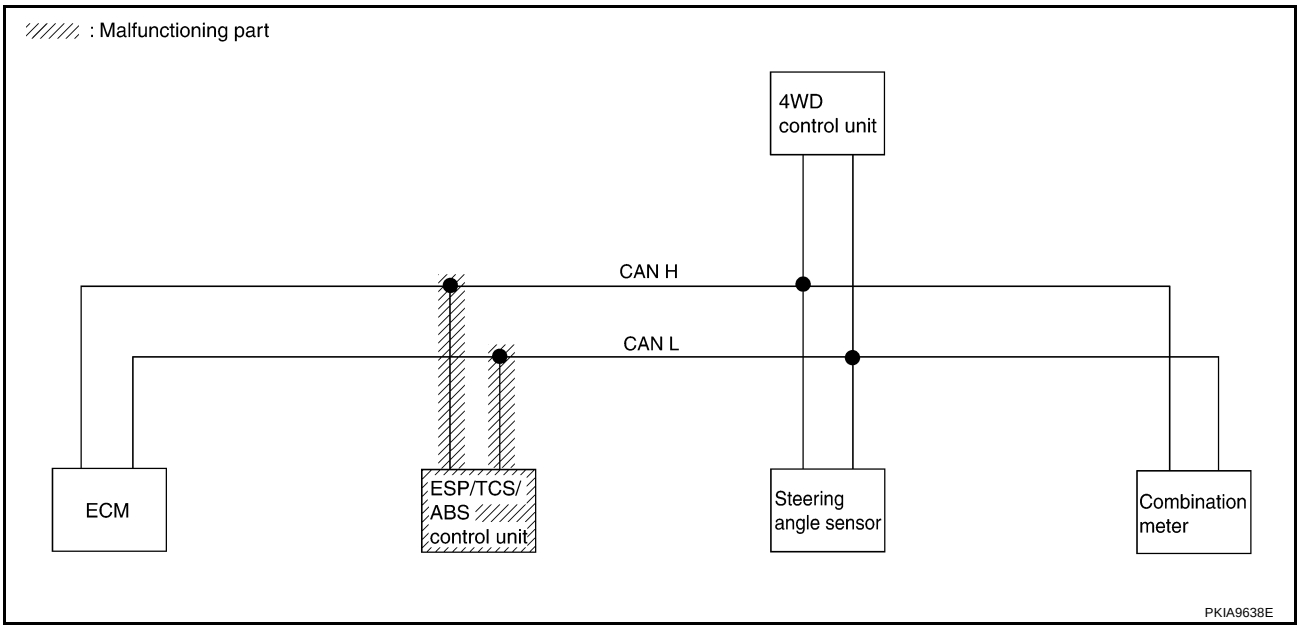
PKIA9637E

Case 3

Check ESP/TCS/ABS control unit circuit. Refer to LAN-110, "ESP/TCS/ABS Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4935E

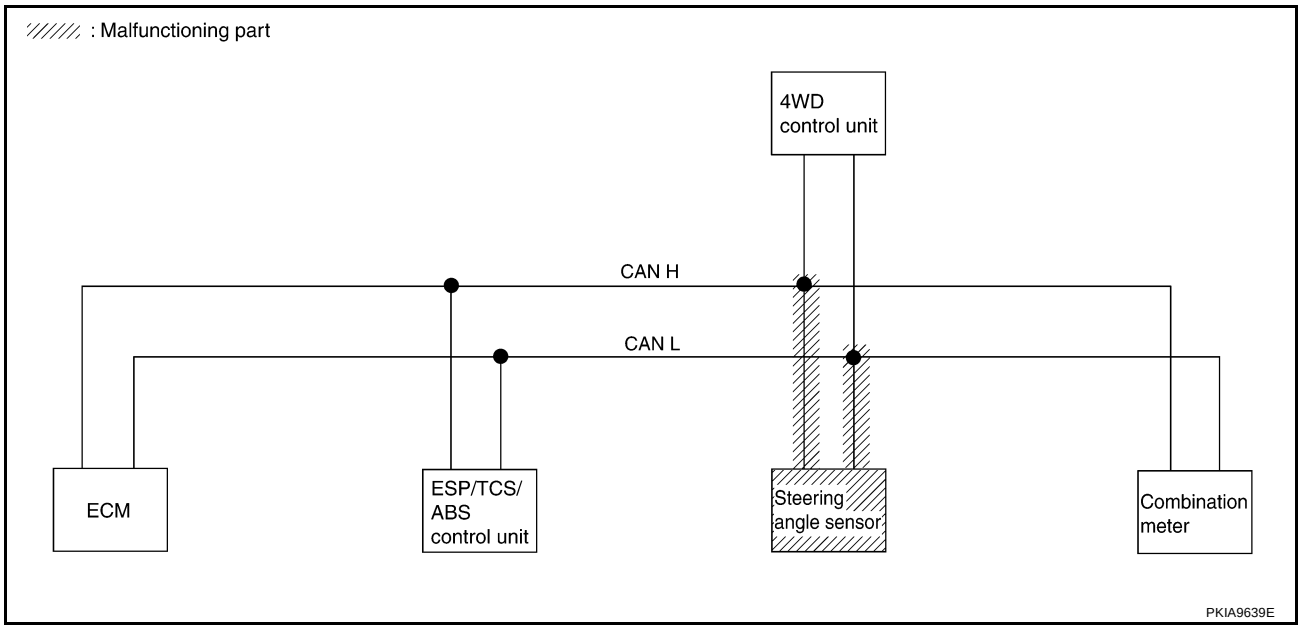


Case 4

Check steering angle sensor circuit. Refer to LAN-110, "Steering Angle Sensor Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4936E

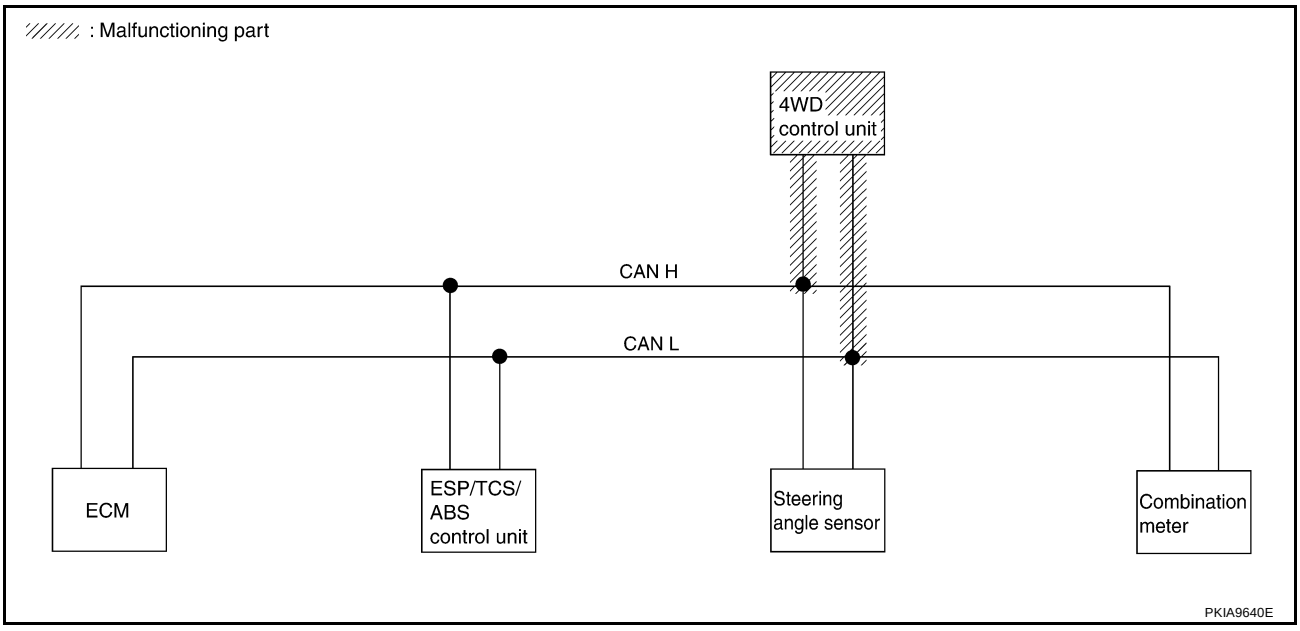


Case 5

Check 4WD control unit circuit. Refer to LAN-111, "4WD Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	–	UNKWN	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓
ALL MODE AWD/4WD	NG	UNKWN ✓	–	–	–	–	–	CAN COMM CIRCUIT (U1000) ✓

PKIC4937E

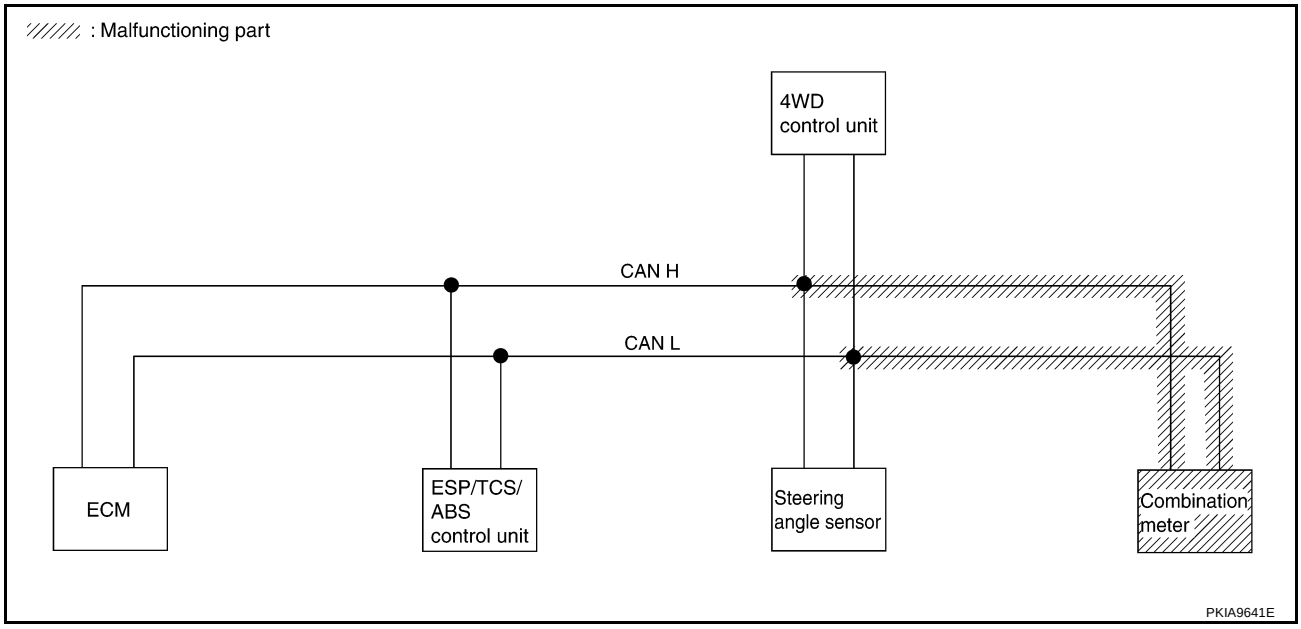


Case 6

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)

PKIC4938E



PKIA9641E

Case 7

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis					
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	—	—	CAN COMM CIRCUIT (U1000)

PKIC4939E

CAN SYSTEM (TYPE 5)

PFP:23710

Component Parts and Harness Connector Location

BKS000SY

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000SZ

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000T0

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000T1

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

Symptoms :

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

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

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

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

PKIC3742E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

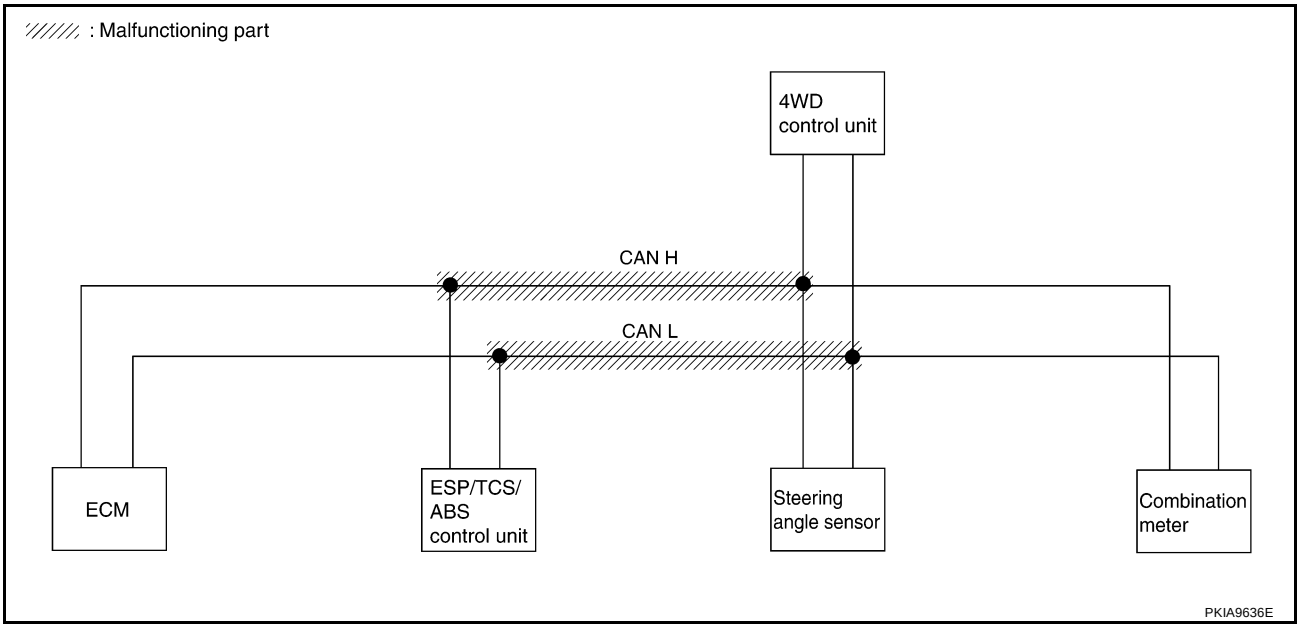
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between ESP/TCS/ABS control unit and steering angle sensor. Refer to LAN-104, "Inspection Between ESP/TCS/ABS Control Unit and Steering Angle Sensor Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG	UNKWN	UNKWN	—	UNKWN ✓	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3764E

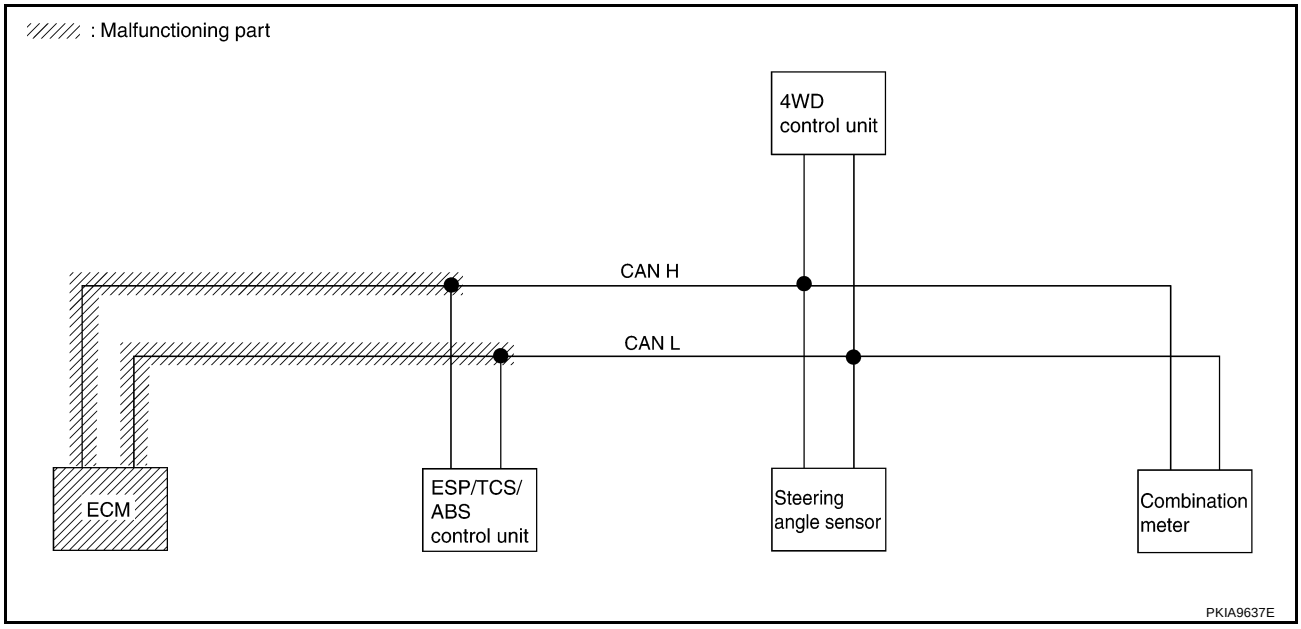


Case 2

Check ECM circuit. Refer to LAN-106, "ECM Circuit Inspection for 4WD with M/T Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN ✓	–	UNKWN ✓	–	–	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG	UNKWN	UNKWN ✓	–	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000) ✓	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN ✓	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000) ✓	–

PKIC3765E

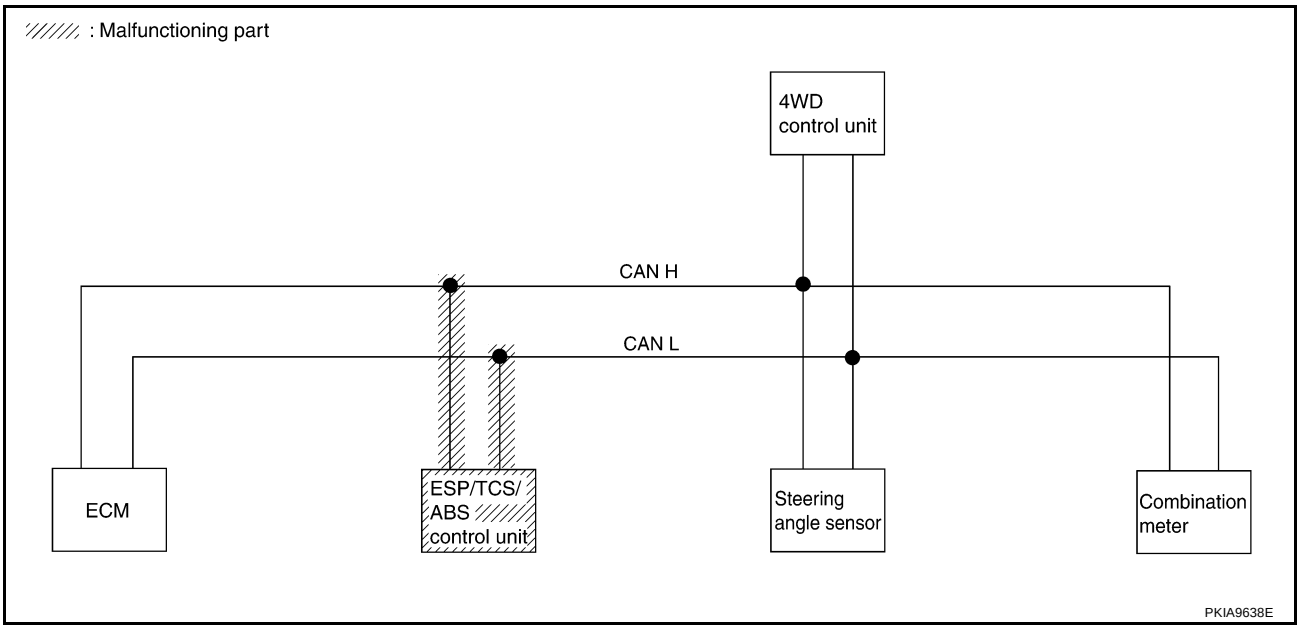


Case 3

Check ESP/TCS/ABS control unit circuit. Refer to LAN-110, "ESP/TCS/ABS Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	–	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS ✓	NG ✓	UNKWN ✓	UNKWN ✓	–	UNKWN ✓	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓	–
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN ✓	–	–	UNKWN	CAN COMM CIRCUIT (U1000) ✓	–

PKIC3766E

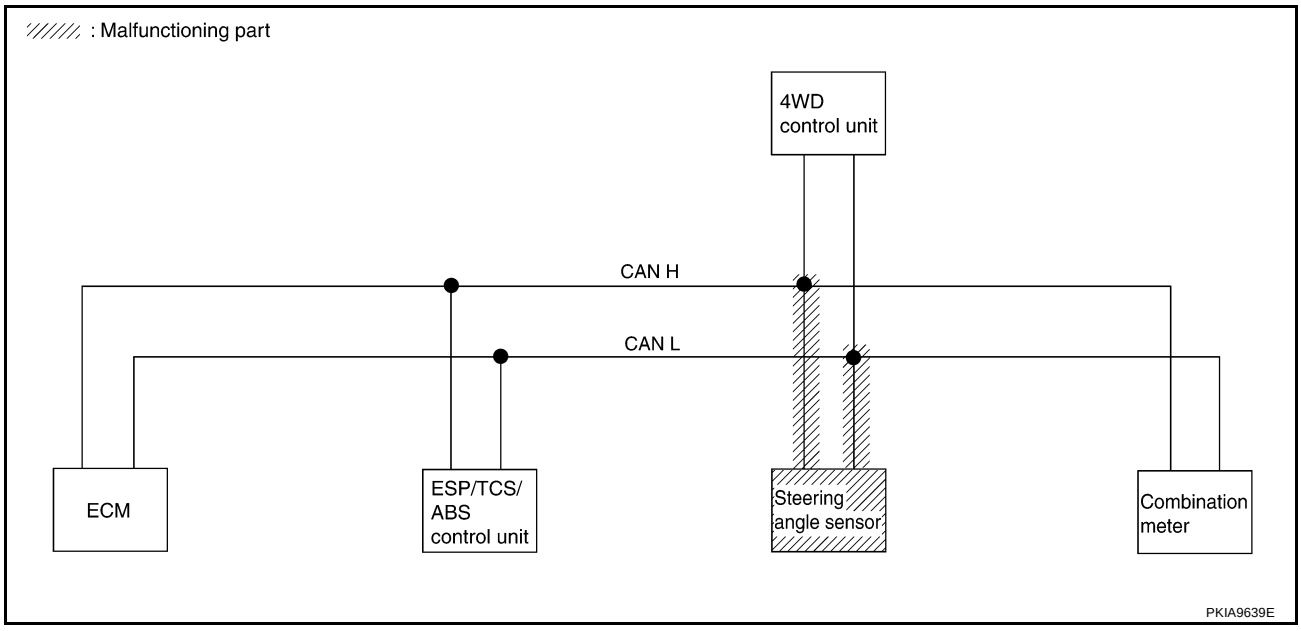


Case 4

Check steering angle sensor circuit. Refer to LAN-110, "Steering Angle Sensor Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3767E

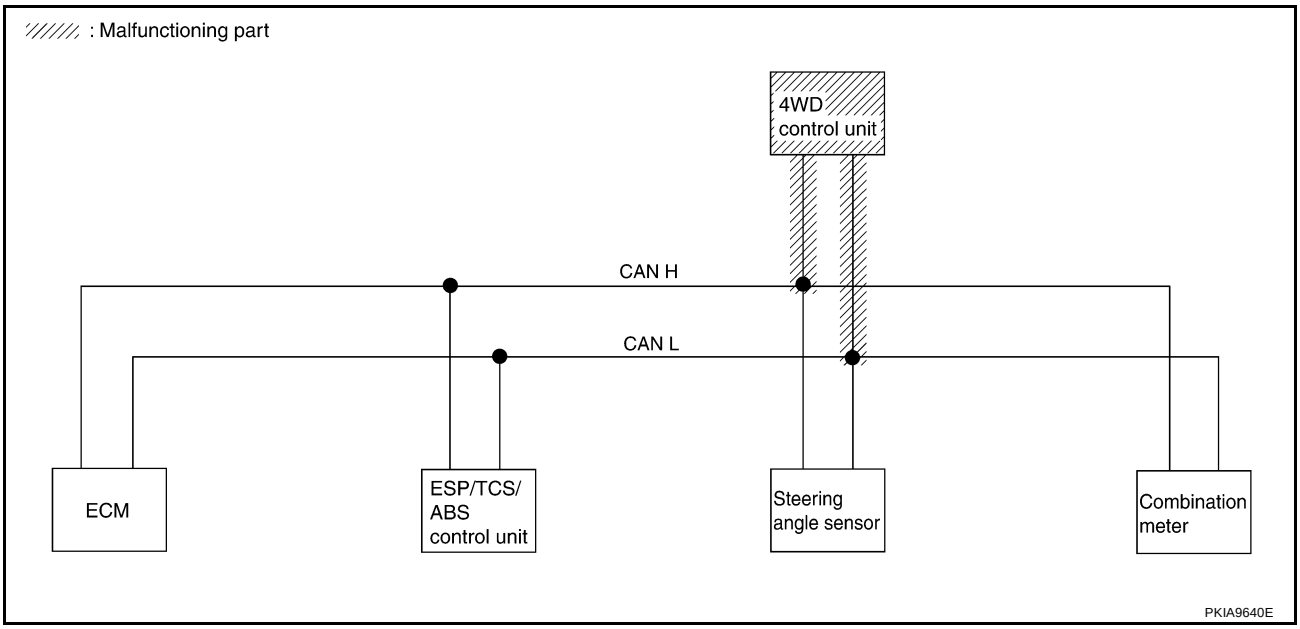


Case 5

Check 4WD control unit circuit. Refer to LAN-111, "4WD Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN ✓	—	—	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3768E

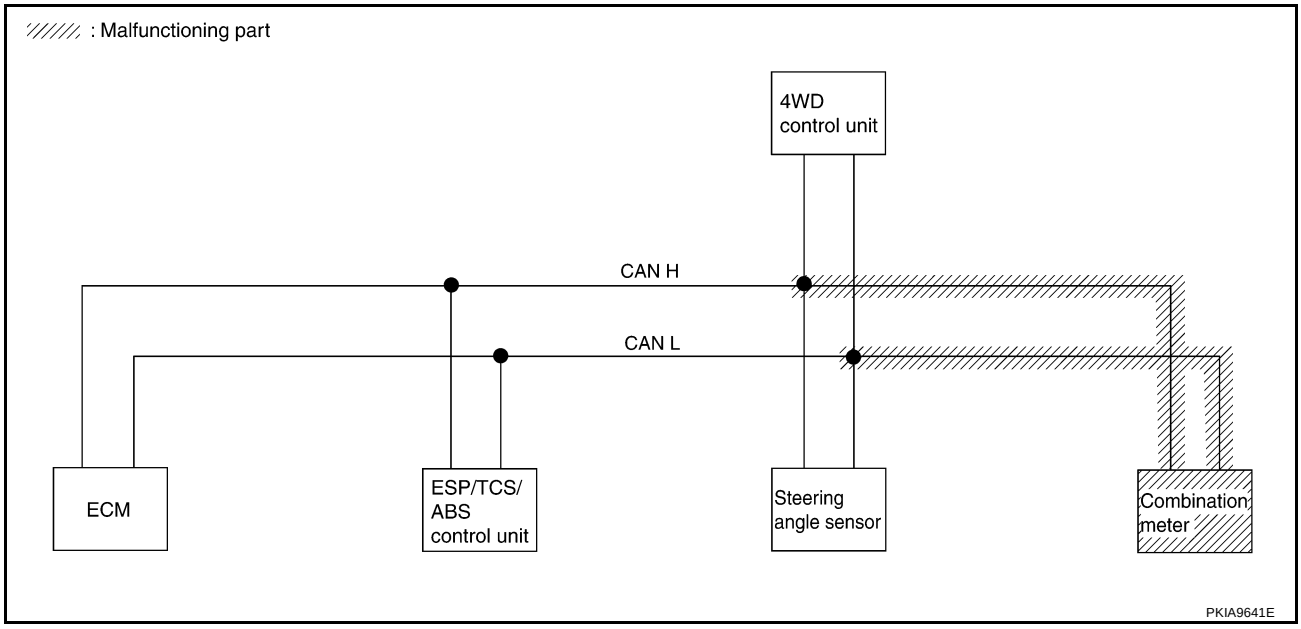


Case 6

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3769E



Case 7

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR							SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis						
			ECM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG ✓	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN ✓	—	—	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3770E

CAN SYSTEM (TYPE 6)

PFP:23710

Component Parts and Harness Connector Location

BKS000T2

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000T3

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000T4

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000T5

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

Symptoms :

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 ALL MODE AWD/4WD 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 ALL MODE AWD/4WD CAN DIAG SUPPORT MNTR

PKIC3743E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

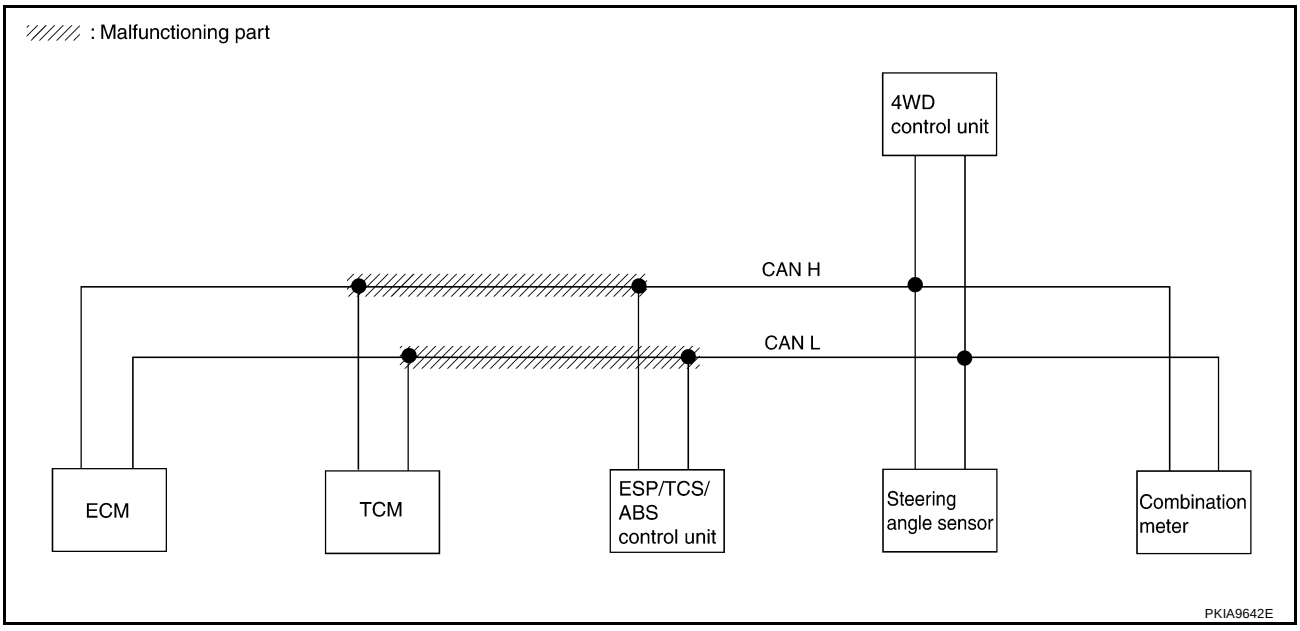
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between TCM and ESP/TCS/ABS control unit. Refer to LAN-100, "Inspection Between TCM and ESP/TCS/ABS Control Unit Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG	UNKWN	UNKWN ✓	UNKWN ✓	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN ✓	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3771E

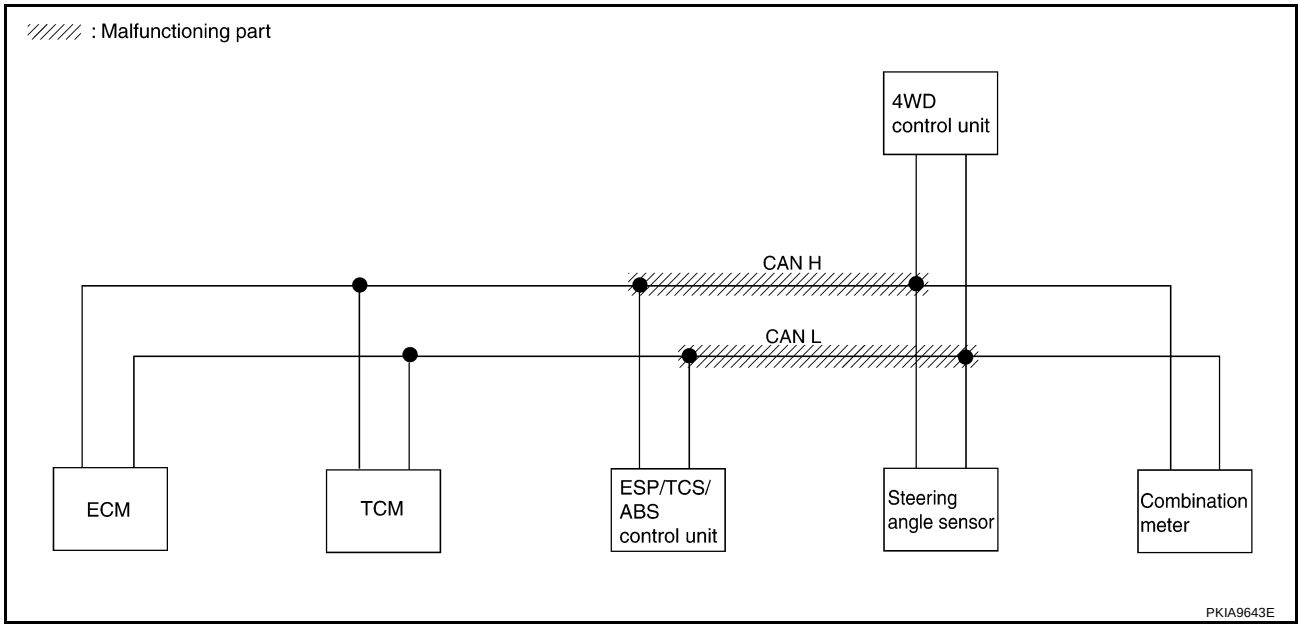


Case 2

Check harness between ESP/TCS/ABS control unit and steering angle sensor. Refer to LAN-104, "Inspection Between ESP/TCS/ABS Control Unit and Steering Angle Sensor Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG	UNKWN	UNKWN	UNKWN	—	UNKWN ✓	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	—	—	—	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3772E

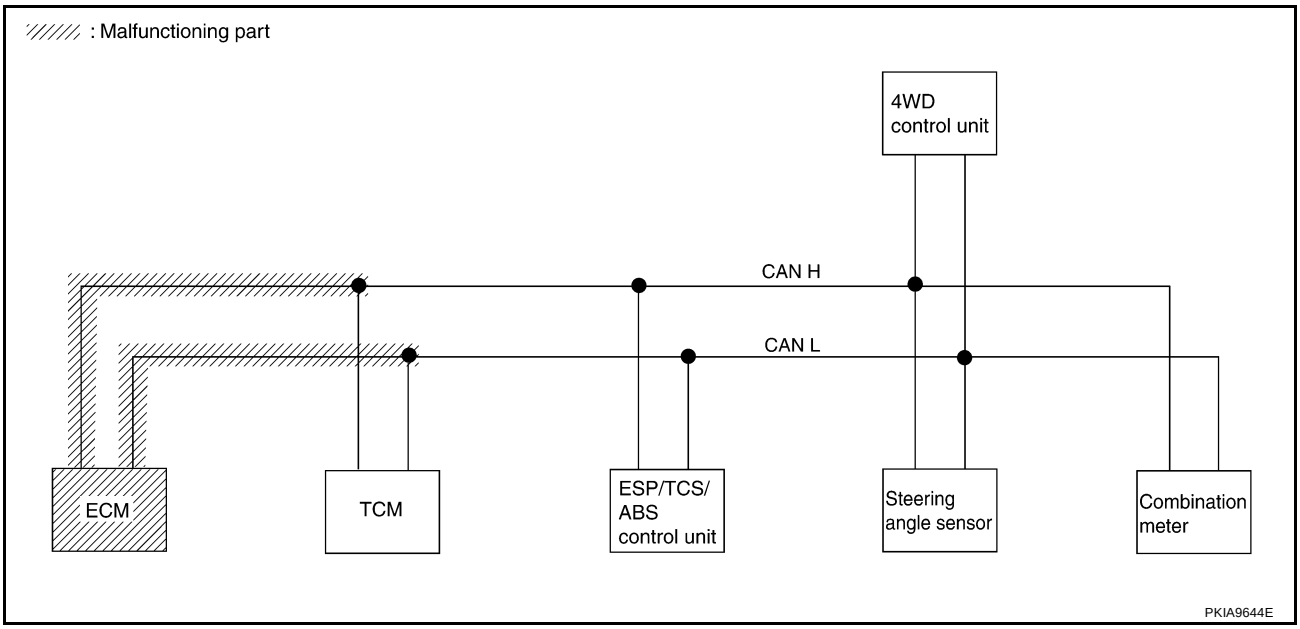


Case 3

Check ECM circuit. Refer to LAN-107, "ECM Circuit Inspection for A/T Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3773E

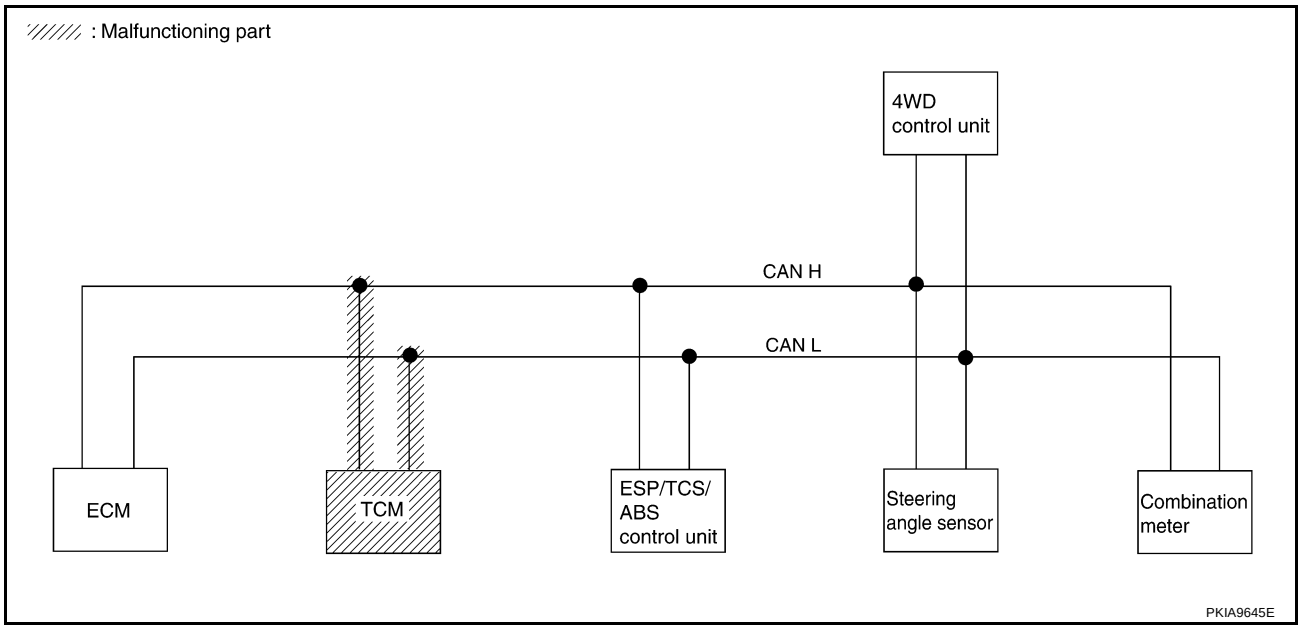


Case 4

Check TCM circuit. Refer to LAN-109, "TCM Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN ✓	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG	UNKWN	UNKWN	UNKWN ✓	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3774E

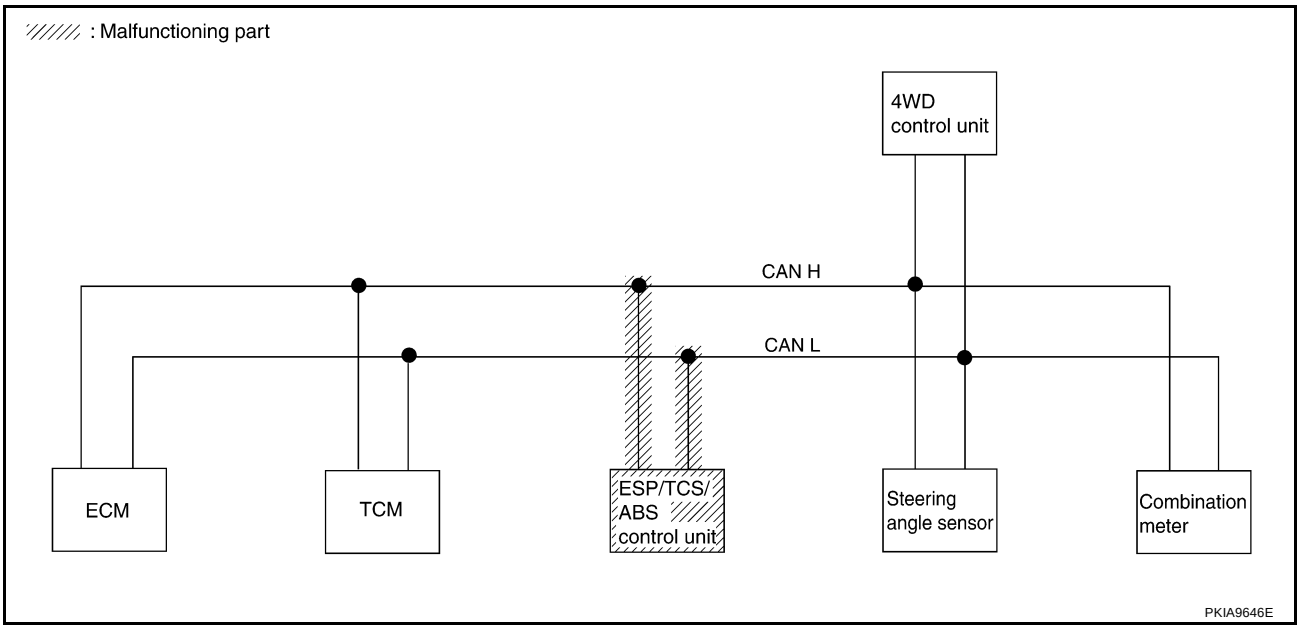


Case 5

Check ESP/TCS/ABS control unit circuit. Refer to LAN-110, "ESP/TCS/ABS Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN ✓	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN ✓	—	—	UNKWN	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3775E

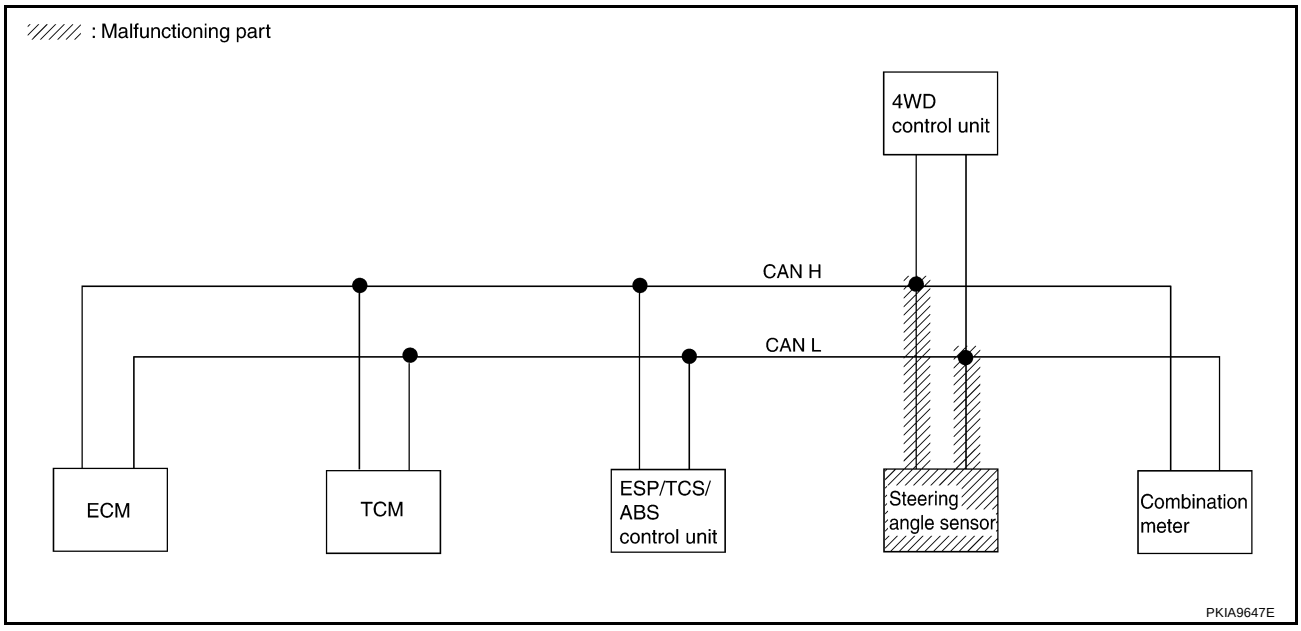


Case 6

Check steering angle sensor circuit. Refer to LAN-110, "Steering Angle Sensor Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—

PKIC3776E

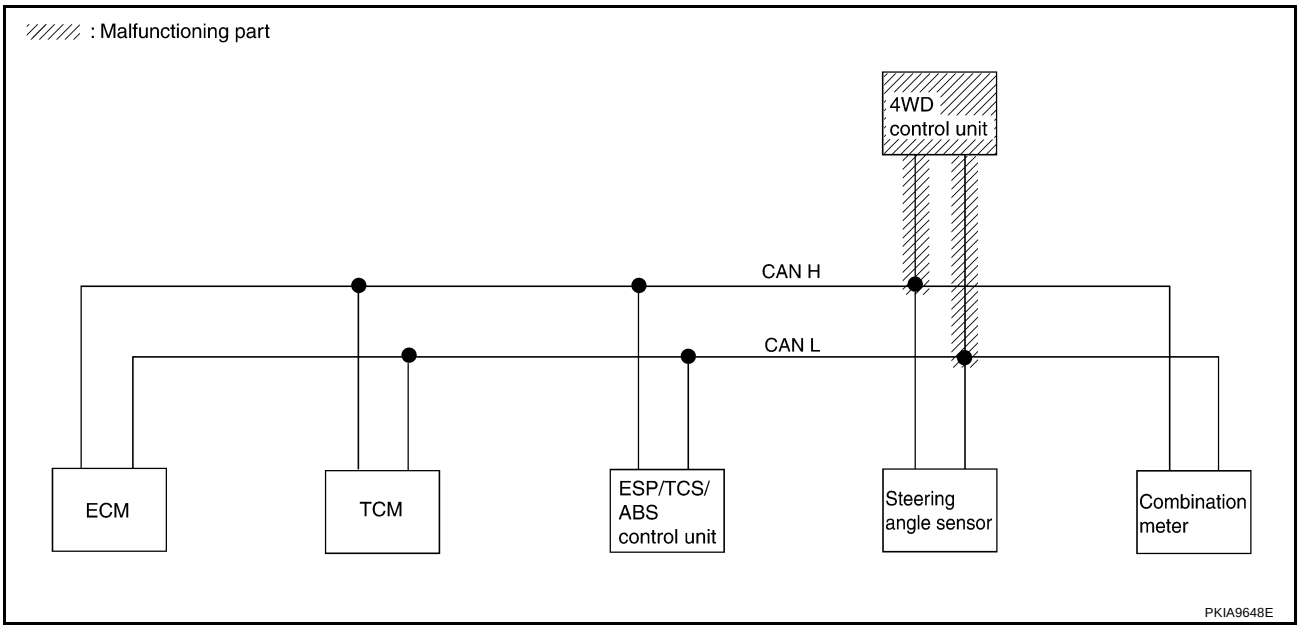


Case 7

Check 4WD control unit circuit. Refer to LAN-111, "4WD Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN	CAN COMM CIRCUIT (U1000)	—
ABS	NG	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN ✓	—	—	—	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3777E

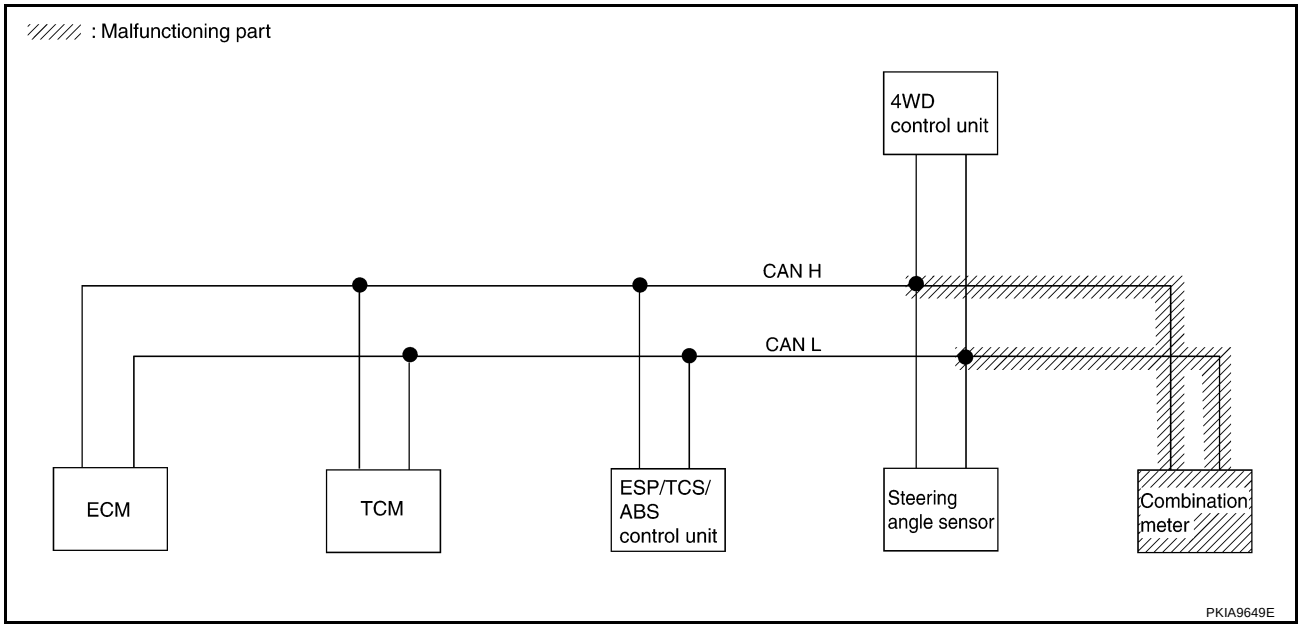


Case 8

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG	UNKWN	UNKWN	UNKWN	—	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN	UNKWN	—	UNKWN	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3778E



PKIA9649E

Case 9

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR								SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis							
			ECM	TCM	VDC/TCS /ABS	STRG	AWD /4WD	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN ✓	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	CAN COMM CIRCUIT (U1001) ✓
A/T	NG	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	—	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓	—
ABS	NG ✓	UNKWN ✓	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓	—
ALL MODE AWD/4WD	NG	UNKWN ✓	—	—	—	—	—	—	CAN COMM CIRCUIT (U1000) ✓	—

PKIC3779E

CAN SYSTEM (TYPE 7)

PFP:23710

Component Parts and Harness Connector Location

BKS000T6

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000T7

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000T8

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000T9

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	METER /M&A		
ENGINE	NG	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG	UNKWN	UNKWN	—	CAN COMM CIRCUIT (U1000)	—

Symptoms :

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

PKIC4940E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

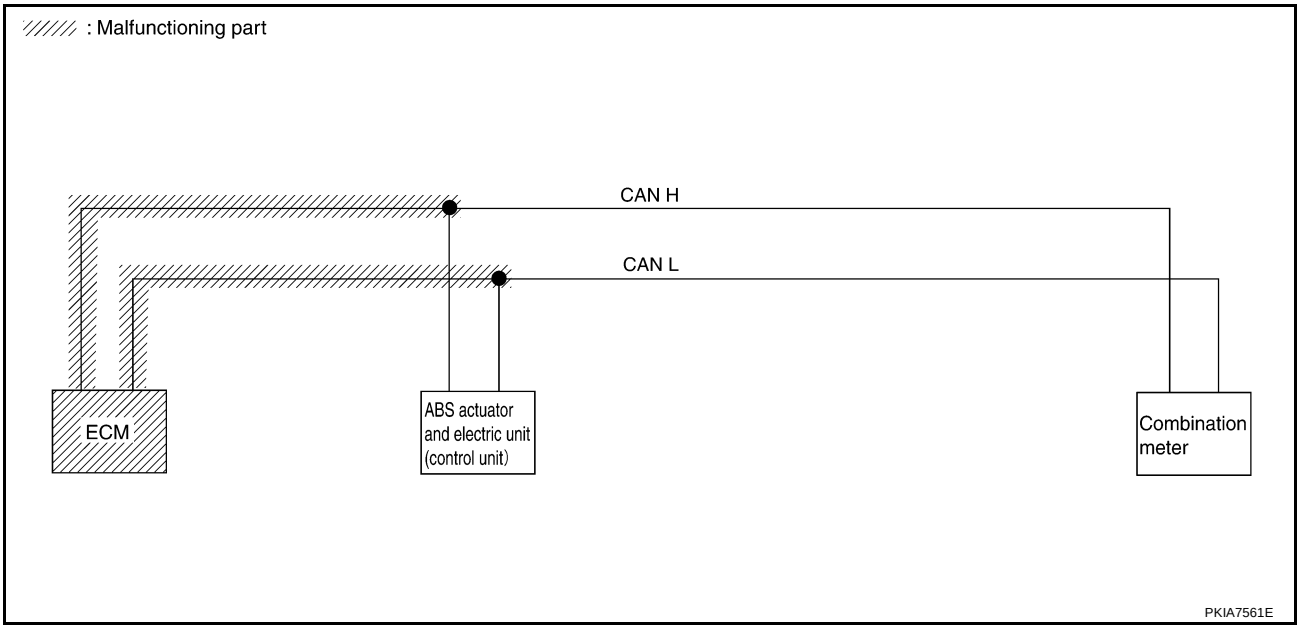
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check ECM circuit. Refer to LAN-108, "ECM Circuit Inspection for 2WD with ABS Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG ✓	UNKWN ✓	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓	–

PKIC4941E

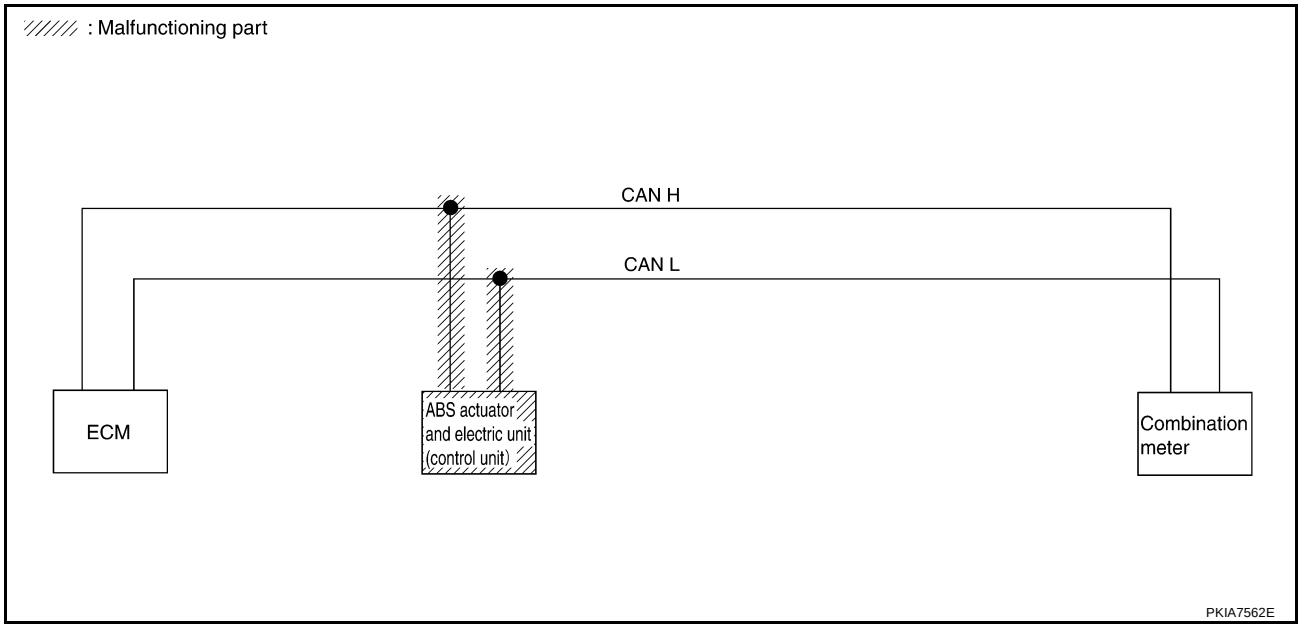


Case 2

Check ABS actuator and electric unit (cotrol unit) circuit. Refer to LAN-109, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
ABS	NG ✓	UNKWN ✓	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓	–

PKIC4942E

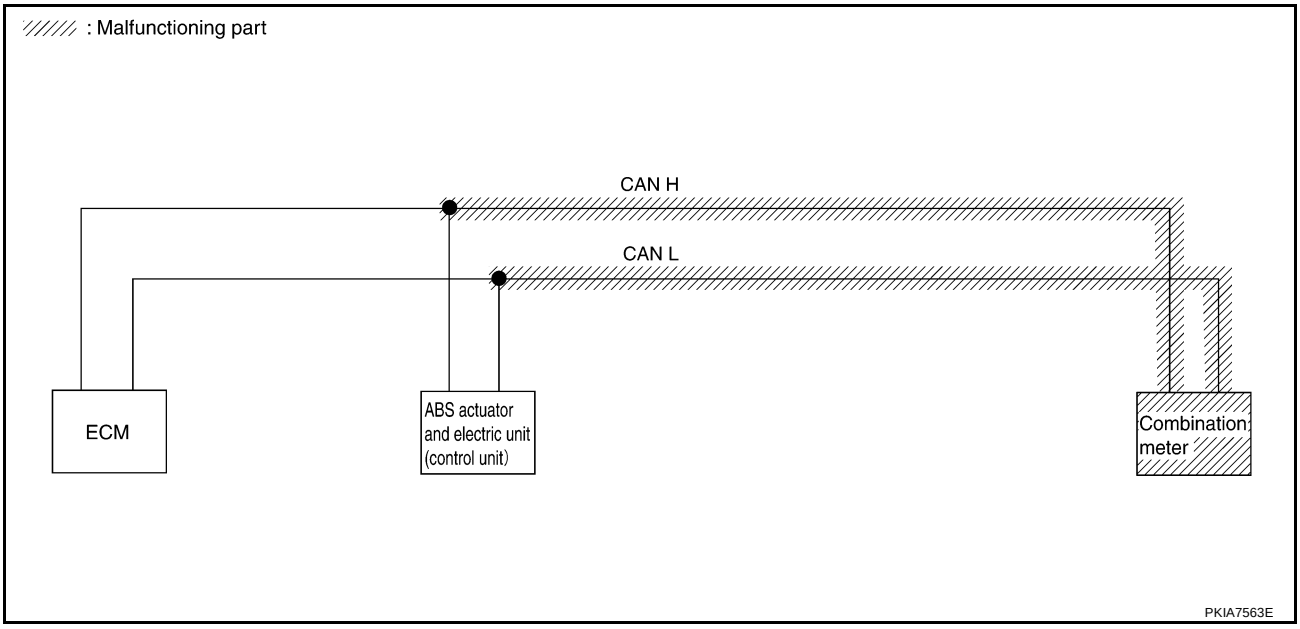


Case 3

Check combination meter circuit. Refer to LAN-112, "Combination Meter Circuit Inspection for 2WD with ABS Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)	–

PKIC4943E



Case 4

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS	
	Initial diagnosis	Transmit diagnosis	Receive diagnosis			
			ECM	METER /M&A		
ENGINE	NG	UNKWN	–	UNKWN ✓	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001) ✓
ABS	NG ✓	UNKWN ✓	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓	–

PKIC4944E

CAN SYSTEM (TYPE 8)

PFP:23710

Component Parts and Harness Connector Location

BKS000TA

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000TB

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000TC

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000TD

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	METER /M&A	
ENGINE	NG	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)

Symptoms :

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

PKIC4945E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

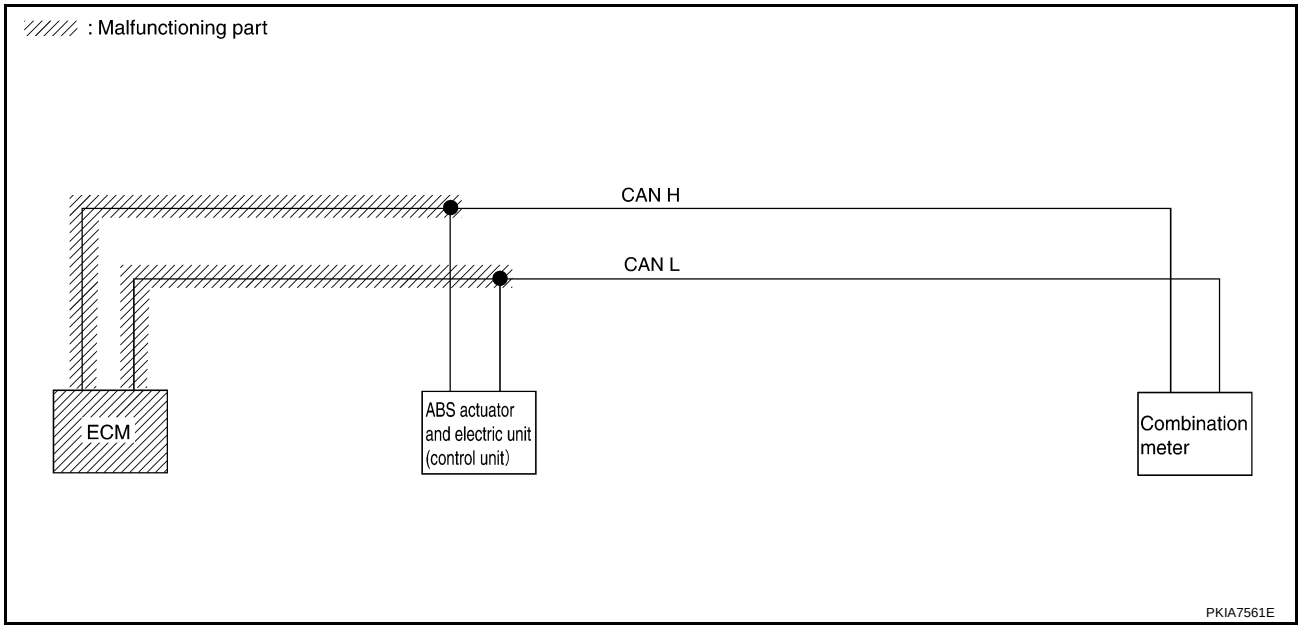
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check ECM circuit. Refer to LAN-108, "ECM Circuit Inspection for 2WD with ABS Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	METER /M&A	
ENGINE	NG	UNKWN ✓	–	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓
ABS	NG ✓	UNKWN ✓	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓

PKIC4946E

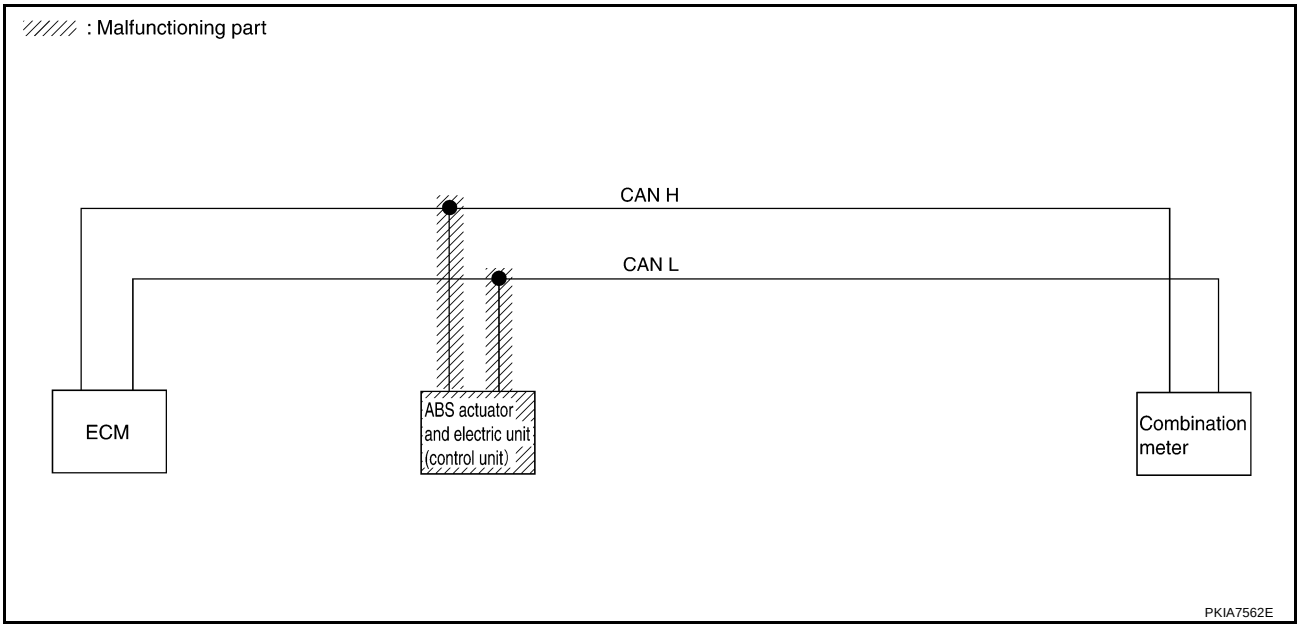


Case 2

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-109, "ABS Actuator and Electric Unit (Control Unit) Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	METER /M&A	
ENGINE	NG	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG ✓	UNKWN ✓	UNKWN ✓	–	CAN COMM CIRCUIT (U1000) ✓

PKIC4947E



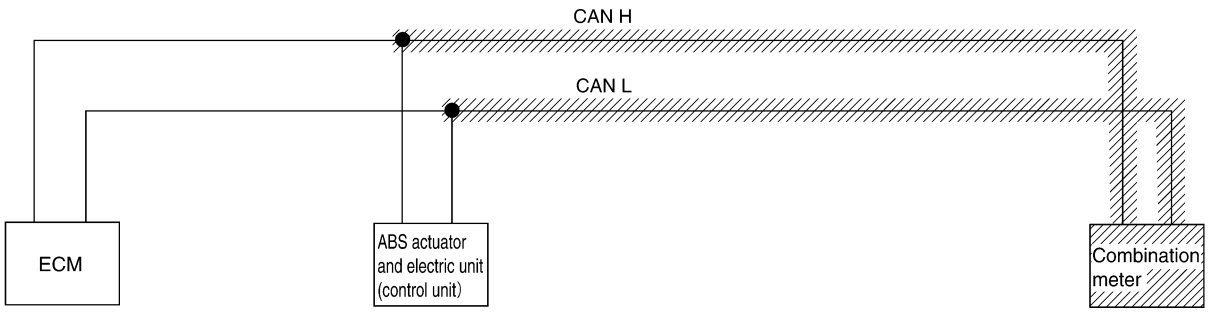
Case 3

Check combination meter circuit. Refer to LAN-112, "Combination Meter Circuit Inspection for 2WD with ABS Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	METER /M&A	
ENGINE	NG	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)

PKIC4948E

: Malfunctioning part



PKIA7563E

Case 4

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	METER /M&A	
ENGINE	NG	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	–	CAN COMM CIRCUIT (U1000)

PKIC4949E

CAN SYSTEM (TYPE 9)

PFP:23710

Component Parts and Harness Connector Location

BKS000TE

Refer to LAN-16, "Component Parts and Harness Connector Location" .

Schematic

BKS000TF

Refer to LAN-18, "Schematic" .

Wiring Diagram — CAN —

BKS000TG

Refer to LAN-19, "Wiring Diagram — CAN —" .

Check Sheet

BKS000TH

NOTE:
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	—	CAN COMM CIRCUIT (U1000)

Symptoms :

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
ABS
CAN DIAG SUPPORT
MNTR

PKIC4950E

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

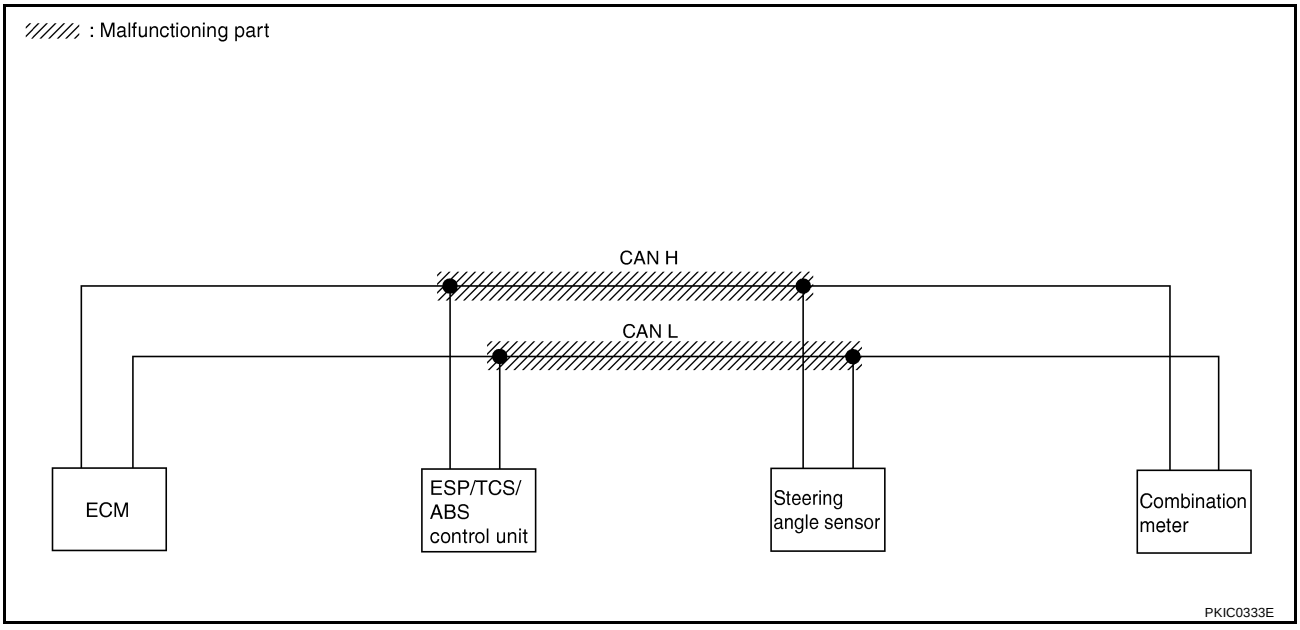
If a check mark is put on “NG” on “INITIAL DIAG (Initial diagnosis)”, replace the control unit.

Case 1

Check harness between ESP/TCS/ABS control unit and steering angle sensor. Refer to LAN-104, "Inspection Between ESP/TCS/ABS Control Unit and Steering Angle Sensor Circuit" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓
ABS	NG	UNKWN	UNKWN	—	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓

PKIC4951E



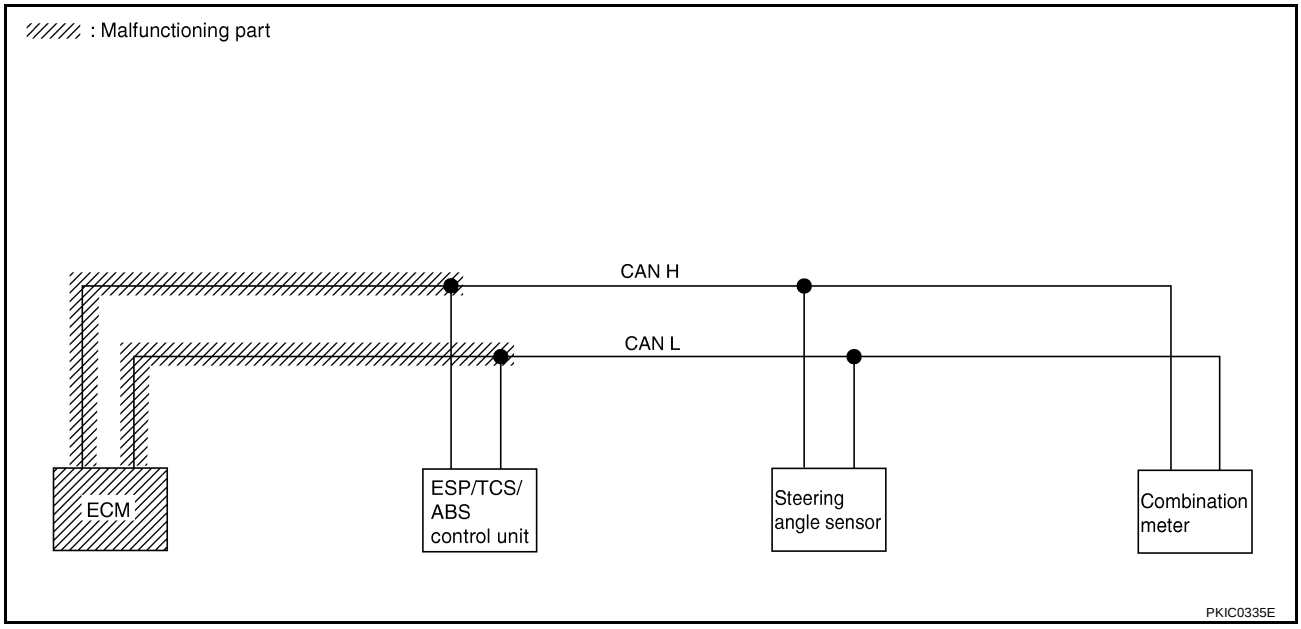
PKIC0333E

Case 2

Check ECM circuit. Refer to LAN-106, "ECM Circuit Inspection for 4WD with M/T Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN	—	CAN COMM CIRCUIT (U1000)

PKIC4952E



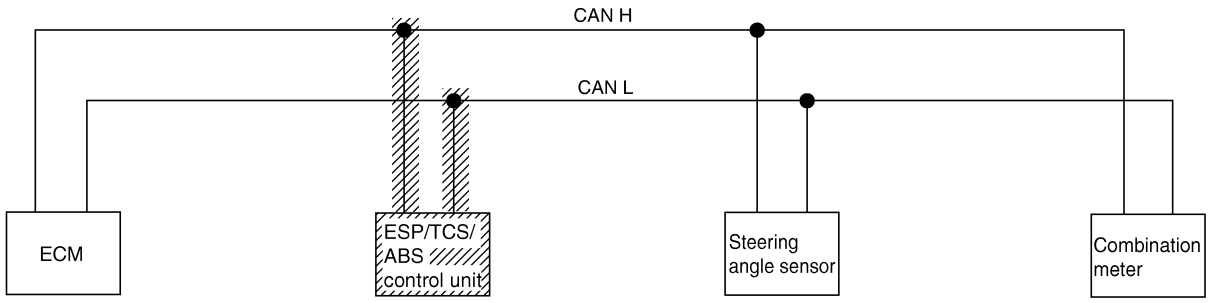
Case 3

Check ESP/TCS/ABS control unit circuit. Refer to LAN-110, "ESP/TCS/ABS Control Unit Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	–	UNKWN	–	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	–	UNKWN	–	CAN COMM CIRCUIT (U1000)

PKIC4953E

: Malfunctioning part



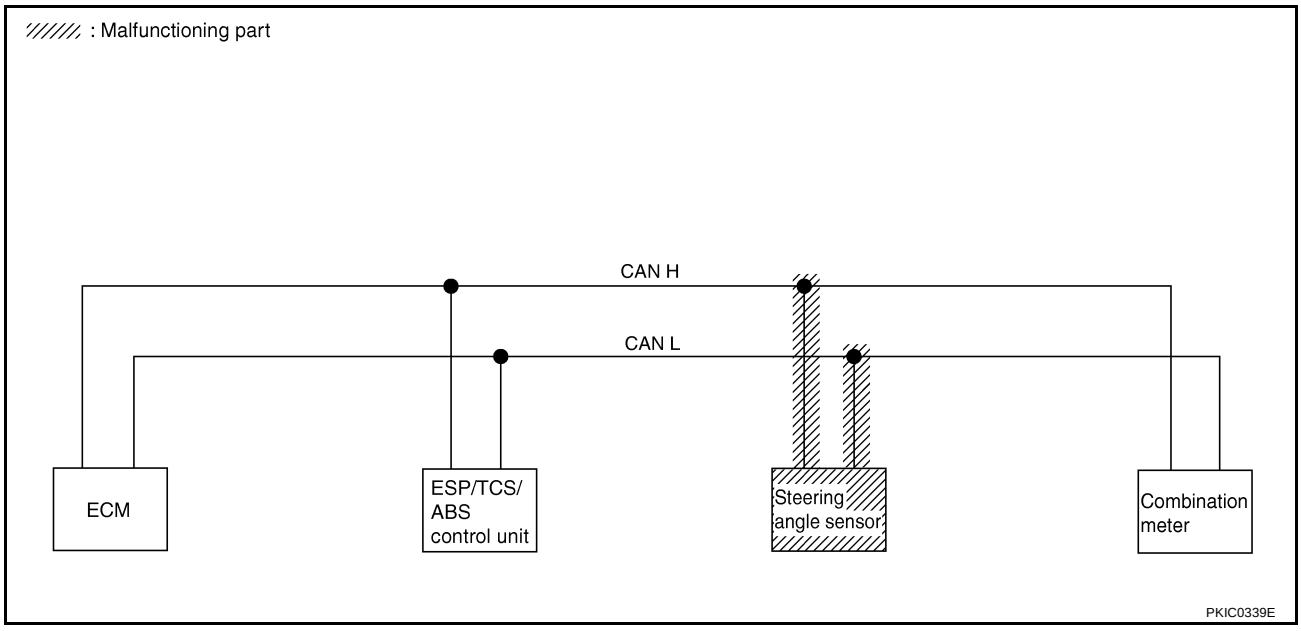
PKIC0337E

Case 4

Check steering angle sensor circuit. Refer to LAN-110, "Steering Angle Sensor Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN	CAN COMM CIRCUIT (U1000)
ABS	NG	UNKWN	UNKWN	—	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓

PKIC4954E



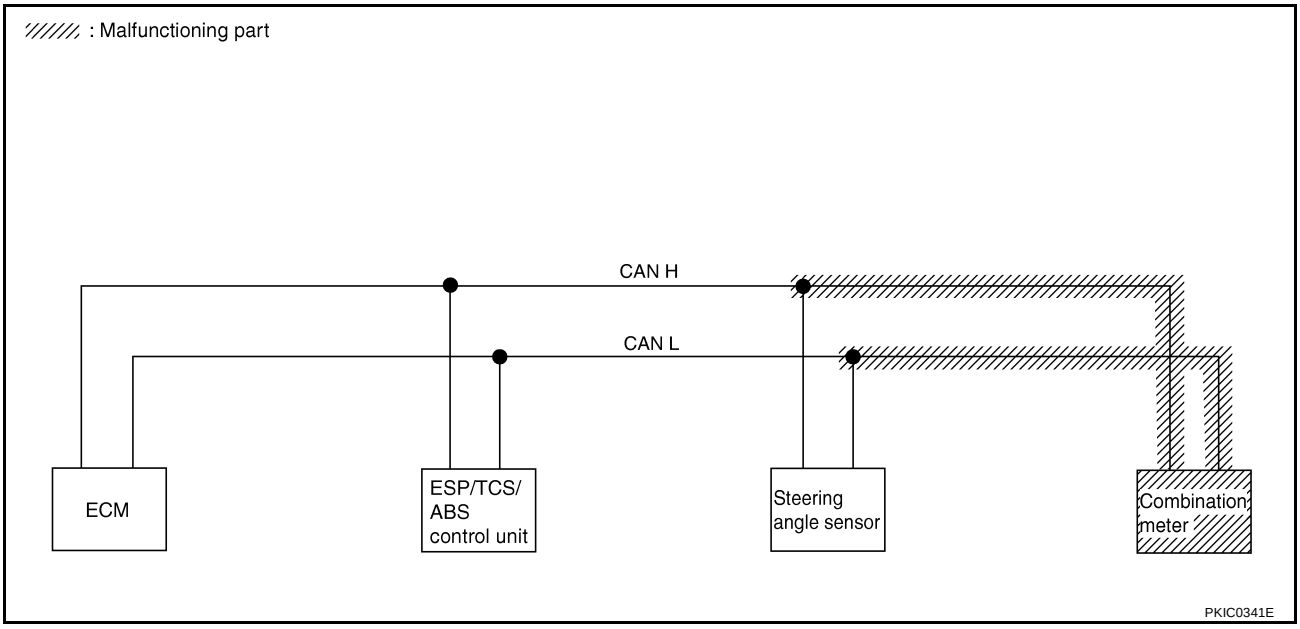
PKIC0339E

Case 5

Check combination meter circuit. Refer to LAN-111, "Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓
ABS	NG	UNKWN	UNKWN	—	UNKWN	—	CAN COMM CIRCUIT (U1000)

PKIC4955E



PKIC0341E

Case 6

Check CAN communication circuit. Refer to LAN-113, "CAN Communication Circuit Inspection" .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR						SELF-DIAG RESULTS
	Initial diagnosis	Transmit diagnosis	Receive diagnosis				
			ECM	VDC/TCS /ABS	STRG	METER /M&A	
ENGINE	NG	UNKWN	—	UNKWN ✓	—	UNKWN ✓	CAN COMM CIRCUIT (U1000) ✓
ABS	NG ✓	UNKWN ✓	UNKWN ✓	—	UNKWN ✓	—	CAN COMM CIRCUIT (U1000) ✓

PKIC4956E

TROUBLE DIAGNOSIS FOR SYSTEM

PFP:00000

Inspection Between TCM and ABS Actuator and Electric Unit (Control Unit) Circuit

BKS000NX

1. CHECK CONNECTOR

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

– LHD models
- Harness connector F41
- Harness connector M61
- Harness connector M75
- Harness connector E116

– RHD models
- Harness connector F36
- Harness connector E60

OK or NG

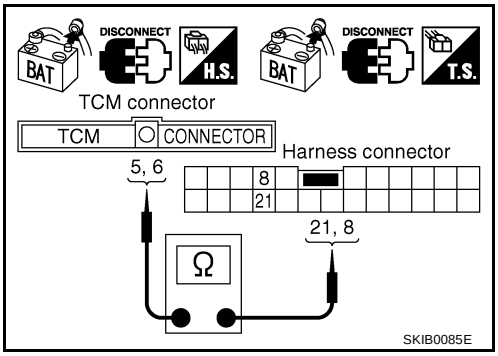
OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

LHD models

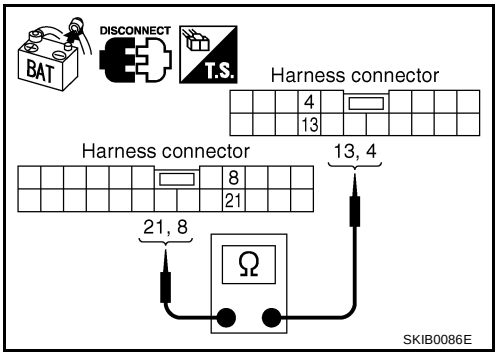
1. Disconnect TCM connector and harness connector F41.
2. Check continuity between TCM harness connector and harness connector.

TCM connector	Terminal	Harness connector	Terminal	Continuity
F46	5	F41	21	Yes
	6		8	Yes



3. Disconnect harness connector M75.
4. Check continuity between harness connector and harness connector.

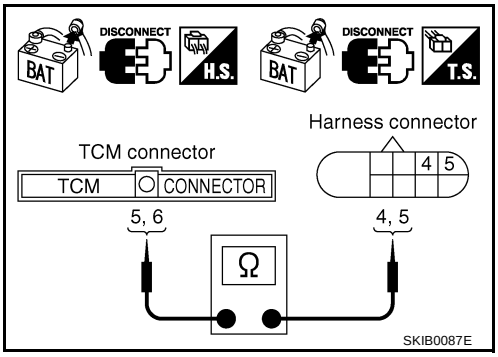
Harness connector	Terminal	Harness connector	Terminal	Continuity
M61	21	M75	13	Yes
	8		4	Yes



RHD models

1. Disconnect TCM connector and harness connector F36.
2. Check continuity between TCM harness connector and harness connector.

TCM connector	Terminal	Harness connector	Terminal	Continuity
F46	5	F36	4	Yes
	6		5	Yes



OK or NG

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

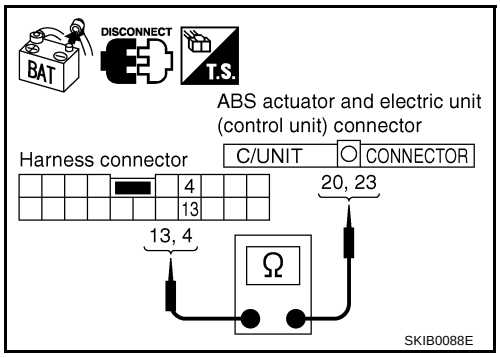
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check the following.

– LHD models

• Check continuity between harness connector and ABS actuator and electric unit (control unit) harness connector.

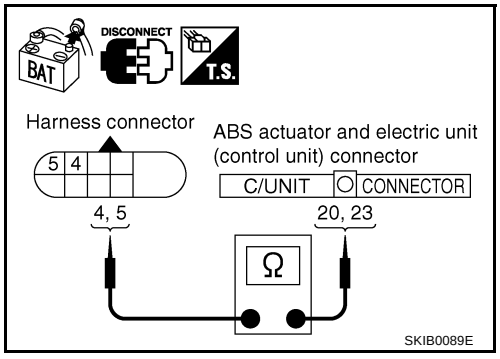
Harness connector	Terminal	ABS actuator and electric unit (control unit) connector	Terminal	Continuity
E116	13	E69	20	Yes
	4		23	Yes



– RHD models

• Check continuity between harness connector and ABS actuator and electric unit (control unit) harness connector.

Harness connector	Terminal	ABS actuator and electric unit (control unit) connector	Terminal	Continuity
E60	4	E69	20	Yes
	5		23	Yes



OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-4, "TROUBLE DIAGNOSES WORK FLOW" .

NG >> Repair harness.

Inspection Between TCM and ESP/TCS/ABS Control Unit Circuit

BKS000OY

1. CHECK CONNECTOR

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

– LHD models

• Harness connector F41
• Harness connector M61
• Harness connector M75
• Harness connector E116

– RHD models

• Harness connector F36
• Harness connector E60

OK or NG

OK >> GO TO 2.

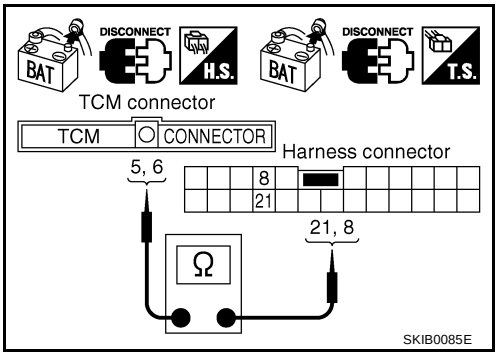
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

LHD models

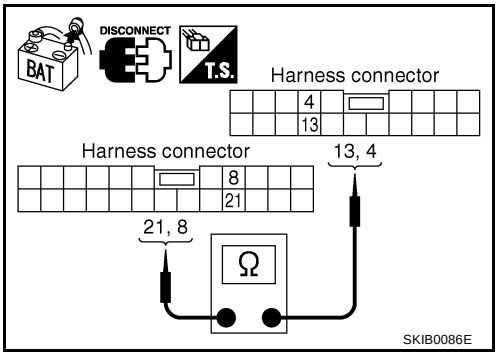
1. Disconnect TCM connector and harness connector F41.
2. Check continuity between TCM harness connector and harness connector.

TCM connector	Terminal	Harness connector	Terminal	Continuity
F46	5	F41	21	Yes
	6		8	Yes



3. Disconnect harness connector M75.
4. Check continuity between harness connector and harness connector.

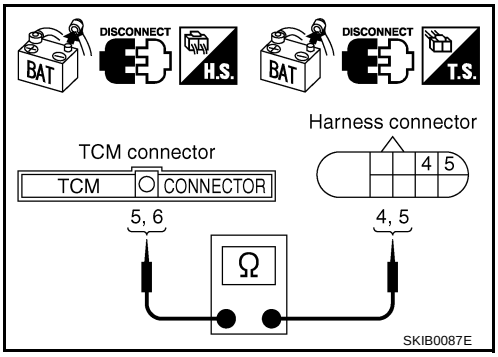
Harness connector	Terminal	Harness connector	Terminal	Continuity
M61	21	M75	13	Yes
	8		4	Yes



RHD models

1. Disconnect TCM connector and harness connector F36.
2. Check continuity between TCM harness connector and harness connector.

TCM connector	Terminal	Harness connector	Terminal	Continuity
F46	5	F36	4	Yes
	6		5	Yes



OK or NG

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

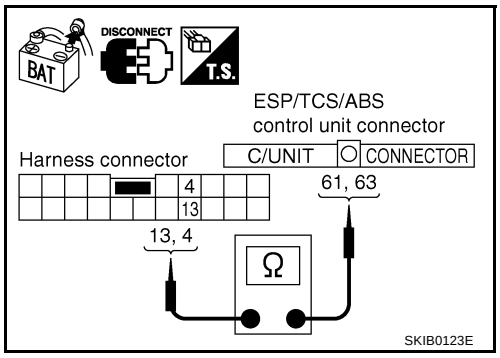
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check the following.

– LHD models

• Check continuity between harness connector and ESP/TCS/ABS control unit harness connector.

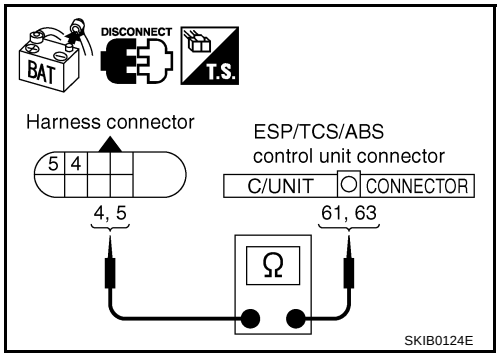
Harness connector	Terminal	ESP/TCS/ABS control unit connector	Terminal	Continuity
E116	13	E122	61	Yes
	4		63	Yes



– RHD models

• Check continuity between harness connector and ESP/TCS/ABS control unit harness connector.

Harness connector	Terminal	ESP/TCS/ABS control unit connector	Terminal	Continuity
E60	4	E122	61	Yes
	5		63	Yes



OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-4, "TROUBLE DIAGNOSES WORK FLOW" .

NG >> Repair harness.

Inspection Between ABS Actuator and Electric Unit (Control Unit) and 4WD Control Unit Circuit

BKS000NB

1. CHECK CONNECTOR

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

– Harness connector E116

– Harness connector M75

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

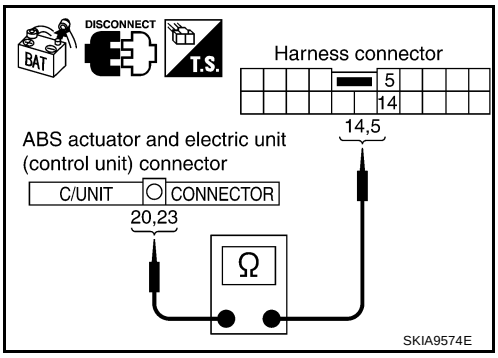
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E116.
2. Check the following.

– LHD models

• Check continuity between ABS actuator and electric unit (control unit) harness connector and harness connector.

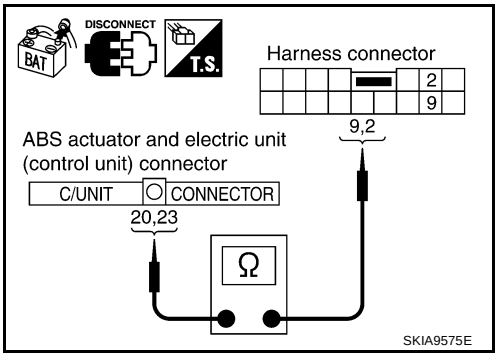
ABS actuator and electric unit (control unit) connector	Terminal	Harness connector	Terminal	Continuity
E69	20	E116	14	Yes
	23		5	Yes



– RHD models

• Check continuity between ABS actuator and electric unit (control unit) harness connector and harness connector.

ABS actuator and electric unit (control unit) connector	Terminal	Harness connector	Terminal	Continuity
E69	20	E116	9	Yes
	23		2	Yes



OK or NG

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

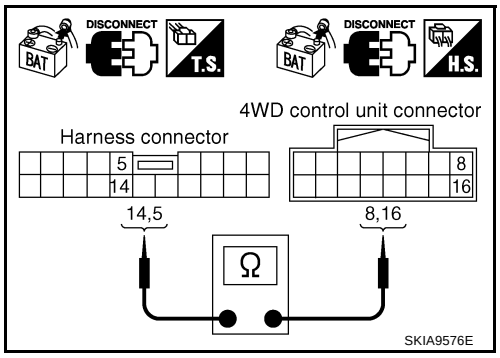
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect 4WD control unit connector.
2. Check the following.

– LHD models

• Check continuity between harness connector and 4WD control unit harness connector.

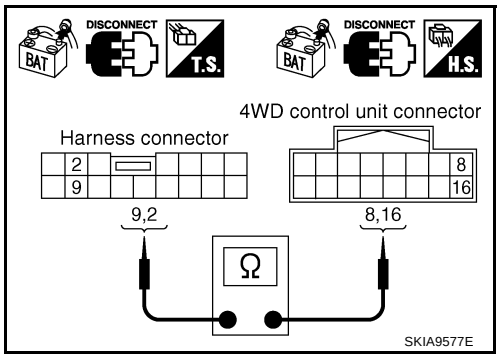
Harness connector	Terminal	4WD control unit connector	Terminal	Continuity
M75	14	M107	8	Yes
	5		16	Yes



– RHD models

• Check continuity between harness connector and 4WD control unit harness connector.

Harness connector	Terminal	4WD control unit connector	Terminal	Continuity
M75	9	M107	8	Yes
	2		16	Yes



OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-4, "TROUBLE DIAGNOSES WORK FLOW" .

NG >> Repair harness.

Inspection Between ESP/TCS/ABS Control Unit and Steering Angle Sensor Circuit

BKS000PU

1. CHECK CONNECTOR

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

– Harness connector E116

– Harness connector M75

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

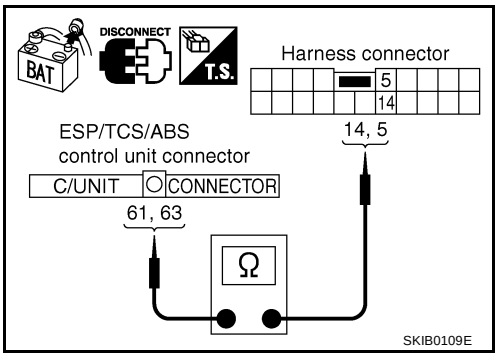
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector E116.
2. Check the following.

– LHD models

• Check continuity between ESP/TCS/ABS control unit harness connector and harness connector.

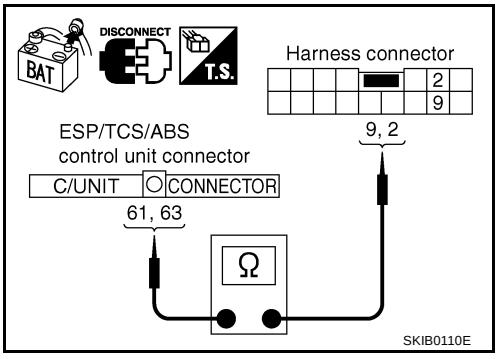
ESP/TCS/ ABS control unit connector	Terminal	Harness connector	Terminal	Continuity
E122	61	E116	14	Yes
	63		5	Yes



– RHD models

• Check continuity between ESP/TCS/ABS control unit harness connector and harness connector.

ESP/TCS/ ABS control unit connector	Terminal	Harness connector	Terminal	Continuity
E122	61	E116	9	Yes
	63		2	Yes



OK or NG

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

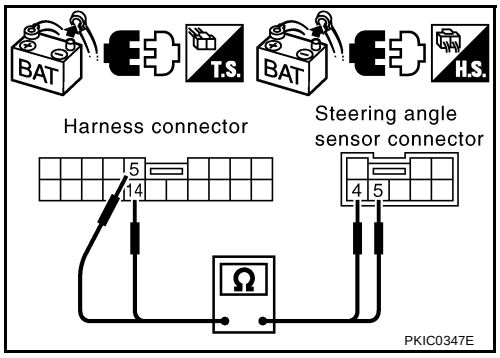
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check the following.

– LHD models

• Check continuity between harness connector and steering angle sensor harness connector.

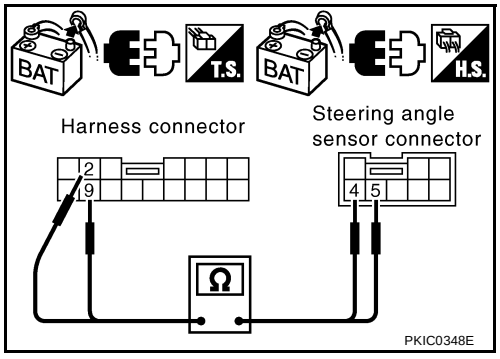
Harness connector	Terminal	Steering angle sensor connector	Terminal	Continuity
M75	14	M81	4	Yes
	5		5	Yes



– RHD models

• Check continuity between harness connector and steering angle sensor harness connector.

Harness connector	Terminal	Steering angle sensor connector	Terminal	Continuity
M75	9	M81	4	Yes
	2		5	Yes



OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-4, "TROUBLE DIAGNOSES WORK FLOW" .

NG >> Repair harness.

ECM Circuit Inspection for 4WD with M/T Models and 2WD with ESP Models

BKS000NC

1. CHECK CONNECTOR

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

– ECM connector

– Harness connector M75

– Harness connector E116

OK or NG

OK >> GO TO 2.

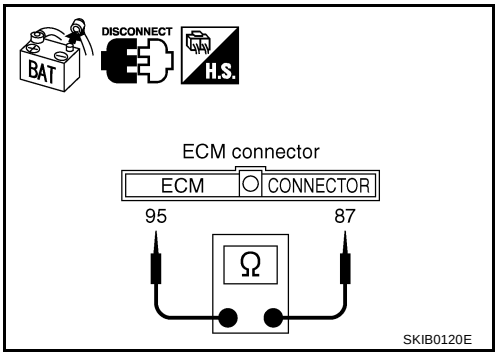
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector terminals.

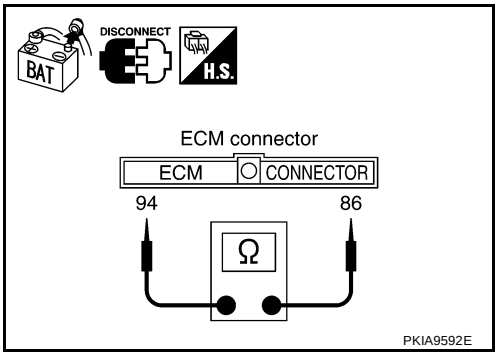
– Diesel engine models

ECM connector	Terminal		Resistance (Approx.)
M118	95	87	108 – 132 Ω



– Gasoline engine models

ECM connector	Terminal		Resistance (Approx.)
M118	94	86	108 – 132 Ω



OK or NG

OK >> Replace ECM.
NG >> ● Repair harness between ECM and ABS actuator and electric unit (control unit). (ABS models)
● Repair harness between ECM and ESP/TCS/ABS control unit. (ESP models)

ECM Circuit Inspection for A/T Models

BKS000NZ

1. CHECK CONNECTOR

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

– ECM connector
– Harness connector M61
– Harness connector F41

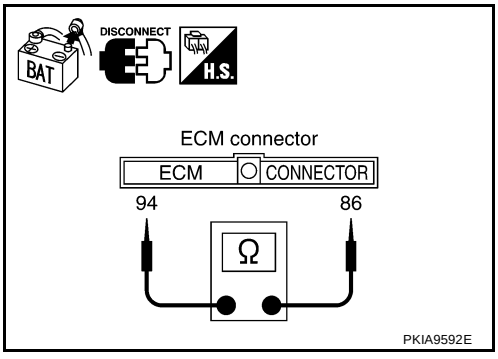
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector terminals.

ECM connector	Terminal		Resistance (Approx.)
M118	94	86	108 – 132 Ω



OK or NG

OK >> Replace ECM.
NG >> Repair harness between ECM and TCM.

ECM Circuit Inspection for 2WD with ABS Models

BKS000PC

1. CHECK CONNECTOR

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

– LHD models
• ECM connector
• Harness connector M75
• Harness connector E116
– RHD models
• ECM connector
• Harness connector M94
• Harness connector E125

OK or NG

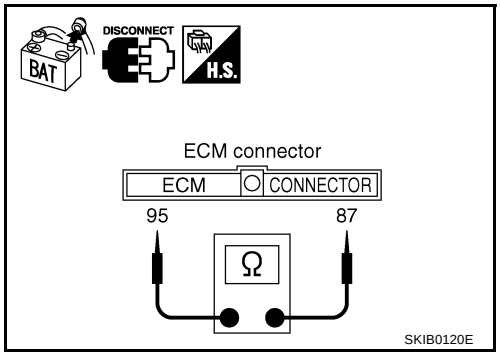
OK >> GO TO 2.
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector terminals.

– Diesel engine models

ECM connector	Terminal		Resistance (Approx.)
M118	95	87	108 – 132 Ω

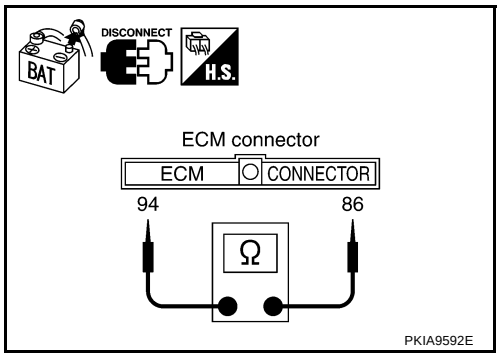


– Gasoline engine models

ECM connector	Terminal		Resistance (Approx.)
M118	94	86	108 – 132 Ω

OK or NG

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



TCM Circuit Inspection

BKS000O0

1. CHECK CONNECTOR

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

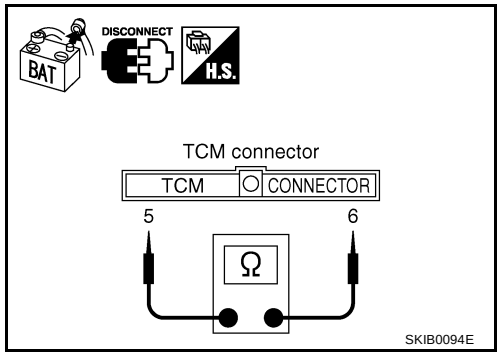
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector terminals.

TCM connector	Terminal		Resistance (Approx.)
F46	5	6	54 – 66 Ω



OK or NG

OK >> Replace TCM.
NG >>
- LHD models
  - Repair harness between TCM and harness connector F41.
- RHD models
  - Repair harness between TCM and harness connector F36.

ABS Actuator and Electric Unit (Control Unit) Circuit Inspection

BKS000ND

1. CHECK CONNECTOR

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

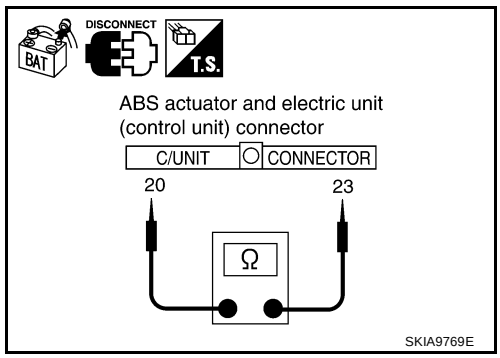
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

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

ABS actuator and electric unit (control unit) connector	Terminal		Resistance (Approx.)
E69	20	23	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) and harness connector E116. (4WD models, and 2WD with LHD models)
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E125. (2WD with RHD models)

ESP/TCS/ABS Control Unit Circuit Inspection

BKS000OC

1. CHECK CONNECTOR

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

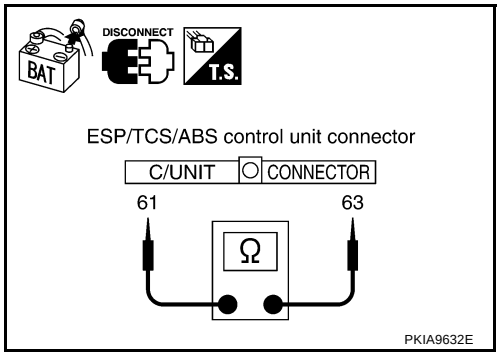
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector terminals.

ESP/TCS/ABS control unit connector	Terminal		Resistance (Approx.)
E122	61	63	54 – 66 Ω



OK or NG

OK >> Replace ESP/TCS/ABS control unit.
NG >> Repair harness between ESP/TCS/ABS control unit and harness connector E116.

Steering Angle Sensor Circuit Inspection

BKS000OD

1. CHECK CONNECTOR

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

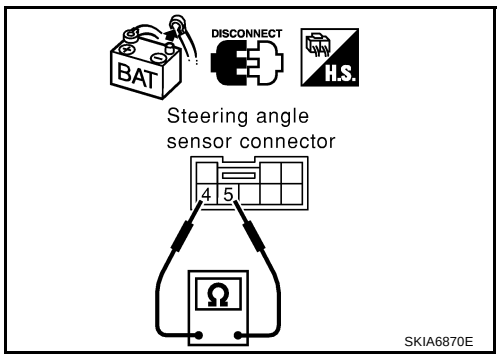
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector terminals.

Steering angle sensor connector	Terminal		Resistance (Approx.)
M81	4	5	54 – 66 Ω



OK or NG

OK >> Replace steering angle sensor.
NG >>
- Repair harness between steering angle sensor and 4WD control unit. (4WD models)
- Repair harness between steering angle sensor and combination meter. (2WD models)

4WD Control Unit Circuit Inspection

BKS000NE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check terminals and connector of 4WD control unit for damage, bend and loose connection (control unit side and harness side).

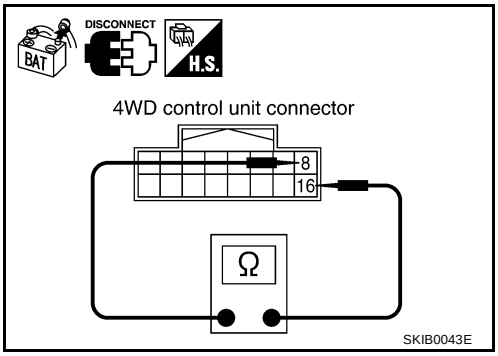
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect 4WD control unit connector.
2. Check resistance between 4WD control unit harness connector terminals.

4WD control unit connector	Terminal		Resistance (Approx.)
E107	8	16	54 – 66 Ω



OK or NG

OK >> Replace 4WD control unit.
NG >> Repair harness between 4WD control unit and combination meter.

Combination Meter Circuit Inspection for 4WD Models and 2WD with ESP Models

BKS000NF

1. CHECK CONNECTOR

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

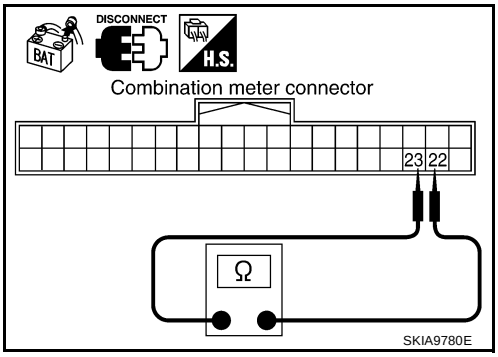
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector terminals.

Combination meter connector	Terminal		Resistance (Approx.)
M44	22	23	108 – 132 Ω



OK or NG

OK >> Replace combination meter.
NG >> Repair harness between combination meter and harness connector M75.

Combination Meter Circuit Inspection for 2WD with ABS Models

BKS000PE

1. CHECK CONNECTOR

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

– LHD models
• Combination meter connector
• Harness connector M75
• Harness connector E116
– RHD models
• Combination meter connector
• Harness connector M94
• Harness connector E125

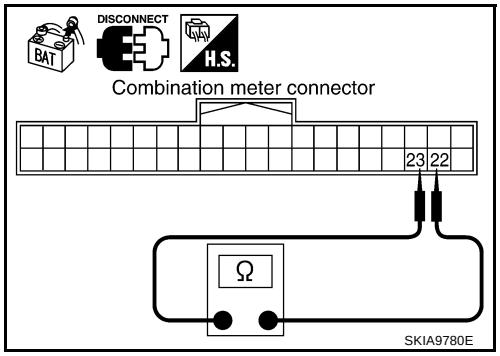
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector terminals.

Combination meter connector	Terminal		Resistance (Approx.)
M44	22	23	108 – 132 Ω



OK or NG

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

CAN Communication Circuit Inspection

BKS000TI

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the harness connector for each unit on the CAN network and check terminals for deformation, disconnection, looseness or damage.

OK or NG

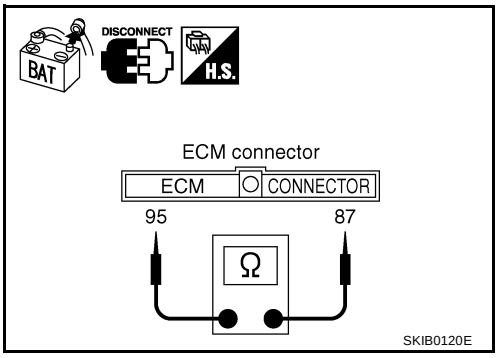
OK >> GO TO 2.
NG >> Repair terminal or connector as necessary.

2. CHECK HARNESS FOR SHORT CIRCUIT

With all module and control unit connectors disconnected, check continuity between ECM harness connector terminals.

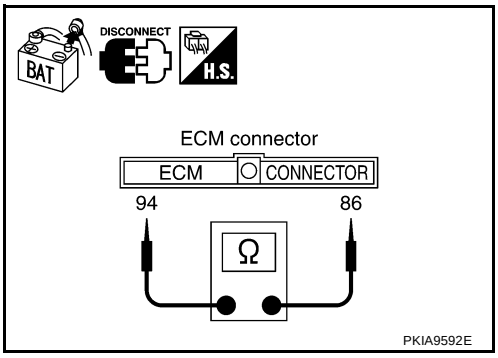
- Diesel engine models

ECM connector	Terminal		Continuity
M118	95	87	No



- Gasoline engine models

ECM connector	Terminal		Continuity
M118	94	86	No



OK or NG

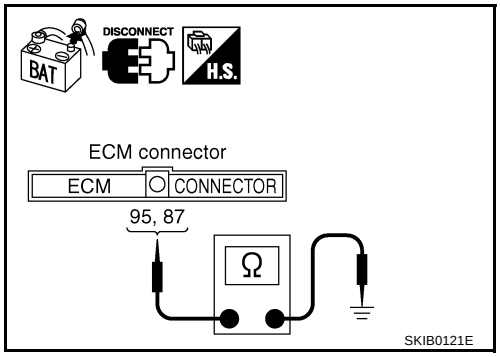
OK >> GO TO 3.
NG >>
- Repair harness.
- Replace harness if shielded lines are used for the harness.

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector terminals and ground.

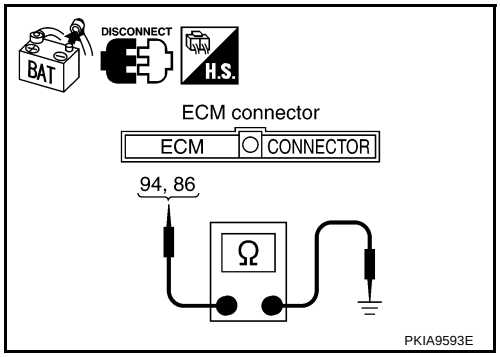
- Diesel engine models

ECM connector	Terminal	Ground	Continuity
M118	95		No
	87		No



- Gasoline engine models

ECM connector	Terminal	Ground	Continuity
M118	94		No
	86		No



OK or NG

OK >> GO TO 4.
NG >> ● Repair harness.
● Replace harness if shielded lines are used for the harness.

4. CHECK ECM AND COMBINATION METER INTERNAL CIRCUIT

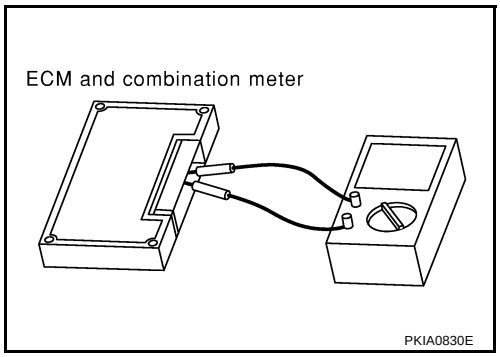
1. Remove ECM and combination meter from vehicle.
2. Check resistance between ECM terminals.

– Diesel engine models

Terminal		Resistance (Approx.)
95	87	108 – 132 Ω

– Gasoline engine models

Terminal		Resistance (Approx.)
94	86	108 – 132 Ω



3. Check resistance between combination meter terminals.

Terminal		Resistance (Approx.)
22	23	108 – 132 Ω

OK or NG

OK >> GO TO 5.
NG >> Replace ECM and/or combination meter.

5. CHECK SYMPTOM

1. Fill in described symptoms on the column “Symptom” in the check sheet.
2. Connect all connectors, and then make sure that the symptom is reproduced.

Check results

Reproduced>>GO TO 6.
Not reproduced>>Refer to LAN-11, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced" .

6. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit on the CAN network, and then perform reproducibility test.

1. Turn ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect the unit connector.
4. Connect the battery cable to the negative terminal.
5. Make sure that the symptom filled in the “Symptom” of the check sheet is reproduced.

NOTE:
Malfunction (related to a unit that the connector is disconnected) is reproduced. Do not confuse the malfunction with the symptom filled in the column of “Symptom” on the check sheet.

Inspection results

Reproduced>>Connect the disconnected connector. Check other units applying the above procedure.
Not reproduced>>Replace the unit that the connector is disconnected.