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PRECAUTIONS

Precautions for Trouble Diagnosis

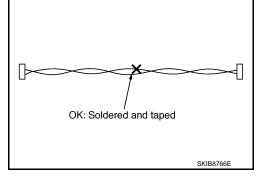
CAUTION:

- Never apply 7.0 V or more to the measurement terminal.
- Use a tester with open terminal voltage of 7.0 V or less.
- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

Precautions for Harness Repair

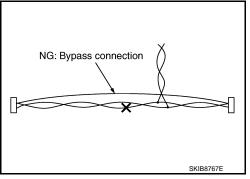
• Solder the repaired area and wrap tape around the soldered area. **NOTE:**

A fray of twisted lines must be within 110 mm (4.33 in).



• Bypass connection is never allowed at the repaired area. **NOTE:**

Bypass connection may cause CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



• Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

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SYSTEM DESCRIPTION CAN COMMUNICATION SYSTEM

System Description

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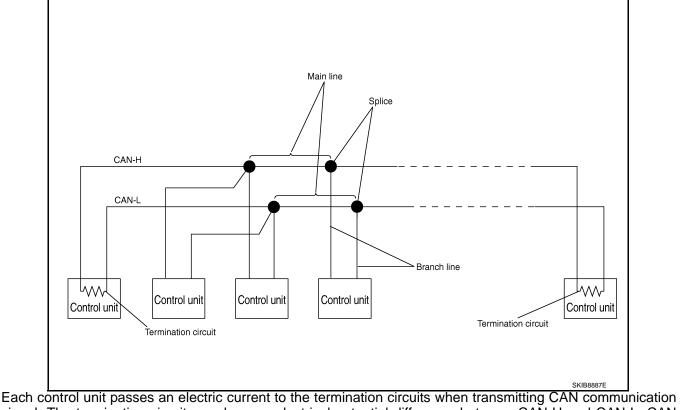
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- CAN communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with two communication lines (CAN-H and CAN-L).
- Control units on the CAN network transmit signals using the CAN communication control circuit. They
 receive only necessary signals from other control units to operate various functions.
- CAN communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

System Diagram



signal. The termination circuits produce an electrical potential difference between CAN-H and CAN-L. CAN communication system transmits and receives CAN communication signals by the potential difference.

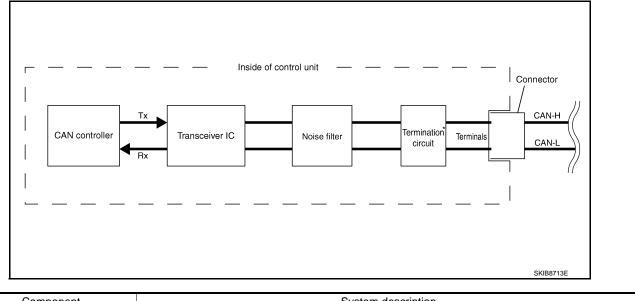
Component	Description	
Main line	CAN communication line between splices	
Branch line	CAN communication line between splice and a control unit	
Splice	A point connecting a branch line with a main line	
Termination circuit	Refer to LAN-8, "CAN Communication Control Circuit".	(

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

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CAN Communication Control Circuit



Component	System description
CAN controller	It controls CAN communication signal transmission and reception, error detection, etc.
Transceiver IC	It converts digital signal into CAN communication signal, and CAN communication signal into digital signal.
Noise filter	It eliminates noise of CAN communication signal.
Termination circuit [*] (Resistance of approx. 120 Ω)	It produces potential difference.

*: These are the only control units wired with both ends of CAN communication system.

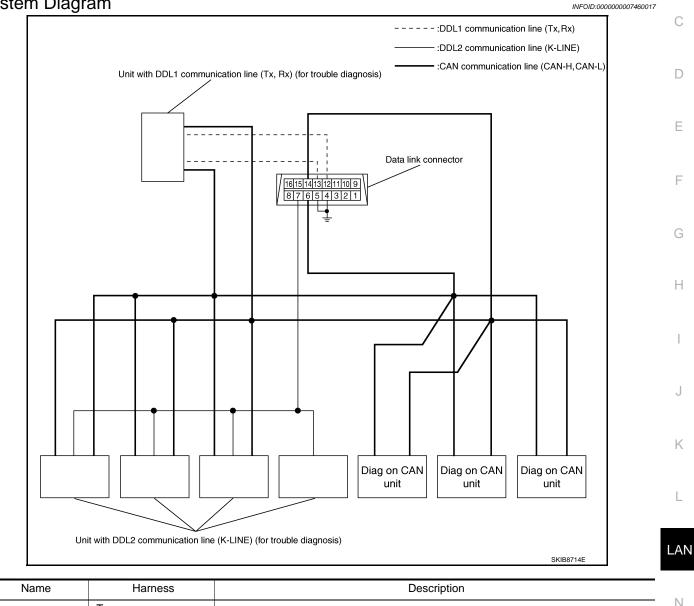
< SYSTEM DESCRIPTION >

DIAG ON CAN

Description

"Diag on CAN" is a diagnosis using CAN communication instead of previous DDL1 and DDL2 communication В lines, between control units and diagnosis unit.

System Diagram



Name	namess	Description		
DDL1	Tx Rx	It is used for trouble diagnosis. (CAN-H and CAN-L are used for controlling)	N	
DDL2	K-LINE	-LINE It is used for trouble diagnosis. (CAN-H and CAN-L are used for controlling)		
Diag on CAN	CAN-H CAN-L	It is used for trouble diagnosis and control.	- 0	

[CAN FUNDAMENTAL]

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Condition of Error Detection

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DTC (e.g. U1000 and U1001) of CAN communication is indicated on SELF-DIAG RESULTS on CONSULT if a CAN communication signal is not transmitted or received between units for 2 seconds or more.

CAN COMMUNICATION SYSTEM ERROR

- CAN communication line open (CAN-H, CAN-L, or both).
- CAN communication line short (ground, between CAN communication lines, other harnesses).
- Error of CAN communication control circuit of the unit connected to CAN communication line.

WHEN DTC OF CAN COMMUNICATION IS INDICATED EVEN THOUGH CAN COMMUNICATION SYSTEM IS NORMAL

- Removal/installation of parts: Error may be detected when removing and installing CAN communication unit and related parts while turning the ignition switch ON. (A DTC except for CAN communication may be detected.)
- Fuse blown out (removed): CAN communication of the unit may cease.
- Voltage drop: Error may be detected if voltage drops due to discharged battery when turning the ignition switch ON (Depending on the control unit which carries out CAN communication).
- Error may be detected if the power supply circuit of the control unit, which carries out CAN communication. malfunctions (Depending on the control unit which carries out CAN communication).
- Error may be detected if reprogramming is not completed normally.

CAUTION:

CAN communication system is normal if DTC of CAN communication is indicated on SELF-DIAG RESULTS of CONSULT under the above conditions. Erase the memory of the self-diagnosis of each unit.

Symptom When Error Occurs in CAN Communication System

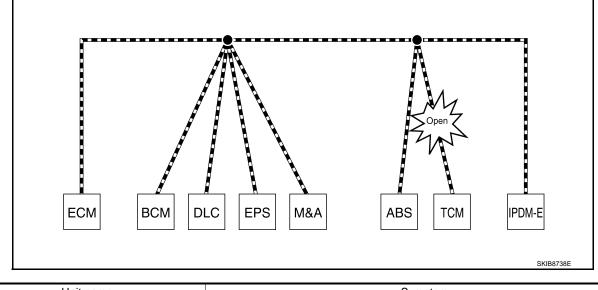
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In CAN communication system, multiple units mutually transmit and receive signals. Each unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

ERROR EXAMPLE

- NOTE:
- Each vehicle differs in symptom of each unit under fail-safe mode and CAN communication line wiring.
- Refer to LAN-21, "Abbreviation List" for the unit abbreviation.

Example: TCM branch line open circuit



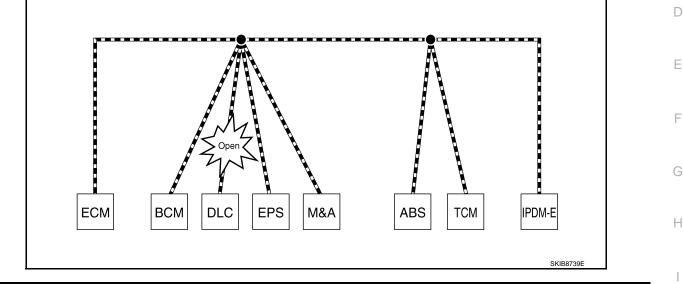
Unit name	Symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	Reverse warning chime does not sound.

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Unit name	Symptom	
EPS control unit	Normal operation.	A
Combination meter	Shift position indicator and OD OFF indicator turn OFF.Warning lamps turn ON.	P
ABS actuator and electric unit (control unit)	Normal operation.	D
ТСМ	No impact on operation.	-
IPDM E/R	Normal operation.	С

Example: Data link connector branch line open circuit



Unit name	Symptom	
ECM		
BCM		J
EPS control unit		
Combination meter	Normal operation.	K
ABS actuator and electric unit (control unit)		IX.
ТСМ		
IPDM E/R		L

NOTE:

- When data link connector branch line is open, transmission and reception of CAN communication signals are not affected. Therefore, no symptoms occur. However, be sure to repair malfunctioning circuit.
- The model (all units on CAN communication system are Diag on CAN) cannot perform CAN diagnosis with CONSULT if the following error occurs. The error is judged by the symptom.

Error	Difference of symptom	
Data link connector branch line open circuit	Normal operation.	
CAN-H, CAN-L harness short-circuit	Most of the units which are connected to the CAN communication system enter fail-safe mode or are deactivated.	0

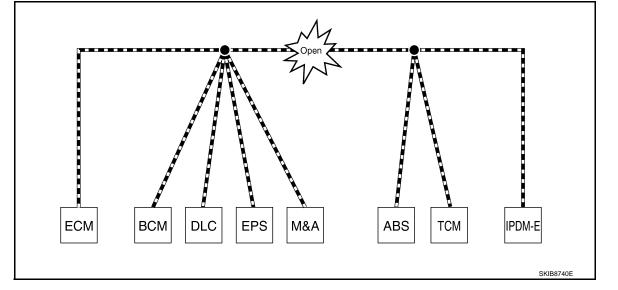
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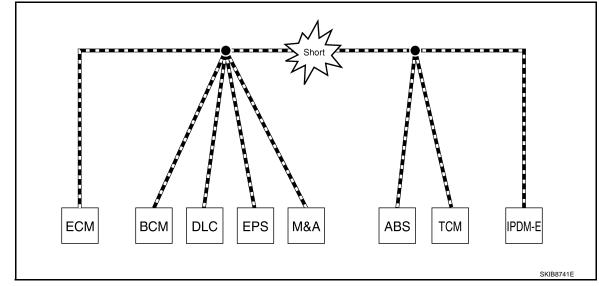
< SYSTEM DESCRIPTION >

Example: Main Line Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) Open Circuit



Unit name	Symptom		
ECM	Engine torque limiting is affected, and shift harshness increases.		
BCM	 Reverse warning chime does not sound. The front wiper moves under continuous operation mode even though the front wip er switch being in the intermittent position. 		
EPS control unit	The steering effort increases.		
Combination meter	The shift position indicator and OD OFF indicator turn OFF.The speedometer is inoperative.The odo/trip meter stops.		
ABS actuator and electric unit (control unit)	Normal operation.		
ТСМ	No impact on operation.		
IPDM E/R	When the ignition switch is ON,The headlamps (Lo) turn ON.The cooling fan continues to rotate.		

Example: CAN-H, CAN-L Harness Short Circuit



< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Unit name	Symptom • Engine torque limiting is affected, and shift harshness increases. • Engine speed drops.		
ECM			
ВСМ	 Reverse warning chime does not sound. The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position. The room lamp does not turn ON. The engine does not start (if an error or malfunction occurs while turning the ignition switch OFF.) The steering lock does not release (if an error or malfunction occurs while turning the ignition switch OFF.) 		
EPS control unit	The steering effort increases.		
Combination meter	 The tachometer and the speedometer do not move. Warning lamps turn ON. Indicator lamps do not turn ON. 		
ABS actuator and electric unit (control unit)	Normal operation.		
ТСМ	No impact on operation.		
IPDM E/R	When the ignition switch is ON,The headlamps (Lo) turn ON.The cooling fan continues to rotate.		

CAN Diagnosis with CONSULT

CAN diagnosis on CONSULT extracts the root cause by receiving the following information.

- Response to the system call
- Control unit diagnosis information
- Self-diagnosis
- CAN diagnostic support monitor

Self-Diagnosis

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If communication signals cannot be transmitted or received among units communicating via CAN communication line, CAN communication-related DTC is displayed on the CONSULT "Self Diagnostic Result" screen. **NOTE:**

The following table shows examples of CAN communication-related DTC. For other DTC, refer to the applicable sections.

DTC	Self-diagnosis item (CONSULT indication)	DTC detection condition		Inspection/Action	L
U1000 C	CAN COMM CIRCUIT	ECM	When ECM is not transmitting or receiving CAN communication signal of OBD (emission-related diagnosis) for 2 seconds or more.		LAN
		Except for ECM	When a control unit (except for ECM) is not transmitting or receiving CAN communication signal for 2 seconds or more.	Start the inspection. Re- fer to the applicable sec- tion of the indicated	Ν
U1001	CAN COMM CIRCUIT	$M/h = \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n$		control unit.	0
U1002	SYSTEM COMM	When a control unit is not transmitting or receiving CAN communication signal for 2 seconds or less.			
U1010	CONTROL UNIT(CAN)	When an error is detected during the initial diagnosis for CAN controller of each control unit.		Replace the control unit indicating "U1010".	Ρ

CAN Diagnostic Support Monitor

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MONITOR ITEM (CONSULT)

< SYSTEM DESCRIPTION >

Example: CAN DIAG SUPPORT MNTR indication

Withou	I PAST		vvitn	PAST	
ECM		EC	СМ		
	PRSNT	PAST		PRSNT	PAS
INITIAL DIAG	OK		TRANSMIT DIAG	OK	OK
TRANSMIT DIAG	lок		VDC/TCS/ABS	[-]-
ТСМ	OK		METER/M&A	¦ OK	OK
VDC/TCS/ABS	UNKWN		BCM/SEC	OK	OK
METER/M&A	OK		ICC		-
ICC	UNKWN	1	HVAC		
BCM/SEC	¦ OK		ТСМ	OK	OK
IPDM E/R	OK		EPS		
			IPDM E/R	OK	OK
			e4WD		-
			AWD/4WD	OK	OK

Without PAST

Item	PRSNT	Description			
Initial diagnosis	OK	Normal at present			
	NG	Control unit error (Except for some control units)			
	OK	Normal at present			
Transmission diagnosis	UNKWN	Unable to transmit signals for 2 seconds or more.			
		Diagnosis not performed			
	OK	Normal at present			
Control unit name	UNKWN	Unable to receive signals for 2 seconds or more.			
(Reception diagnosis)		Diagnosis not performed			
		No control unit for receiving signals. (No applicable optional parts)			

With PAST

Item	PRSNT	PAST	Description
		OK	Normal at present and in the past
Transmission diagnosis	ОК	1 – 39	Normal at present, but unable to transmit signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
	UNKWN	0	Unable to transmit signals for 2 seconds or more at present.
		OK	Normal at present and in the past
Control unit name	ОК	1 – 39	Normal at present, but unable to receive signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
(Reception diagnosis)	UNKWN	0	Unable to receive signals for 2 seconds or more at present.
			Diagnosis not performed.
	_	_	No control unit for receiving signals. (No applicable optional parts)

MONITOR ITEM (ON-BOARD DIAGNOSIS)

NOTE:

For some models, CAN communication diagnosis result is received from the vehicle monitor.

< SYSTEM DESCRIPTION >

[CAN F	FUNDAMI	ENTAL]
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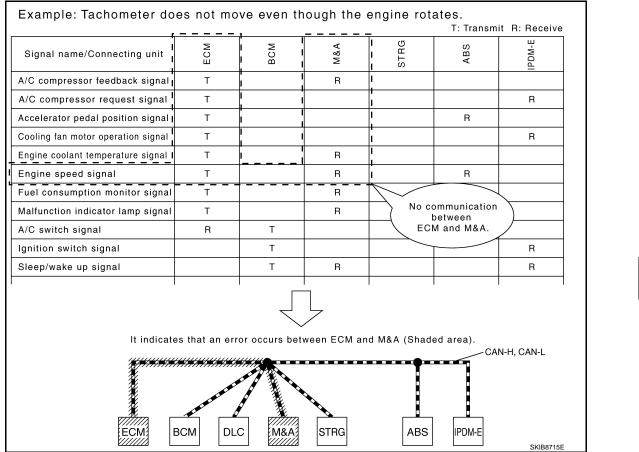
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Item	Result indi- cated	Error counter	Description
	OK	0	Normal at present
CAN_COMM (Initial diagnosis)	NG	1 – 50	Control unit error (The number indicates how many times diagnosis has been run.)
	OK	0	Normal at present
CAN_CIRC_1 (Transmission diagnosis)	UNKWN	1 – 50	Unable to transmit for 2 seconds or more at present. (The number indicates how many times diagnosis has been run.)
	OK	0	Normal at present
CAN_CIRC_2 – 9 Reception diagnosis of each unit)			Unable to transmit for 2 seconds or more at present. (The number indicates how many times diagnosis has been run.)
	UNKWN	1 – 50	Diagnosis not performed.
			No control unit for receiving signals. (No applicable optional parts)

How to Use CAN Communication Signal Chart

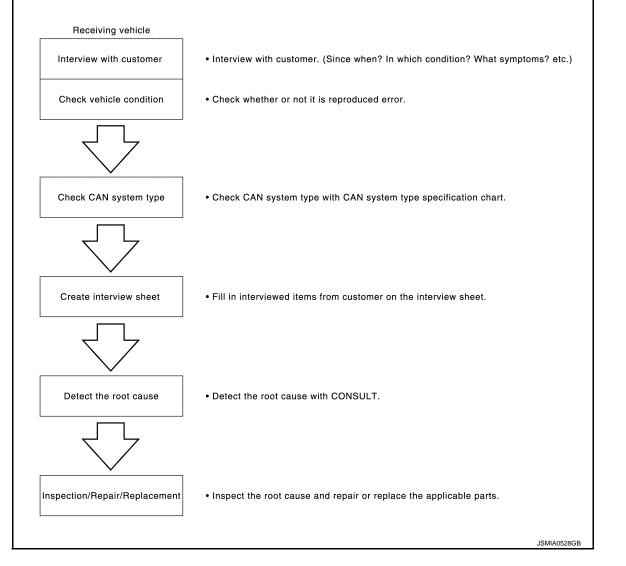
The CAN communication signal chart lists the signals needed for trouble diagnosis. It is useful for detecting the root cause by finding a signal related to the symptom, and by checking transmission and reception unit.



BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart

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Trouble Diagnosis Procedure

INFOID:000000007460025

INTERVIEW WITH CUSTOMER

Interview with the customer is important to detect the root cause of CAN communication system errors and to understand vehicle condition and symptoms for proper trouble diagnosis.

Points in interview

- What: Parts name, system name
- When: Date, Frequency
- Where: Road condition, Place
- In what condition: Driving condition/environment
- Result: Symptom

NOTE:

- Check normal units as well as error symptoms.
- Example: Circuit between ECM and the combination meter is judged normal if the customer indicates tachometer functions normally.
- When a CAN communication system error is present, multiple control units may malfunction or go into failsafe mode.

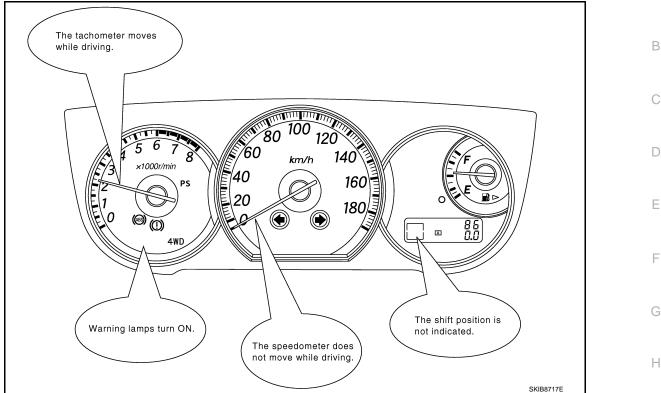
LAN-16

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

А

• Indication of the combination meter is important to detect the root cause because it is the most obvious to the customer, and it performs CAN communication with many units.



INSPECTION OF VEHICLE CONDITION

Check whether the symptom is reproduced or not.

NOTE:

Do not turn the ignition switch OFF or disconnect the battery cable while reproducing the error. The error may temporarily correct itself, making it difficult to determine the root cause.

CHECK OF CAN SYSTEM TYPE (HOW TO USE CAN SYSTEM TYPE SPECIFICATION CHART) Determine CAN system type based on vehicle equipment.

NOTE:

- This chart is used if CONSULT does not automatically recognize CAN system type.
- There are two styles for CAN system type specification charts. Depending on the number of available system types, either style A or style B may be used.

CAN System Type Specification Chart (Style A) **NOTE:**

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< BASIC INSPECTION >

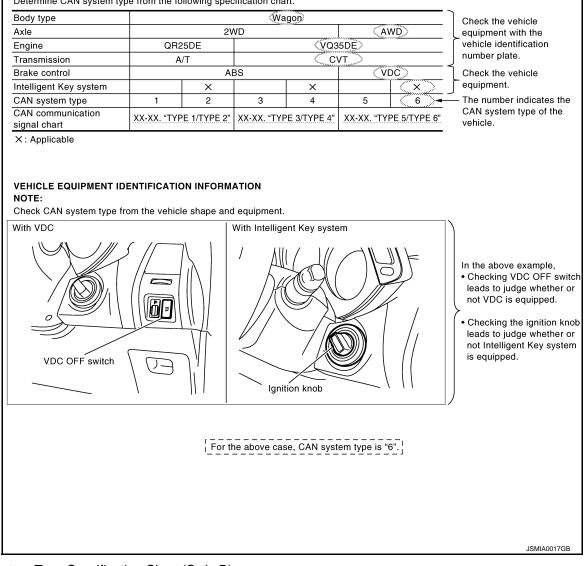
CAN system type is easily checked with the vehicle equipment identification information shown in the chart.

Example:

Vehicle is equipped as follows: Wagon, AWD, VQ35DE, CVT, VDC, and Intelligent Key system. (Shows an example of CAN system type.)

CAN System Specification Chart

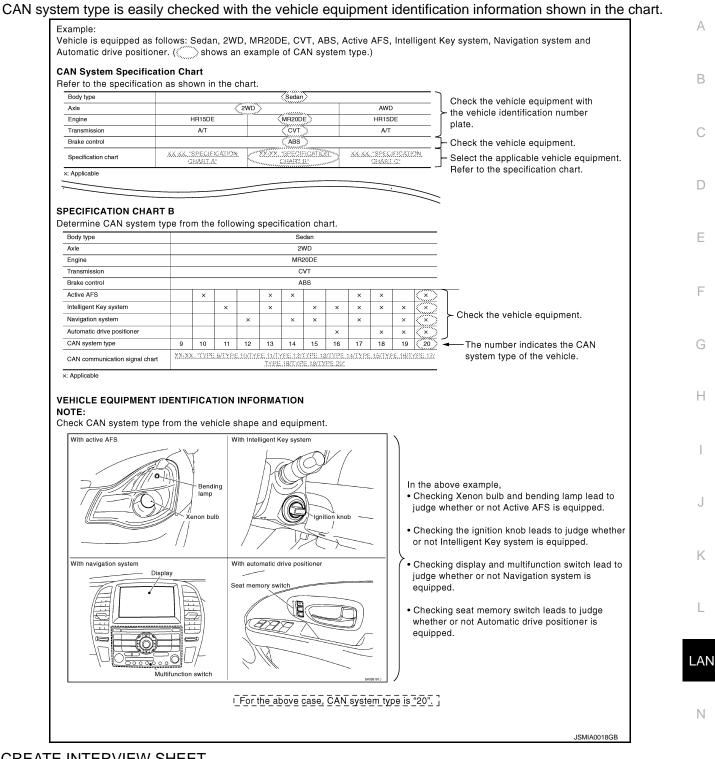
Determine CAN system type from the following specification chart.



CAN System Type Specification Chart (Style B) NOTE:

< BASIC INSPECTION >

[CAN FUNDAMENTAL]



CREATE INTERVIEW SHEET

Fill out the symptom described by the customer, vehicle condition, and CAN system type on the interview sheet.

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< BASIC INSPECTION >

Interview Sheet (Example)

CAN Com	munication System	n Diagnosis Ir	nterview She	et				
		Date received:	3, Feb. 2006					
Туре:	DBA-KG11	VIN No.:	KG11-005040					
Model:	BDRARGZ397EDA-E-J-							
First registration:	10, Jan. 2001	Mileage:	62,140					
CAN syste	m type: Type 19							
Symptom (Re	sults from interview with custor	ner)]					
	 Headlamps suddenly turn ON while driving the vehicle. The engine does not restart after stopping the vehicle and turning the ignition switch OEE 							
•The coolir	ng fan continues rotating while t	urning the ignition swite	ch ON.					
Condition at in	nspection]					
Error Sympto	om: Present / Past							
While turni • The head	e does not start. ng the ignition switch ON, lamps (Lo) turn ON, and the co or lamp does not turn ON.	oling fan continues rota	ting.					
				JSMIA0019GB				

DETECT THE ROOT CAUSE

CAN diagnosis function of CONSULT detects the root cause.

HOW TO USE THIS MANUAL HOW TO USE THIS SECTION

Caution

• This section describes information peculiar to a vehicle and inspection procedures.

• For trouble diagnosis procedure, refer to LAN-16, "Trouble Diagnosis Procedure".

Abbreviation List

Unit name abbreviations in CONSULT CAN diagnosis and in this section are as per the following list.

Abbreviation	Unit name	
4WD	AWD control unit	
A-BAG	Air bag diagnosis sensor unit	
ABS	ABS actuator and electric unit (control unit)	
ADP	Driver seat control unit	
AFS	AFS control unit	
APA	Accelerator pedal actuator	
AV	AV control unit	
BCM	BCM	
BCU	Brake booster control unit	
BSW	BSW control module	
DLC	Data link connector	
ECM	ECM	
ICC	ICC sensor integrated unit	
IPDM-E	IPDM E/R	
LANE	Lane camera unit	
M&A	Unified meter and A/C amp.	
RDR-L	Side radar LH	
RDR-R	Side radar RH	
STRG	Steering angle sensor	
ТСМ	ТСМ	

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PRECAUTION PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precautions for Trouble Diagnosis

CAUTION:

- Never apply 7.0 V or more to the measurement terminal.
- Use a tester with open terminal voltage of 7.0 V or less.
- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

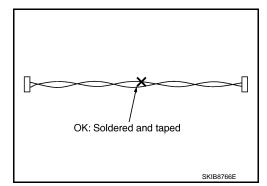
Precautions for Harness Repair

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• Solder the repaired area and wrap tape around the soldered area. **NOTE:**

A fray of twisted lines must be within 110 mm (4.33 in).



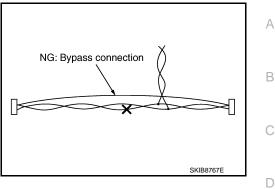
PRECAUTIONS

< PRECAUTION >

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Bypass connection is never allowed at the repaired area.
 NOTE:
 Bypass connection may cause CAN communication or

Bypass connection may cause CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



• Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

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< BASIC INSPECTION >

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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Interview Sheet

ew Sneet	INFOID:0000000074
CAN Communication System Diagnosis Interview Sheet	
Date received:	
Type: VIN No.:	
Model:	
First registration: Mileage:	
CAN system type:	
Symptom (Results from interview with customer)	
Condition at inspection	
Error symptom : Present / Past	
	SKIB8898E

SYSTEM DESCRIPTION

CAN COMMUNICATION SYSTEM

CAN System Specification Chart

Determine CAN system type from the following specification chart.

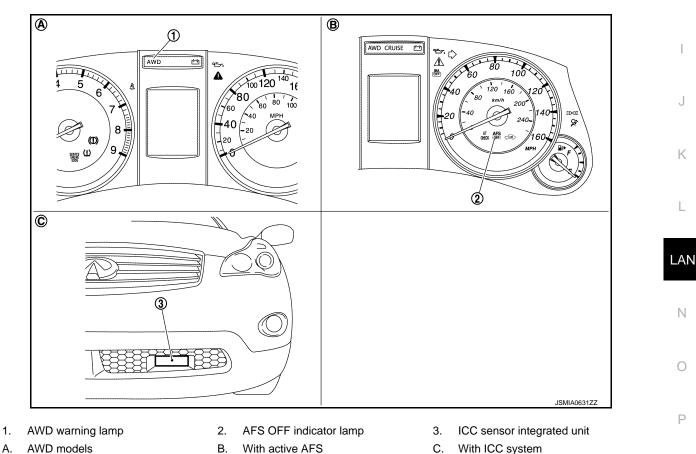
NOTE: Refer to <u>LAN-16</u>, "Trouble Diagnosis Procedure" for how to use CAN system specification chart.

Body type		Wagon								
Axle		2WD AWD								
Engine		VQ35HR								
Transmission	A/T									
Brake control			V	'DC			_			
Active AFS		×	×		×	×	_			
ICC system			×			×	_			
CAN system type	1 2 3 4 5 6									

×: Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION NOTE:

Check CAN system type from the vehicle shape and equipment.



CAN Communication Signal Chart

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Refer to <u>LAN-15</u>, "How to Use CAN Communication Signal Chart" for how to use CAN communication signal chart. NOTE:

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< SYSTEM DESCRIPTION >

Refer to <u>LAN-21</u>, "Abbreviation List" for the abbreviations of the connecting units.

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								0			T: ⁻	Transm	it R:F	Receive
Signal name/Connecting unit	ECM	AFS	AV	LANE	4WD	BCM	TCM	M&A	STRG	ADP	BSW	ABS	ICC	IPDM-E
A/C compressor request signal	Т													R
Accelerator pedal position signal	Т				R		R					R	R	
ASCD OD cancel request signal	Т						R							
ASCD operation signal	Т						R							
ASCD status signal	Т							R						
Closed throttle position signal	Т						R						R	
Cooling fan speed request signal	Т													R
Engine and A/T integrated control sig- nal	T R						R T							
Engine coolant temperature signal	Т						-	R						
Engine speed signal	Т	R			R		R	R			R	R	R	
Engine status signal	T		R			R						+		<u> </u>
Fuel filler cap warning display signal	T							R						<u> </u>
Fuel consumption monitor signal	Т		R					R						
ICC brake switch signal	Т												R	
ICC prohibition signal	Т												R	
ICC steering switch signal	Т											R*2	R	
Malfunctioning indicator lamp signal	T							R				IX .		
Power generation command value sig- nal	Т							K						R
Snow mode switch signal	Т											R	R	
Stop lamp switch signal	Т				R	Т	R					Т	R	
Wide open throttle position signal	Т						R							
AFS OFF indicator lamp signal		Т						R						
A/C switch/indicator signal			T R					R T						
A/C switch operation signal			Т					R						
Rear window defogger switch signal			Т			R								
System selection signal			Т										R	
			Т			R				R				
System setting signal			R			Т								
			R							Т				
Voice recognition signal ^{*1}			Т					R						
Detected lane condition signal				т								R		
Lane camera status signal				т								R		<u> </u>
Lane departure buzzer operation sig- nal				Т								R		
Lane departure warning lamp signal				т				R				R		
LDP ON indicator lamp signal				Т				R				R		
LDW operation signal		1		Т								R		<u> </u>

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< SYSTEM DESCRIPTION >

Signal name/Connecting unit	ECM	AFS	AV	LANE	4WD	BCM	TCM	M&A	STRG	ADP	BSW	ABS	CC	IPDM-E	А
				Т								R			_
Warning systems switch signal												Т	R		В
				R							R		Т		
AWD signal					Т							R			С
AWD warning lamp signal					Т			R							
						Т		R							
Buzzer output signal								R			Т				D
												R	Т		
Door switch signal						Т		R		R				R	Е
Dimmer signal						Т					R				
Door unlock signal						Т				R					
Front fog light request signal						Т								R	F
Front wiper request signal						Т						R	R	R	
High beam request signal						Т		R						R	C
Horn reminder signal						Т								R	(
Ignition switch ON signal						Т								R	
ignition switch ON signal						R								Т	ŀ
Ignition switch signal						Т				R					
						Т								R	
Interlock/PNP switch signal						R								Т	
Key ID signal						Т				R					
Key switch signal						Т				R					
Key warning lamp signal						Т		R							
Low beam request signal						Т								R	
Low tire pressure warning lamp signal						Т		R							ŀ
Motor diaplay aignal						Т		R							
Meter display signal								R					Т		l
Oil pressure switch signal						Т		R							
On pressure switch signal						R								Т	
Position light request signal						Т		R						R	LA
Rear window defogger control signal						Т								R	
Real window delogger control signal	R		R											Т	Ν
Sleep wake up signal						Т		R		R				R	1
Starter control relay signal						Т								R	
Starter relay status signal						Т								R	(
olandi idiay sidius siyiidi						R								Т	
Starting mode signal						Т				R					,
Stooring lock roley signal						Т								R	F
Steering lock relay signal						R								Т	
Theft warning horn request signal						Т								R	
TPMS malfunction warning lamp signal						Т		R							
Turn indicator signal				R		Т		R			R	R			
A/T CHECK indicator lamp signal		R					Т	R							

[CAN]

< SYSTEM DESCRIPTION >

Signal name/Connecting unit	ECM	AFS	AV	LANE	4WD	BCM	TCM	M&A	STRG	ADP	BSW	ABS	ICC	IPDM-E
A/T self-diagnosis signal	R						Т							
Current gear position signal							Т					R*2	R	
Input speed signal	R						Т					R ^{*2}	R	
Manual mode indicator signal							т	R						<u> </u>
Manual mode shift refusal signal							Т	R						
N range signal						R	Т							
Output shaft revolution signal	R						Т					R*2	R	
P range signal						R	Т			R				
R range signal							Т			R				
Shift position signal		R					Т	R			R	R	R	
A/C evaporator temperature signal	R							Т						
A/C switch signal	R							Т						
Ambient temperature signal				R				Т						
Blower fan motor switch signal	R							Т						
Distance to empty signal			R					Т						
Fuel filler cap warning reset signal	R							Т						
Fuel level low warning signal			R					Т						
Fuel level sensor signal	R							Т						
Manual mode shift down signal							R	Т						
Manual mode shift up signal							R	Т						
Manual mode signal							R	Т						
Non-manual mode signal							R	Т						
Odometer signal						R		Т						
Parking brake switch signal					R	R		Т				R	R	
Seat belt buckle switch signal						R		Т						
Sleep-ready signal						R		Т						
Sleep-ready signal						R								Т
Target A/C evaporator temperature sig- nal	R							Т						
Vahiala aroud signal	R	R	R			R	R	Т		R				R
Vehicle speed signal	R			R	R	R		R			R	Т	R	
Wake up signal						R		Т						
Steering angle sensor signal		R	R						Т			R	R	
BSW warning lamp signal								R			Т			
A/T shift schedule change demand sig- nal							R					т		
ABS malfunction signal												Т	R	
ABS operation signal							R					Т	R	<u> </u>
ABS warning lamp signal								R				Т		<u> </u>
Brake warning lamp signal								R				Т		
Front wiper status signal				R								Т		
LDP buzzer request signal				R								Т		
LDP condition signal				R								Т		<u> </u>

< SYSTEM DESCRIPTION >

Signal name/Connecting unit	ECM	AFS	AV	LANE	4WD	BCM	TCM	M&A	STRG	ADP	BSW	ABS	ICC	IPDM-E	1
LDP malfunction signal				R								т			
LDP meter indication request signal				R								Т			-
LDP operation signal				R								Т			-
Side G sensor signal							R					Т			(
TCS malfunction signal												Т	R		-
TCS operation signal												Т	R		-
VDC malfunction signal												Т	R		[
VDC OFF indicator lamp signal								R				Т			-
VDC OFF switch signal												Т	R		
VDC operation signal												Т	R		
VDC warning lamp signal								R				Т			-
IBA OFF indicator lamp signal								R					Т		
ICC operation signal	R											R	Т		-
ICC warning lamp signal								R					Т		
LDP ON signal												R	Т		. (
Target approach warning signal												R	Т		-
A/C compressor feedback signal	R							R						Т	
Detention switch signal						R								Т	-
Front wiper stop position signal						R								Т	-
High beam status signal	R	R												Т	-
Hood switch signal						R								Т	-
Low beam status signal	R	R												Т	
Push-button ignition switch status sig- nal						R								Т	-
Steering lock unit status signal						R								Т	

*1: Models with navigation system

*2: Models with LDP

NOTE:

CAN data of the air bag diagnosis sensor unit is not used by usual service work, thus it is omitted.

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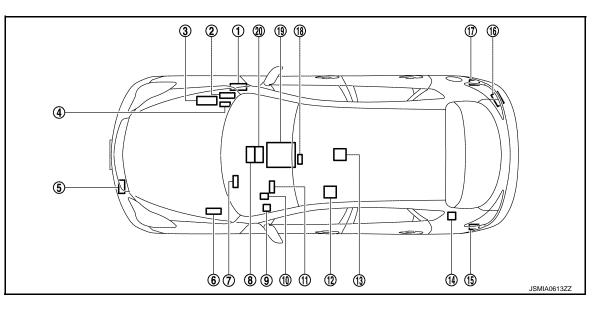
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DTC/CIRCUIT DIAGNOSIS CAN COMMUNICATION SYSTEM

Component Parts Location

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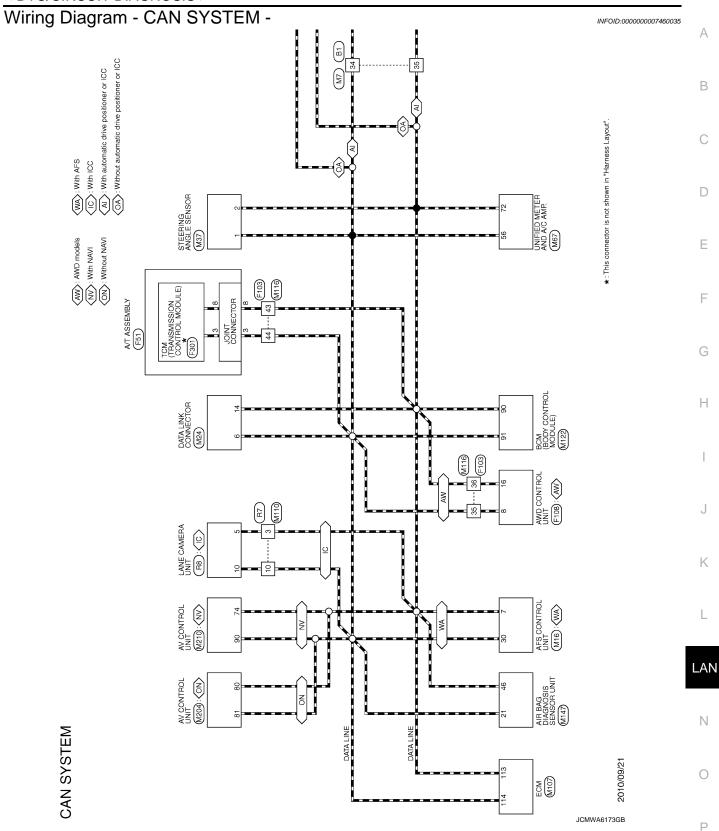
- 1. BCM M122
- 4. AWD control unit F108
- 7. Accelerator pedal actuator E113
- 10. Data link connector M24
- 13. Air bag diagnosis sensor unit M147
- 16. Brake booster control unit B250
- 19. A/T assembly F51

- 2. ECM M107
- 5. ICC sensor integrated unit E67
- 8. Unified meter and A/C amp. M67
- 11. Steering angle sensor M37
- 14. BSW control module B50
- 17. Side radar RH B107
- 20. AV control unit
 - M204: Without navigation system M210: With navigation system

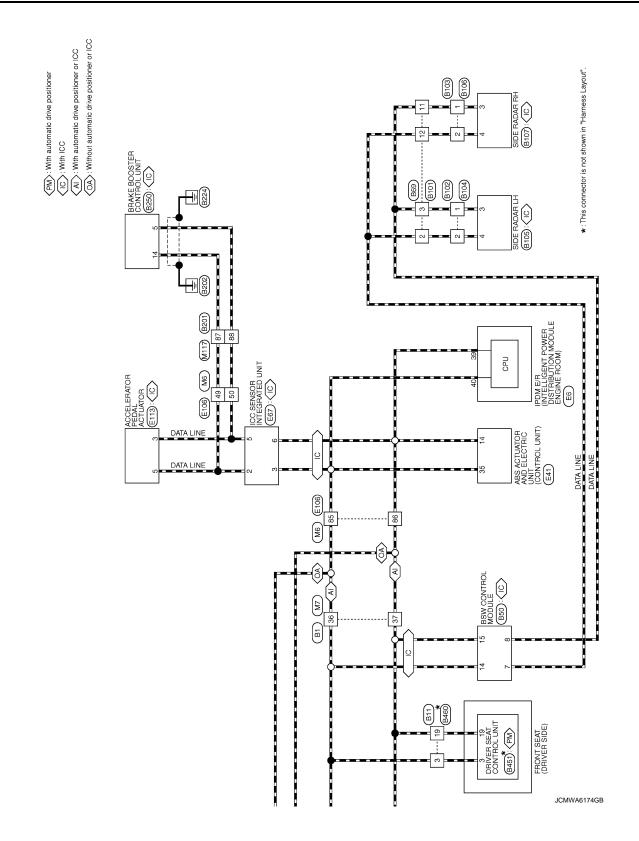
- 3. IPDM E/R E6
- 6. ABS actuator and electric unit (control unit) E41
- 9. AFS control unit M16
- 12. Driver seat control unit B451
- 15. Side radar LH B105
- 18. Lane camera unit R8

< DTC/CIRCUIT DIAGNOSIS >





< DTC/CIRCUIT DIAGNOSIS >



Connector No. B69 Connector Name Write TO Write Connector Type Prut.2010	Terminal Clored in Signal Mame (Specification) 700 Wee Signal Mame (Specification) 2 1 2 - 2 2 2 - - 2 2 2 - - - 2 2 2 - - - - 2 2 2 -	
Connector No. B11 Connector Name WIRE TO WIRE Connector Type WISLEPANCS Connector Type WISLEPANCS MAX 00 67 33 27 148 22 66	Terminal No. Color Of No. Signal Name [Specification] No. Vire Signal Name [Specification] 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V 1 V V V	
60 P . 61 L . 62 L . 63 Allelin . 64 G . 65 Allelin . 66 W . 66 W . 67 G . 68 S . 69 . . 70 . . 70 . .	71 10 10 73 11 1 73 11 1 75 10 1 75 10 1 73 10 1 73 10 1 73 10 1 73 10 1 73 10 1 73 10 1 73 10 1 73 10 1 74 1 1 75 10 1 74 1 1 75 10 1 75 10 1 75 10 1 75 10 1 75 10 1 75 10 1 75 10 1 75 10 1 75 10 1 75 10 1	
CAN SYSTEM connector No. 11 connector Name wher CD WHE connector Type man by the CD WHE connector Type man by the CD WHE man by the CD WHE	Terminal Pression Annual Pression Annual P	

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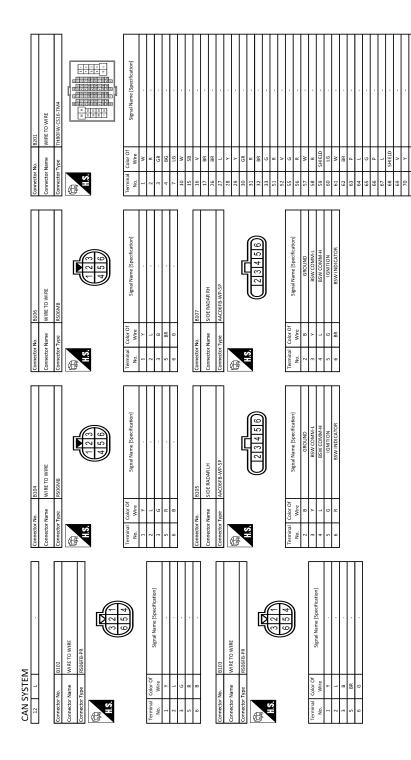
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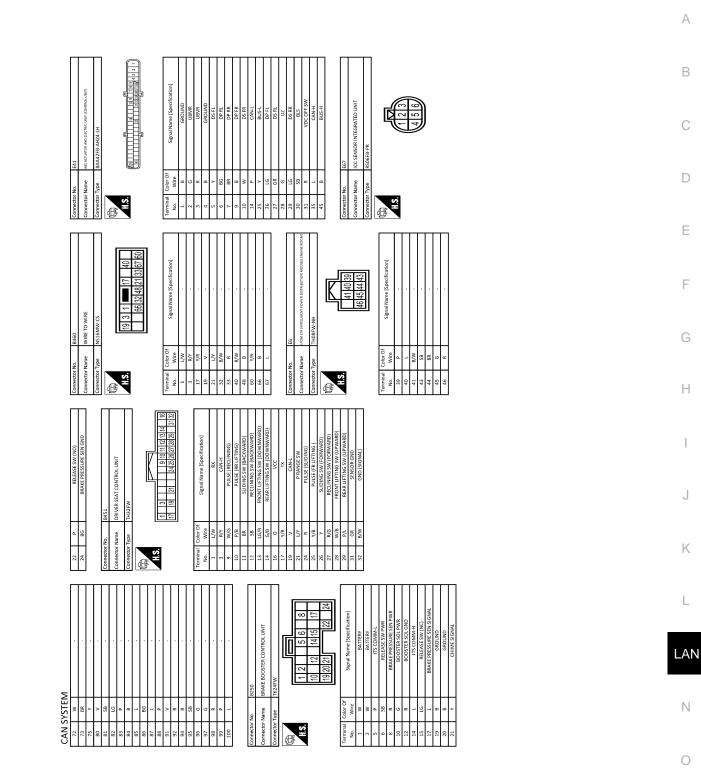
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	CAN COMMUNICATION SYSTEM
< DTC/CIRCUIT DIAGNOSIS	>



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13 L	+	16 V · ·	Η	+	+		╀		╀	+	26 V -	_	28 G .	31 L -	32 G -	33 8 -	╞	R			┝	┝		+	43 Bu	45 W -	+		51 BR .				,			SB -		-	65 W -		67 SHIEID .	+	,	LG .	71 16 -		+	8	74 BR - [With ICC]	
Connector No. F301	Connector Name TCM (TRANSMISSION CONTROL MODULE)	Connector Type SP10FG			ł	(112]3]4]5)	R 7 0 0 10	0 /)		Terminal Color Of Signal Name [Specification]	Wire	1 - VIGN	2 - BATT	3 - CAN-H	4 - KLINE	5 - GROUND	- REV	8 - CAN-L	·	,	-		Connector No MG	Τ	Connector Name WIRE TO WIRE	Τ	Connector Type TH80MW-CS16-TM4		1990 1990 1990 1990 1990 1990 1990 199	1 6 12 22 22 22 22		3 年 1 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日		100 000 000 000 000 000 000 000]	al C	No. Wire Decimation	1 W -			 4 SHIELD -	5 6 .		╀	+	+	11 BR	_
CAIN STSTEM		35 L -		37 Y -								Connector No. F108	Connector Name AWD CONTROL UNIT		Connector Type TH16FW-NH			7	\ 	9 10 11 13 15 16	2		Color Of	No Mira Signal Name [Specification]	wire	BR	¥	3 W OIL TEMP-	7 G IGN		BG	- a	11 B GROUND	<u> </u>	3 :	>	16 P CAN-L													

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CAN COMMUNICATION SYSTEM

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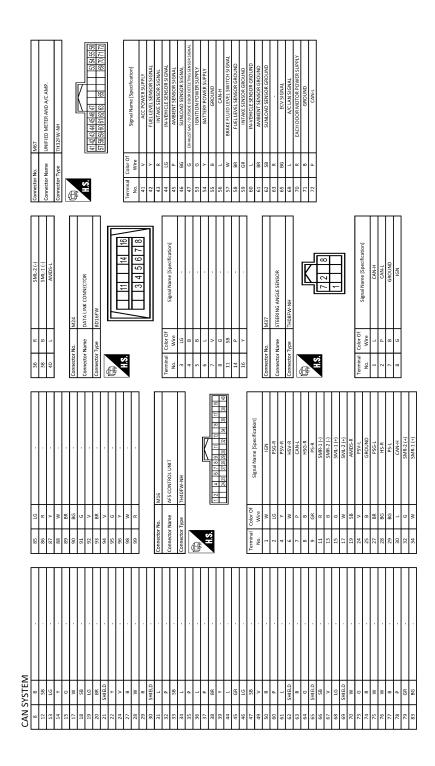
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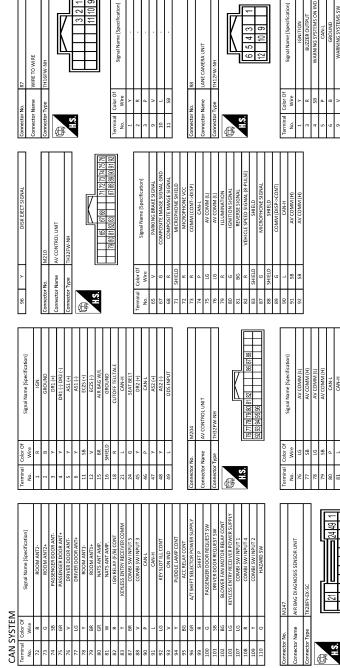
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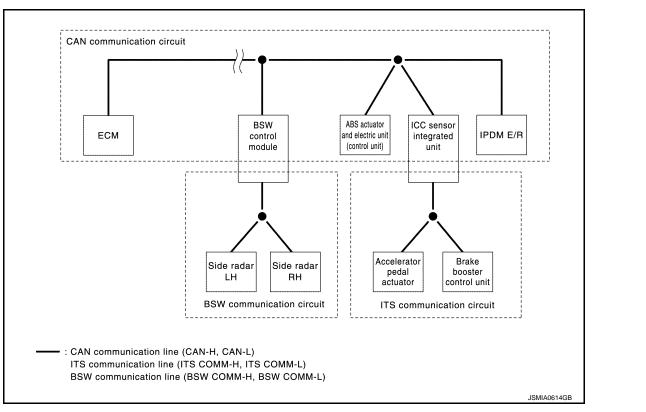
MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

MALFUNCTION AREA CHART

System Diagram





CAN Communication Circuit

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MAIN LINE

Malfunction area	Reference	
Main line between AV control unit and data link connector	LAN-43, "Diagnosis Procedure"	
Main line between data link connector and unified meter and A/C amp.	LAN-44. "Diagnosis Procedure"	
Main line between unified meter and A/C amp. and ABS actuator and electric unit (control unit)	LAN-45, "Diagnosis Procedure"	
Main line between unified meter and A/C amp. and driver seat control unit	LAN-46, "Diagnosis Procedure"	
Main line between driver seat control unit and ABS actuator and electric unit (control unit)	LAN-47, "Diagnosis Procedure"	
Main line between driver seat control unit and BSW control module	LAN-49. "Diagnosis Procedure"	
Main line between BSW control module and ABS actuator and electric unit (control unit)	LAN-50, "Diagnosis Procedure"	

BRANCH LINE

Malfunction area	Reference
ECM branch line circuit	LAN-52, "Diagnosis Procedure"
Air bag diagnosis sensor unit branch line circuit	LAN-53, "Diagnosis Procedure"
AFS control unit branch line circuit	LAN-54, "Diagnosis Procedure"

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MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

Malfunction area	Reference
AV control unit branch line circuit	LAN-55, "Diagnosis Procedure"
Lane camera unit branch line circuit	LAN-56. "Diagnosis Procedure"
AWD control unit branch line circuit	LAN-57, "Diagnosis Procedure"
BCM branch line circuit	LAN-58, "Diagnosis Procedure"
Data link connector branch line circuit	LAN-59, "Diagnosis Procedure"
TCM branch line circuit	LAN-60, "Diagnosis Procedure"
Unified meter and A/C amp. branch line circuit	LAN-61, "Diagnosis Procedure"
Steering angle sensor branch line circuit	LAN-62, "Diagnosis Procedure"
Driver seat control unit branch line circuit	LAN-63, "Diagnosis Procedure"
BSW control module branch line circuit	LAN-64, "Diagnosis Procedure"
ABS actuator and electric unit (control unit) branch line circuit	LAN-65, "Diagnosis Procedure"
ICC sensor integrated unit branch line circuit	LAN-66, "Diagnosis Procedure"
IPDM E/R branch line circuit	LAN-67, "Diagnosis Procedure"

SHORT CIRCUIT

Malfunction area	Reference
CAN communication circuit	LAN-72, "Diagnosis Procedure"

ITS Communication Circuit

BRANCH LINE

Malfunction area	Reference
Accelerator pedal actuator branch line circuit	LAN-68, "Diagnosis Procedure"
Brake booster control unit branch line circuit	LAN-69, "Diagnosis Procedure"

SHORT CIRCUIT OR OPEN CIRCUIT

Malfunction area	Reference
ITS communication circuit	LAN-74, "Diagnosis Procedure"

BSW Communication Circuit

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BRANCH LINE

Malfunction area	Reference
Side radar LH branch line circuit	LAN-70, "Diagnosis Procedure"
Side radar RH branch line circuit	LAN-71, "Diagnosis Procedure"

SHORT CIRCUIT OR OPEN CIRCUIT

Malfunction area	Reference
BSW communication circuit	LAN-76, "Diagnosis Procedure"

< DTC/CIRCUIT DIA(GNOSIS >	TWEEN AV AND		[CAN]							
MAIN LINE BET	IWEEN AV ANI	D DLC CIRCUI	Г								
Diagnosis Proced	lure			INFOID:000000007460040							
CHECK HARNESS CONTINUITY (OPEN CIRCUIT) Turn the ignition switch OFF.											
 Disconnect the battery cable from the negative terminal. Disconnect the following harness connectors. ECM AV control unit 											
 Check the continu Models with navig 		ntrol unit harness con	nector and the data li	nk connector.							
AV control unit h	AV control unit harness connector Data link connector										
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity							
M210	90	M24	6	Existed							
IVIZ 10	74	10124	14	Existed							
Models without na	vigation system										
AV control unit h	AV control unit harness connector Data link connector Continuity										
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity							
M204	81	M24	6	Existed							
	80		14	Existed							
YES (Past error)>>E	>Check CAN system rror was detected in the rror was detected in the rror was detected in the			d the data link connec- or.							

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000007460041

[CAN]

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- Unified meter and A/C amp.
- 4. Check the continuity between the data link connector and the unified meter and A/C amp. harness connector.

Data link	connector	Unified meter and A/C	Continuity		
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M24	6	M67	56	Existed	
10124	14		72	Existed	

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

	GNOSIS >		<u></u>	[CAN]
	WEEN M&A A	ND ABS CIRCL]]]	
Diagnosis Proced	ure			INFOID:000000007460042
	OR			
 Check the followin and harness side) Harness connecto Harness connecto s the inspection result YES >> GO TO 2. NO >> Repair the 	ttery cable from the ne ng terminals and coni r M6 r E106	nectors for damage, b	end and loose conn	ection (connector side
Unified meter and Harness connecto	ors M6 and E106		o. harness connector	and the harness con-
Unified meter and A/C	amp. harness connector	Harness c	onnector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M67	56	M6	85	Existed
s the inspection result	72		86	Existed
CHECK HARNESS	CONTINUITY (OPEN nnector of ABS actuat ity between the harne	tor and electric unit (co	ntrol unit).	ess connector M6.
	connector	ABS actuator and elec	ctric unit (control unit) onnector	Continuity
Harness	CONTRECTOR	namess c		Continuity
Harness Connector No.	connector Terminal No.	Connector No.	Terminal No.	Continuity
Connector No.		Connector No.	Terminal No. 35	Existed
	Terminal No. 85 86			

MAIN LINE BETWEEN M&A AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN M&A AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000007460043

[CAN]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- Unified meter and A/C amp.
- Harness connectors M7 and B1
- Check the continuity between the unified meter and A/C amp. harness connector and the harness connector.

Unified meter and A/C	Unified meter and A/C amp. harness connector Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M67	56	M7	34	Existed
10107	72	1017	35	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the unified meter and A/C amp. and the harness connector M7.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the harness connectors B11 and B460.
- 2. Check the continuity between the harness connectors.

Harness	Harness connector Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B1	34	B11	3	Existed
DI	35	DII	19	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the unified meter and A/C amp. and the driver seat control unit.

NO >> Repair the main line between the harness connectors B1 and B11.

MAIN LINE BE	TWEEN ADP A	ND ABS CIRCI	JIT	
Diagnosis Proced	lure			INF0ID:000000007460044
	TOR			
 Check the followi and harness side) Harness connector Harness connector Harness connector Harness connector Harness connector Source and the second s	attery cable from the n ng terminals and con or B1 or M7 or M6 or E106 <u>t normal?</u> e terminal and connec S CONTINUITY (OPE) arness connectors B1	nectors for damage, I tor. N CIRCUIT) and M7.		nection (connector side
	uity between the harne		S.	
Connector No.	36	Terminal No.	34	Continuity
B1				Existed
s the inspection resul YES >> GO TO 3.			35	Existed
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha	t normal?	N CIRCUIT) and E106.		
YES >> GO TO 3. NO >> Repair the 3. CHECK HARNESS 1. Disconnect the ha 2. Check the continu	t normal? e main line between th S CONTINUITY (OPEN arness connectors M6	N CIRCUIT) and E106. ess connectors.		connector B1.
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha	t normal? e main line between th S CONTINUITY (OPEN arness connectors M6 uity between the harne	N CIRCUIT) and E106. ess connectors.	nit and the harness o	
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha Check the continue Harness Connector No.	t normal? e main line between th S CONTINUITY (OPEN arness connectors M6 uity between the harne	N CIRCUIT) and E106. ess connectors. Harness Connector No.	nit and the harness of	connector B1.
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha Check the continu Harness Connector No.	t normal? e main line between the S CONTINUITY (OPEN arness connectors M6 uity between the harne connector Terminal No. 36 37	N CIRCUIT) and E106. ss connectors. Harness	nit and the harness of connector Terminal No.	Continuity
YES >> GO TO 3. NO >> Repair the 3.CHECK HARNESS 1. Disconnect the ha 2. Check the continu Harness Connector No. M7 s the inspection resul YES >> GO TO 4. NO >> Repair the 4.CHECK HARNESS 1. Disconnect the co 2. Check the continu harness connecto	t normal? e main line between the S CONTINUITY (OPEN arness connectors M6 ity between the harne connector Terminal No. 36 37 t normal? e main line between the S CONTINUITY (OPEN onnector of ABS actual ity between the harne	A CIRCUIT) and E106. ess connectors. Harness Connector No. M6 M6 N CIRCUIT) tor and electric unit (c ess connector and the ABS actuator and electric	connector Terminal No. 85 86 M7 and M6. ontrol unit). ABS actuator and el	Continuity Existed Existed ectric unit (control unit)
YES >> GO TO 3. NO >> Repair the 3.CHECK HARNESS 1. Disconnect the ha 2. Check the continu Harness Connector No. M7 s the inspection resul YES >> GO TO 4. NO >> Repair the 4.CHECK HARNESS 1. Disconnect the co 2. Check the continu harness connecto	t normal? e main line between the S CONTINUITY (OPEN arness connectors M6 uity between the harne connector Terminal No. 36 37 t normal? e main line between the S CONTINUITY (OPEN onnector of ABS actual uity between the harne or.	A CIRCUIT) and E106. ess connectors. Harness Connector No. M6 M6 N CIRCUIT) tor and electric unit (c ess connector and the ABS actuator and electric	connector Terminal No. 85 86 M7 and M6. ontrol unit). ABS actuator and el	Continuity Existed Existed

Is the inspection result normal?

E106

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YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

E41

14

Existed

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

	MAIN LINE BE	TWEEN ADP AND	D BSW CIRCUIT	
< DTC/CIRCUIT	DIAGNOSIS >			[CAN]
MAIN LINE	BETWEEN ADP A	AND BSW CIRC	UIT	
Diagnosis Pr	ocedure			INF0ID:00000007460045
1.CHECK HAR	NESS CONTINUITY (OPE	N CIRCUIT)		
 Disconnect Disconnect ECM Harness cor BSW control 	ition switch OFF. the battery cable from the the following harness conn nnectors B460 and B11 I module ontinuity between the harn	ectors.	BSW control module	harness connector.
	arness connector	BSW control module	e harness connector	
H				Continuity
H Connector N	o. Terminal No.	Connector No.	Terminal No.	Continuity
	o. Terminal No.	Connector No.	Terminal No. 14	Continuity Existed

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the BSW control module.

NO >> Repair the main line between the harness connector B11 and the BSW control module.

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MAIN LINE BETWEEN BSW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN BSW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000007460046

[CAN]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.

- BSW control module
- Harness connectors B1 and M7
- 2. Check the continuity between the BSW control module harness connector and the harness connector.

BSW control modu	BSW control module harness connector Harness con		connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B50	14	B1	36	Existed
B30	15		37	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the BSW control module and the harness connector B1.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M7	36	M6	85	Existed	
	37		86	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness connector			ABS actuator and electric unit (control unit) harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	85	E41	35	Existed
L 100	86	L41	14	Existed

Is the inspection result normal?

MAIN LINE BETWEEN BSW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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	IC/CIRCUIT DIAGNOSIS >	< DTC/
А	 S (Present error)>>Check CAN system type decision again. S (Past error)>>Error was detected in the main line between the BSW control module and the ABS actuator and electric unit (control unit). 	
В		NO
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ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	Resistance (Ω)		
Connector No.	Termi	Resistance (22)	
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-153, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-17, "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > [CAN]
A-BAG BRANCH LINE CIRCUIT
Diagnosis Procedure
 WARNING: Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.) Never use unspecified tester or other measuring device. CHECK CONNECTOR
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).
Is the inspection result normal?
YES >> GO TO 2. NO >> Replace the main harness.
2. CHECK AIR BAG DIAGNOSIS SENSOR UNIT
Check the air bag diagnosis sensor unit. Refer to <u>SRC-5, "Work Flow"</u> .
<u>Is the inspection result normal?</u> YES >> Replace the main harness.
NO >> Replace parts whose air bag system has a malfunction.

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Revision: 2014 October

AFS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.

2. Check the resistance between the AFS control unit harness connector terminals.

/	AFS control unit harness connector				
Connector No.	Termi	Resistance (Ω)			
M16	30	7	Approx. 54 – 66		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-65, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-217, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSI			[CAN]
AV BRANCH LINE C	IRCUIT		
Diagnosis Procedure			INFOID:00000007460050
1. CHECK CONNECTOR			
Check the terminals and side and connector side).	ble from the negative tern connectors of the AV cor		nd and loose connection (unit
Is the inspection result norma YES >> GO TO 2. NO >> Repair the termin 2.CHECK HARNESS FOR 0	al and connector.		
1. Disconnect the connecto	r of AV control unit. ween the AV control unit h	arness connector termin	als.
A	/ control unit harness connector		Resistance (Ω)
Connector No.	Termin	al No.	
M210	90	74	Approx. 54 – 66
- Models without navigation	n system		
A	/ control unit harness connector		
Connector No.	Termin	al No.	Resistance (Ω)
M204	81	80	Approx. 54 – 66
Is the measurement value wit YES >> GO TO 3. NO >> Repair the AV co 3. CHECK POWER SUPPLY	ntrol unit branch line.		
Check the power supply andBase audio without navigatiBOSE audio without navigaBOSE audio with navigation	on: <u>AV-93, "AV CONTROI</u> tion: <u>AV-268, "AV CONTR</u>	<u>. UNIT : Diagnosis Proce</u> <u>OL UNIT : Diagnosis Pro</u>	edure" ocedure"
Is the inspection result norma	<u>l?</u>		
YES (Present error)>>Repla			
 BOSE audio wi 	nout navigation: <u>AV-128, "I</u> thout navigation: <u>AV-316,</u> th navigation: <u>AV-519, "Ex</u>	"Exploded View"	

YES (Past error)>>Error was detected in the AV control unit branch line. NO >> Repair the power supply and the ground circuit.

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LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Lane camera unit
- Harness connector R7
- Harness connector M110

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of lane camera unit.

2. Check the resistance between the lane camera unit harness connector terminals.

Lane camera unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
R8	10	5	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the lane camera unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to <u>DAS-298</u>, "LANE CAMERA UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to DAS-332, "Exploded View".

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >			[CAN]
4WD BRANCH LINE C	IRCUIT		
Diagnosis Procedure			INFOID:000000007460052
1.CHECK CONNECTOR			
1. Turn the ignition switch OFF			
2. Disconnect the battery cable		rminal.	
3. Check the following termina			nnection (unit side and con-
nector side).AWD control unit			
- Harness connector F103			
- Harness connector M116			
Is the inspection result normal?			
YES >> GO TO 2. NO >> Repair the terminal	and connector		
2.CHECK HARNESS FOR OPI			
 Disconnect the connector of Check the resistance between 		nit harness connector termin	
2. Check the resistance betwe		nit namess connector termin	iais.
AWD	control unit harness connect	ctor	Desistance (O)
Connector No.	Term	inal No.	Resistance (Ω)
F108	8	16	Approx. 54 – 66
Is the measurement value within	the specification?		
YES >> GO TO 3.	tual cost hannahaltara		
NO >> Repair the AWD cor		-	
3.CHECK POWER SUPPLY AI			
Check the power supply and the	ground circuit of the	AWD control unit. Refer to	DLN-45, "Diagnosis Proce-
dure". Is the inspection result normal?			
YES (Present error)>>Replace	the AWD control unit	Refer to DI N-57 "Removal	and Installation"
YES (Past error)>>Error was d			rana mistaliation .
NO >> Repair the power su	pply and the ground of	circuit.	

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-41, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-92, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

NO >> Repair the power supply and the ground circuit.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > [CAN]	
DLC BRANCH LINE CIRCUIT	^
Diagnosis Procedure	A
1.CHECK CONNECTOR	В
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side). 	С
<u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair the terminal and connector.	D
2. CHECK HARNESS FOR OPEN CIRCUIT	_
Check the resistance between the data link connector terminals.	E
Data link connector	

		Data link connector		Resistance (Ω)	F	
	Connector No.	Terminal No.			F	
	M24	6	14	Approx. 54 – 66	=	
ls t	he measurement value w	vithin the specification?			G	

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

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TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly
- Harness connector F103
- Harness connector M116
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

A/T assembly harness connector			Resistance (Ω)
Connector No.	Terminal No.		176515ta1166 (22)
F51	3	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Remove the joint connector. Refer to TM-182, "Removal and Installation".
- Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector side	Continuity
Terminal No.	Terminal No.	Continuity
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-122, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to TM-182, "Removal and Installation".

YES (Past error)>>Error was detected in the TCM branch line.

NO >> Repair the power supply and the ground circuit.

M&A BRANCH LINE CIRCUIT

	MICA DIVANCI		
< DTC/CIRCUIT DIAGNOS	IS >		[CAN]
M&A BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:00000007460056
1.CHECK CONNECTOR			
 Turn the ignition switch (Disconnect the battery of 	OFF. able from the negative terr	ninal	
			mage, bend and loose con-
nection (unit side and co	onnector side).	·	
Is the inspection result norm	<u>al?</u>		
YES >> GO TO 2. NO >> Repair the termi	nal and connector		
2.CHECK HARNESS FOR			
	or of unified meter and A/C atween the unified meter an		ector terminals
		a / v o amp. namodo donne	
Unified	meter and A/C amp. harness cor	nnector	Resistance (Ω)
Connector No.	Termir	al No.	
M67	56	72	Approx. 54 – 66
Is the measurement value w	ithin the specification?		
YES >> GO TO 3. NO >> Repair the unifie	ed meter and A/C amp. bra	nch line	
3.CHECK POWER SUPPL	•		
Check the power supply and METER AND A/C AMP. : Dia		nined meter and A/C amp.	Relef to MINI-55, UNIFIED
Is the inspection result norm			
YES (Present error)>>Repl	ace the unified meter and	A/C amp. Refer to MWI-13	<u>5, "Exploded View"</u> .
YES (Past error)>>Error wa			line.
NO >> Repair the powe	er supply and the ground ci	cuit.	

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-103, "Wiring Dia-</u> gram - BRAKE CONTROL SYSTEM -".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-127</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

NO >> Repair the power supply and the ground circuit.

[CAN]

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS			[CAN]
ADP BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INF01D:000000007460058
1.CHECK CONNECTOR			
 Turn the ignition switch OF Disconnect the battery cat Check the following termin nector side). Driver seat control unit Harness connector B460 Harness connector B11 Is the inspection result normal? YES >> GO TO 2. NO >> Repair the termina 	ble from the negative term als and connectors for da		nnection (unit side and con-
2.CHECK HARNESS FOR O			
 Disconnect the connector Check the resistance betw 		ol unit harness connector to	
Connector No.	Terminal No.		Resistance (Ω)
B451	3	19	Approx. 54 – 66
3.CHECK POWER SUPPLY A Check the power supply and th <u>CONTROL UNIT : Diagnosis F</u> Is the inspection result normal? YES (Present error)>>Replace YES (Past error)>>Error was	eat control unit branch lin AND GROUND CIRCUIT e ground circuit of the driv Procedure". 2 e the driver seat control u	ver seat control unit. Refer unit. Refer to <u>ADP-221, "Ex</u> It control unit branch line.	

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BSW BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

BSW BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of BSW control module.
- 2. Check the resistance between the BSW control module harness connector terminals.

BS	BSW control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B50	14	15	Approx. 54 – 66

Is the measurement value within the specification?

- YES >> GO TO 3.
- NO >> Repair the BSW control module branch line (CAN communication circuit side). Refer to <u>LAN-41.</u> <u>"System Diagram"</u>.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BSW control module. Refer to <u>DAS-406</u>, "<u>BSW CON-</u> <u>TROL MODULE : Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the BSW control module. Refer to DAS-415, "Removal and Installation".

YES (Past error)>>Error was detected in the BSW control module branch line.

NO >> Repair the power supply and the ground circuit.

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

 ABS actuator	Resistance (Ω)	_		
 Connector No.	Terminal No.			
 E41	35	14	Approx. 54 – 66	G

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to <u>BRC-45, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-124</u>, "Exploded <u>View"</u>.

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

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ICC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of ICC sensor integrated unit.
- 2. Check the resistance between the ICC sensor integrated unit harness connector terminals.

ICC s	Resistance (Ω)		
Connector No.	Terminal No.		Resistance (22)
E67	3	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ICC sensor integrated unit branch line (CAN communication circuit side). Refer to LAN-41. "System Diagram".

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor integrated unit. Refer to <u>CCS-134</u>, "ICC <u>SENSOR INTEGRATED UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor integrated unit. Refer to CCS-174, "Exploded View".

YES (Past error)>>Error was detected in the ICC sensor integrated unit branch line.

NO >> Repair the power supply and the ground circuit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS	>		[CAN]
IPDM-E BRANCH LIN	E CIRCUIT		
Diagnosis Procedure			INFOID:00000007460062
1. CHECK CONNECTOR			
and connector side).	e from the negative term		d loose connection (unit side
Is the inspection result normal?YES>> GO TO 2.NO>> Repair the terminal	and connector.		
2. CHECK HARNESS FOR OP	EN CIRCUIT		
 Disconnect the connector o Check the resistance betwee 	-	ss connector terminals.	
IPI	DM E/R harness connector		Posistance (0)
Connector No.	Termina	il No.	Resistance (Ω)
E6	40	39	Approx. 108 – 132
Is the measurement value within YES >> GO TO 3. NO >> Repair the IPDM E. 3.CHECK POWER SUPPLY A Check the power supply and the Is the inspection result normal?	/R branch line. ND GROUND CIRCUIT	DM E/R. Refer to <u>PCS-1</u>	7, "Diagnosis Procedure".
YES (Present error)>>Replace YES (Past error)>>Error was c		R branch line.	<u>w"</u> .

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APA BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

APA BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the accelerator pedal actuator for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of accelerator pedal actuator.
- 2. Check the resistance between the accelerator pedal actuator harness connector terminals.

Accel	Resistance (Ω)		
Connector No.	Termi		
E113	5	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the accelerator pedal actuator. Refer to <u>DAS-141, "ACCEL-</u> ERATOR PEDAL ACTUATOR : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the accelerator pedal actuator. Refer to DAS-197, "Exploded View".

YES (Past error)>>Error was detected in the accelerator pedal actuator branch line.

NO >> Repair the power supply and the ground circuit.

BCU BRANCH LINE CIRCUIT

[CAN] < DTC/CIRCUIT DIAGNOSIS > **BCU BRANCH LINE CIRCUIT** А **Diagnosis** Procedure INFOID:000000007460064 **1.**CHECK CONNECTOR В 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loose connection (unit side and con-3. С nector side). Brake booster control unit Harness connector B201 D Harness connector M117 Harness connector M6 Harness connector E106 Е Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. F 2.CHECK HARNESS FOR OPEN CIRCUIT 1. Disconnect the connector of brake booster control unit. 2. Check the resistance between the brake booster control unit harness connector terminals. Brake booster control unit harness connector Resistance (Ω) Connector No. Terminal No. Н B250 14 5 Approx. 108 - 132 Is the measurement value within the specification? YES >> GO TO 3. NO >> Repair or replace (if shield line is open) the brake booster control unit branch line. ${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the brake booster control unit. Refer to CCS-134, "BRAKE BOOSTER CONTROL UNIT : Diagnosis Procedure". Is the inspection result normal? Κ YES (Present error)>>Replace the brake booster control unit. Refer to CCS-175, "Exploded View". YES (Past error)>>Error was detected in the brake booster control unit branch line. NO >> Repair the power supply and the ground circuit. L LAN Ν

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RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Side radar LH
- Harness connector B104
- Harness connector B102
- Harness connector B101
- Harness connector B69

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar LH.

2. Check the resistance between the side radar LH harness connector terminals.

	Resistance (Ω)		
Connector No.	Terminal No.		
B105	4	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the side radar LH branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-406. "SIDE RADAR LH :</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-416. "Removal and Installation".

- YES (Past error)>>Error was detected in the side radar LH branch line.
- NO >> Repair the power supply and the ground circuit.

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOS			[CAN]
Diagnosis Procedure			INFOID:000000007460066
1.CHECK CONNECTOR			
 Check the following term nector side). Side radar RH Harness connector B100 Harness co	able from the negative tern ninals and connectors for d 6 3 1 <u>al?</u> nal and connector. OPEN CIRCUIT or of side radar RH.		nnection (unit side and con-
	Side radar RH harness connector		Resistance (Ω)
Connector No. B107	Termir 4	al No. 3	Approx. 108 – 132
Is the measurement value w YES >> GO TO 3. NO >> Repair the side 3.CHECK POWER SUPPL	radar RH branch line.	-	
Check the power supply and Diagnosis Procedure".			S-407. "SIDE RADAR RH :
Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error wa	ace the side radar RH. Ref		and Installation".
NO >> Repair the powe	er supply and the ground cir	rcuit.	

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector			
Connector No.	Terminal No.		Continuity	
M24	6	14	Not existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link connector			Continuity
Connector No.	Terminal No.	Ground	Continuity
M24	6	Giouna	Not existed
	14	-	Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

1. Remove the ECM and the IPDM E/R.

2. Check the resistance between the ECM terminals.

E	Resistance (Ω)	
Termi		
114	113	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

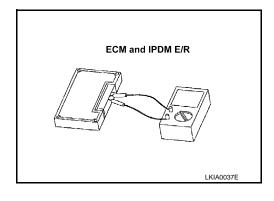
IPDN	Resistance (Ω)	
Termi	Resistance (22)	
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



LAN-72

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Inspection result	
Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is	А
detected.	
6.CHECK UNIT REPRODUCTION	В
Perform the reproduction test as per the following procedure for each unit.	
1. Turn the ignition switch OFF.	-
2. Disconnect the battery cable from the negative terminal.	С
Disconnect one of the unit connectors of CAN communication system.	
NOTE:	
ECM and IPDM E/R have a termination circuit. Check other units first.	D
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.	
NOTE:	
Although unit-related error symptoms occur, do not confuse them with other symptoms.	Е
Inspection result	
Reproduced>>Connect the connector. Check other units as per the above procedure.	_
Non-reproduced>>Replace the unit whose connector was disconnected.	F
	G

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ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit has no malfunction.

NOTE:

For identification of CAN communication circuit, ITS communication circuit and BSW communication circuit, refer to <u>LAN-41, "System Diagram"</u>.

Is the CAN communication circuit normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit.

2.connector inspection

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- ICC sensor integrated unit
- Accelerator pedal actuator
- Brake booster control unit
- Harness connector B201
- Harness connector M117
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- ICC sensor integrated unit
- Brake booster control unit
- 2. Check the continuity between the ICC sensor integrated unit harness connector and the brake booster control unit harness connector.

ICC sensor integrated	ICC sensor integrated unit harness connector		nsor integrated unit harness connector Brake booster control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
E67	2	B250	14	Existed	
207	5	6250	5	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the ICC sensor integrated unit branch line (ITS communication circuit side). Refer to <u>LAN-</u> <u>41. "System Diagram"</u>.

4.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- 1. Disconnect the connector of accelerator pedal actuator.
- 2. Check the continuity between the ICC sensor integrated unit harness connector terminals.

ICC s	ensor integrated unit harness cor	nnector	Continuity
Connector No.	Termi	Continuity	
E67	2	5	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

LAN-74

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ICC sensor integrated unit harness connector and the ground.

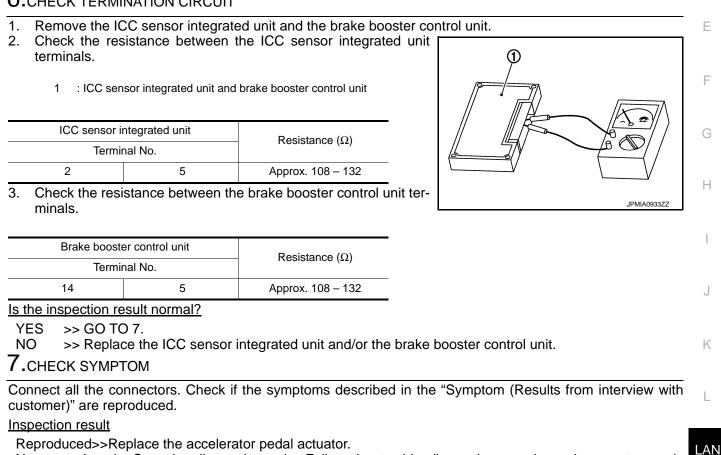
ICC sensor integrated	unit harness connector		Quatinuit	
Connector No.	Terminal No.	Ground	Continuity	L
E67	2	Ground	Not existed	
E07	5		Not existed	(

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair or replace (if shield line is short) the root cause.

6.CHECK TERMINATION CIRCUIT



Reproduced>>Replace the accelerator pedal actuator.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

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BSW COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:000000007460069

[CAN]

1.CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit has no malfunction.

NOTE:

For identification of CAN communication circuit, ITS communication circuit, and BSW communication circuit, refer to <u>LAN-41, "System Diagram"</u>.

Is the CAN communication circuit normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit.

2.connector inspection

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- BSW control module
- Side radar LH
- Side radar RH
- Harness connector B69
- Harness connector B101
- Harness connector B103
- Harness connector B106

Is the inspection result normal?

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- BSW control module
- Side radar RH
- 2. Check the continuity between the BSW control module harness connector and the side radar RH harness connector.

BSW control module harness connector		Side radar RH harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B50	7	B107	4	Existed
630	8	5107	3	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the BSW control module branch line (BSW communication circuit side). Refer to <u>LAN-41,</u> <u>"System Diagram"</u>.

4.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- 1. Disconnect the connector of side radar LH.
- 2. Check the continuity between the BSW control module harness connector terminals.

BS	W control module harness conne	ctor	Continuity
Connector No.	Termi	Continuity	
B50	7	8	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check the harness and repair the root cause.

BSW COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the BSW control module harness connector and the ground.

BSW control module	e harness connector		Continuity	
Connector No.	Terminal No.	Ground	Continuity	
B50	7	- Ground	Not existed	
D00	8	-	Not existed	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the BSW control module and the side radar RH.

Check the resistance between the BSW control module terminals.

1 : BSW control module and side radar RH

BSW control module		Resistance (Ω)
Termi	nal No.	1(0)(32)
7	8	Approx. 108 – 132

3. Check the resistance between the side radar RH terminals.

Side ra	idar RH	Resistance (Ω)
Termir	nal No.	
4	3	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the BSW control module and/or the side radar RH.

I.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

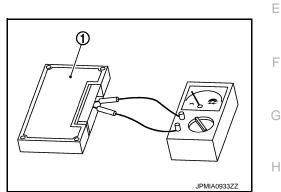
Inspection result

Reproduced>>Replace the side radar LH.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

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MAIN LINE BETWEEN AV AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DTC/CIRCUIT DIAGNOSIS MAIN LINE BETWEEN AV AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000007460070

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- AV control unit
- 4. Check the continuity between the AV control unit harness connector and the data link connector.
- Models with navigation system

AV control unit harness connector		I unit harness connector Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M210	90	M24	6	Existed
10/210	74	10124	14	Existed

Models without navigation system

AV control unit harness connector		Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M204	81	M24	6	Existed
M204 80	₩24	14	Existed	

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

- YES (Past error)>>Error was detected in the main line between the AV control unit and the data link connector.
- NO >> Repair the main line between the AV control unit and the data link connector.

< DTC/CIRCUIT DIA		TWEEN DLC AND		SYSTEM (TYPE 1)]
MAIN LINE BET	WEEN DLC A	ND M&A CIRCU	JIT	
Diagnosis Proced	ure			INFOID:000000007460071
1.CHECK HARNESS	CONTINUITY (OPE	EN CIRCUIT)		
 Disconnect the fol ECM Unified meter and Check the continu 	ttery cable from the lowing harness conr A/C amp.		e unified meter and A/	C amp. harness con-
nector.				
	connector	Unified meter and A/C a	amp. harness connector	Continuity
	connector Terminal No.	Unified meter and A/C a Connector No.	amp. harness connector Terminal No.	Continuity
Data link			•	Continuity Existed

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter G and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

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MAIN LINE BETWEEN M&A AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN M&A AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000007460072

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- Unified meter and A/C amp.
- Harness connectors M6 and E106
- Check the continuity between the unified meter and A/C amp. harness connector and the harness connector.

Unified meter and A/C	amp. harness connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
M67	56	M6	85	Existed	
IVIO7	72		86	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the unified meter and A/C amp. and the harness connector M6.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector	ABS actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.			
E106	85	E41	35	Existed	
EIUO	86		14	Existed	

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the unified meter and A/C amp. and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

iagnosis Procedure			
-			INFOID:000000007460073
.CHECK CONNECTOR			
 Turn the ignition switch OF Disconnect the battery cab Check the terminals and c connector side). 	le from the negative terr		e connection (unit side and
the inspection result normal?	-		
YES >> GO TO 2. NO >> Repair the terminal	and connector.		
CHECK HARNESS FOR OF			
 Disconnect the connector of Check the resistance between 		onnector terminals.	
	ECM harness connector		
			Resistance (Ω)
Connector No.	Termir		Resistance (Ω)
M107	114	nal No. 113	Resistance (Ω) Approx. 108 – 132
	114 In the specification? anch line.	113	
M107 the measurement value withing YES >> GO TO 3. NO >> Repair the ECM brack CHECK POWER SUPPLY A theck the power supply and the	114 In the specification? anch line. AND GROUND CIRCUIT e ground circuit of the E	113	Approx. 108 – 132
M107 the measurement value withi YES >> GO TO 3. NO >> Repair the ECM brack CHECK POWER SUPPLY A theck the power supply and the sthe inspection result normal?	114 In the specification? anch line. AND GROUND CIRCUIT e ground circuit of the E	113 - CM. Refer to <u>EC-153, "Dia</u>	Approx. 108 – 132 gnosis Procedure".
M107 the measurement value withi YES >> GO TO 3. NO >> Repair the ECM br. CHECK POWER SUPPLY A check the power supply and the the inspection result normal? YES (Present error)>>Replace	114 In the specification? anch line. AND GROUND CIRCUIT e ground circuit of the E ground circuit of the E c e the ECM. Refer to <u>E</u> Special Repair Requirer	113 - CM. Refer to <u>EC-153, "Dia</u> <u>C-17, "ADDITIONAL SER</u> nent".	Approx. 108 – 132 gnosis Procedure".
M107 the measurement value withing YES >> GO TO 3. NO >> Repair the ECM browner supply and the check the power supply and the the inspection result normal? YES (Present error)>>Replace <u>CONTROL UNIT</u> : YES (Past error)>>Error was of	114 In the specification? anch line. AND GROUND CIRCUIT e ground circuit of the E ground circuit of the E c e the ECM. Refer to <u>E</u> Special Repair Requirer	113 - CM. Refer to <u>EC-153, "Dia</u> <u>C-17, "ADDITIONAL SER</u> nent". nch line.	Approx. 108 – 132 gnosis Procedure".
M107 the measurement value withing YES >> GO TO 3. NO >> Repair the ECM browner supply and the check the power supply and the the inspection result normal? YES (Present error)>>Replace <u>CONTROL UNIT</u> : YES (Past error)>>Error was of	114 <u>in the specification?</u> anch line. AND GROUND CIRCUIT e ground circuit of the E <u>e</u> the ECM. Refer to <u>E</u> <u>Special Repair Requirer</u> detected in the ECM bra	113 - CM. Refer to <u>EC-153, "Dia</u> <u>C-17, "ADDITIONAL SER</u> nent". nch line.	Approx. 108 – 132 gnosis Procedure".

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A-BAG BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

Diagnosis Procedure

INFOID:000000007460074

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to SRC-5, "Work Flow".

Is the inspection result normal?

- YES >> Replace the main harness.
- NO >> Replace parts whose air bag system has a malfunction.

AV BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

V BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:00000007460075
.CHECK CONNECTOR			
 Check the terminals and side and connector side the inspection result normation of the inspection result normation of the terminal sectors and the terminal sectors are sectors. CHECK HARNESS FOR Disconnect the connectors 	able from the negative tern I connectors of the AV cor al? nal and connector. OPEN CIRCUIT or of AV control unit. tween the AV control unit h	ntrol unit for damage, ben	d and loose connection (unit
	V control unit harness connector		Resistance (Ω)
Connector No.	Termin	al No.	
M210	90	74	Approx. 54 – 66
A Connector No.	V control unit harness connector Termir		Resistance (Ω)
M204	81	80	Approx. 54 – 66
CHECK POWER SUPPLY heck the power supply and Base audio without navigat BOSE audio without navigatio BOSE audio with navigatio	the ground circuit of the A ion: <u>AV-93, "AV CONTROI</u> ation: <u>AV-268, "AV CONTR</u> n: <u>AV-476, "AV CONTROL</u>	V control unit. Refer to the UNIT : Diagnosis Proced OL UNIT : Diagnosis Proc	dure" cedure"
 BOSE audio w 	ace the AV control unit. Re hout navigation: <u>AV-128, "I</u> ithout navigation: <u>AV-316,</u> ith navigation: <u>AV-519, "Ex</u>	Exploded View" "Exploded View" ploded View"	
	r supply and the ground ci		

< DTC/CIRCUIT DIAGNOSIS >

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460076

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		
Connector No.	Termi	Resistance (Ω)	
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-41, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-92, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

DLC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

DLC BRANCH LINE (Diagnosis Procedure	CIRCUIT		
_			INFOID:0000000746007
.CHECK CONNECTOR	<u></u>		
 Turn the ignition switch OF Disconnect the battery cab 		minal.	
. Check the terminals and c	connectors of the data I		e, bend and loose connectior
(connector side and harnes	,		
s the inspection result normal? YES >> GO TO 2.	<u>.</u>		
NO >> Repair the termina	and connector.		
CHECK HARNESS FOR OF			
heck the resistance between	the data link connector	terminals.	
	Data link connector		
Connector No.		inal No.	Resistance (Ω)
M24	6	14	Approx. 54 – 66
the measurement value with	n the specification?		
	connector branch line.	connector branch line ci	rcuit.
			rcuit.

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460078

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

	A/T assembly harness connector			
Connector No.	Termi	Resistance (Ω)		
F51	3	3 8		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Remove the joint connector. Refer to TM-182, "Removal and Installation".
- Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector side	Continuity	
Terminal No.	Terminal No.	Continuity	
3	3	Existed	
8	8	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-122</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to TM-182, "Removal and Installation".

YES (Past error)>>Error was detected in the TCM branch line.

M&A BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

M&A BRANCH LINE	E CIRCUIT		
Diagnosis Procedure			INFOID:00000007460079
1. CHECK CONNECTOR			
3. Check the terminals and nection (unit side and co	cable from the negative terr d connectors of the unified onnector side).		amage, bend and loose con-
Is the inspection result norm YES >> GO TO 2. NO >> Repair the term 2.CHECK HARNESS FOR	inal and connector.		
	or of unified meter and A/C atween the unified meter an		ector terminals.
	I meter and A/C amp. harness co		– Resistance (Ω)
Connector No. M67	Termir 56	nal No. 72	Approx. 54 – 66
3. CHECK POWER SUPPL Check the power supply and <u>METER AND A/C AMP. : Dia</u> <u>Is the inspection result norm</u> YES (Present error)>>Rep YES (Past error)>>Error wa	d the ground circuit of the u agnosis Procedure". al? lace the unified meter and a	nified meter and A/C amp A/C amp. Refer to <u>MWI-13</u> heter and A/C amp. branch	

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STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460080

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

Ste	Steering angle sensor harness connector			
Connector No.	Termi	Resistance (Ω)		
M37	1	1 2		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-103, "Wiring Dia-</u> gram - BRAKE CONTROL SYSTEM -".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-127</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ABS BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 1)]

Diagnosis Procedure			INFOID:00000007460081
.CHECK CONNECTOR			
 Check the terminals and and loose connection (us the inspection result norm 	able from the negative termin I connectors of the ABS actua nit side and connector side).		ntrol unit) for damage, bend
YES >> GO TO 2. NO >> Repair the termi	nal and connector		
CHECK HARNESS FOR			
. Check the resistance be nals.	etween the ABS actuator and	electric unit (control un	t) harness connector termi-
ABS actuators	and electric unit (control unit) barness	connector	
	and electric unit (control unit) harness Terminal t		Resistance (Ω)
Connector No. E41	Terminal N 35		Resistance (Ω) Approx. 54 – 66
Connector No. E41 the measurement value w YES >> GO TO 3. NO >> Repair the ABS CHECK POWER SUPPL heck the power supply and RC-45. "Diagnosis Procedu the inspection result norm YES (Present error)>>Repl <u>View"</u> . YES (Past error)>>Error wa	Terminal N 35 ithin the specification? actuator and electric unit (con Y AND GROUND CIRCUIT d the ground circuit of the AE <u>ure"</u> .	trol unit) branch line. 3S actuator and electric ctric unit (control unit). R	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-124, "Exploded</u>

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IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460082

[CAN SYSTEM (TYPE 1)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		
Connector No.	Termi	Resistance (Ω)	
E6	40	Approx. 108 – 132	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-17, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-32, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 1)]

CAN COMMUNICA	HON CIRCUIT		
Diagnosis Procedure			INFOID:000000007460083
Disconnect all the unit c	OFF. cable from the negative terr onnectors on CAN commu nnectors for damage, bend	nication system.	
s the inspection result norm	•		
YES >> GO TO 2. NO >> Repair the termi	inal and connector.		
2. CHECK HARNESS CON		Т)	
Check the continuity betwee			
	Data link connector		Continuity
Connector No.	Termir	nal No.	Continuity
M24 s the inspection result norm	6	14	Not existed
NO >> Check the harne CHECK HARNESS CON Check the continuity betwee		Т)	
Data link	connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
M24	6	ereand	Not existed
M24			
	14		Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne	al? ess and repair the root caus		
s the inspection result norm YES >> GO TO 4. NO >> Check the harne CHECK ECM AND IPDM . Remove the ECM and the	al? ess and repair the root caus E/R TERMINATION CIRC		
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1. CHECK ECM AND IPDM	al? ess and repair the root caus E/R TERMINATION CIRC he IPDM E/R.		
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1 .CHECK ECM AND IPDM I. Remove the ECM and the 2. Check the resistance be ECM Terminal No.	al? ess and repair the root caus E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals.	2)	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 4.CHECK ECM AND IPDM 1. Remove the ECM and the 2. Check the resistance be ECM Terminal No. 114 1 ²	ess and repair the root caus E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω	2) 132	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne CHECK ECM AND IPDM 1. Remove the ECM and the 2. Check the resistance be ECM Terminal No. 114 1 ⁻¹ 3. Check the resistance be IPDM E/R	ess and repair the root caus E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (G 13 Approx. 108 – 1 etween the IPDM E/R termi	UIT	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 4.CHECK ECM AND IPDM 1. Remove the ECM and the 2. Check the resistance be ECM Terminal No. 114 1 ⁻¹ 3. Check the resistance be IPDM E/R Terminal No.	ess and repair the root caus E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R termi Resistance (Ω	2) 132 nals.	Not existed
s the inspection result normYES>> GO TO 4.NO>> Check the harned 1 .CHECK ECM AND IPDMI. Remove the ECM and the test stance between the resistance between th	al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminals Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminals Resistance (Ω 13 Approx. 108 – 1 Approx. 108 – 1	2) 132 nals.	ECM and IPDM E/R
s the inspection result norm YES >> GO TO 4. NO >> Check the harned 1 . CHECK ECM AND IPDM 1. Remove the ECM and the resistance between the resistance betwe	al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminals Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminals Resistance (Ω 13 Approx. 108 – 1 Approx. 108 – 1	2) 132 nals.	ECM and IPDM E/R

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN AV AND DLC CIRCUIT [CAN SYSTEM (TYPE 2)] < DTC/CIRCUIT DIAGNOSIS > DTC/CIRCUIT DIAGNOSIS А MAIN LINE BETWEEN AV AND DLC CIRCUIT **Diagnosis** Procedure INFOID:000000007460084 1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT) 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. 3. Disconnect the following harness connectors. ECM D AV control unit Check the continuity between the AV control unit harness connector and the data link connector. Models with navigation system Е AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. F 90 6 Existed M210 M24 74 14 Existed Models without navigation system AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. Н 81 6 Existed M204 M24 80 14 Existed Is the inspection result normal? YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the AV control unit and the data link connec-J tor. NO >> Repair the main line between the AV control unit and the data link connector. Κ L LAN Ν

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000007460085

[CAN SYSTEM (TYPE 2)]

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- Unified meter and A/C amp.
- 4. Check the continuity between the data link connector and the unified meter and A/C amp. harness connector.

Data link	connector	Unified meter and A/C amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M67	56	Existed
11/24	14		72	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

DIC/CIRCUIT DIAC	GNOSIS >		[CAN	I SYSTEM (TYPE 2)]
IAIN LINE BET	WEEN M&A A	ND ADP CIRCU	JIT	
iagnosis Proced	ure			INFOID:000000007460086
.CHECK CONNECT	OR			
Check the followin and harness side) Harness connecto Harness connecto the inspection result YES >> GO TO 2. NO >> Repair the	ttery cable from the ne ng terminals and conr r M7 r B1	or.	pend and loose conn	ection (connector side
Unified meter and Harness connecto Check the continu nector.	rs M7 and B1			and the harness con-
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
	56		34	Existed
M67	72	M7	35	Existed
CHECK HARNESS Disconnect the ha Check the continu	e main line between the CONTINUITY (OPEN rness connectors B11 ity between the harnes connector	I CIRCUIT) and B460.		ess connector M7.
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
	34		3	Existed
B1	35	B11 .	19	Existed
the inspection result YES (Present error)>	>Check CAN system t		n the unified motor of	and A/C amp. and the

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MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000007460087

[CAN SYSTEM (TYPE 2)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Terminal No.		Continuity
B1	36	34	Existed
ВТ	37	35	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7	36	M6	85	Existed
1117	37		86	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	85	E 41	35	Existed
EIUO	86	E41	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

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NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

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ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460088

[CAN SYSTEM (TYPE 2)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	ECM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M107	114 113		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ECM. Refer to EC-153, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-17, "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

[CAN SYSTEM (TYPE 2)]

A-BAG BRANCH LINE CIRCUIT А Diagnosis Procedure INFOID:000000007460089 WARNING: В Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.) • Never use unspecified tester or other measuring device. С 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. D Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose con-3. nection (unit side and connector side). Is the inspection result normal? Е YES >> GO TO 2. NO >> Replace the main harness. 2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT F Check the air bag diagnosis sensor unit. Refer to SRC-5, "Work Flow". Is the inspection result normal? YES >> Replace the main harness. NO >> Replace parts whose air bag system has a malfunction. Н

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< DTC/CIRCUIT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460090

[CAN SYSTEM (TYPE 2)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.

2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M16	30 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-65, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-217, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

AV BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 2)]

AV BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:00000007460091
1.CHECK CONNECTOR			
 Check the terminals and side and connector side is the inspection result norm YES >> GO TO 2. NO >> Repair the termi CHECK HARNESS FOR Disconnect the connector 	able from the negative term I connectors of the AV con al? nal and connector. OPEN CIRCUIT or of AV control unit. tween the AV control unit h	trol unit for damage, ben	d and loose connection (unit
	V control unit harness connector		Resistance (Ω)
Connector No.	Termin		
M210	90	74	Approx. 54 – 66
Models without navigation	-		
	V control unit harness connector	-1.51.	Resistance (Ω)
Connector No.	Termin		A
M204 the measurement value w	81	80	Approx. 54 – 66
CHECK POWER SUPPL check the power supply and Base audio without naviga BOSE audio without navig BOSE audio with navigatio	the ground circuit of the Av tion: <u>AV-93, "AV CONTROL</u> ation: <u>AV-268, "AV CONTRO</u> n: <u>AV-476, "AV CONTROL</u>	<u>UNIT : Diagnosis Proced</u> DL UNIT : Diagnosis Proc	dure" cedure"
 BOSE audio w 	ace the AV control unit. Ret hout navigation: <u>AV-128, "E</u> ithout navigation: <u>AV-316, '</u>	Exploded View" Exploded View"	
YES (Past error)>>Error wa	ith navigation: <u>AV-519, "Ex</u> as detected in the AV contro r supply and the ground cir	ol unit branch line.	

< DTC/CIRCUIT DIAGNOSIS >

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460092

[CAN SYSTEM (TYPE 2)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M122	91 90		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-41, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-92, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

DLC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 2)]

connector side and harnes inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between th	E. e from the negative termin onnectors of the data link s side). and connector. EN CIRCUIT	connector for damage,	INFOID:00000000746009
HECK CONNECTOR furn the ignition switch OFF Disconnect the battery cable check the terminals and co connector side and harnes inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between the	e from the negative termin onnectors of the data link s side). and connector. EN CIRCUIT	connector for damage,	
HECK CONNECTOR furn the ignition switch OFF Disconnect the battery cable check the terminals and co connector side and harnes inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between the	e from the negative termin onnectors of the data link s side). and connector. EN CIRCUIT	connector for damage,	bend and loose connectior
urn the ignition switch OFF Disconnect the battery cable check the terminals and co connector side and harnes inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between the	e from the negative termin onnectors of the data link s side). and connector. EN CIRCUIT	connector for damage,	bend and loose connection
Disconnect the battery cable Check the terminals and co connector side and harnes inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between the	e from the negative termin onnectors of the data link s side). and connector. EN CIRCUIT	connector for damage,	bend and loose connectior
check the terminals and co connector side and harnes inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between the	onnectors of the data link s side). and connector. EN CIRCUIT	connector for damage,	bend and loose connection
inspection result normal? >> GO TO 2. >> Repair the terminal HECK HARNESS FOR OP k the resistance between th	and connector. EN CIRCUIT		
>> GO TO 2. >> Repair the terminal IECK HARNESS FOR OP k the resistance between th	EN CIRCUIT		
>> Repair the terminal IECK HARNESS FOR OP k the resistance between th	EN CIRCUIT		
IECK HARNESS FOR OP	EN CIRCUIT		
	he data link connector tern		
		ninais.	
Occurrent on No.			
	Data link connector	-	Resistance (Ω)
Connector No.	Terminal N		A
M24 measurement value withir	6	14	Approx. 54 – 66

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460094

[CAN SYSTEM (TYPE 2)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly
- Harness connector F103
- Harness connector M116
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

	A/T assembly harness connector		
Connector No.	Terminal No.		Resistance (Ω)
F51	3 8		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Remove the joint connector. Refer to TM-182, "Removal and Installation".
- Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector side	Continuity	
Terminal No.	Terminal No.	Continuity	
3	3	Existed	
8	8	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-122</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to TM-182, "Removal and Installation".

YES (Past error)>>Error was detected in the TCM branch line.

M&A BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 2)]

Diagnosis Procedure			INFOID:000000007460095
1 .CHECK CONNECTOR			
	able from the negative tern connectors of the unified		damage, bend and loose con-
<u>s the inspection result norm</u> YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
CHECK HARNESS FOR			
	or of unified meter and A/C stween the unified meter an		nector terminals.
	meter and A/C amp. harness cor		Resistance (Ω)
Connector No.	Termin		
M67 the measurement value w	56	72	Approx. 54 – 66
CHECK POWER SUPPL check the power supply and IETER AND A/C AMP. : Dia the inspection result norm	I the ground circuit of the un agnosis Procedure". al?	nified meter and A/C amp	o. Refer to <u>MWI-55, "UNIFIED</u>
YES (Present error)>>Repl YES (Past error)>>Error wa NO >> Repair the powe		eter and A/C amp. branc	

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STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460096

[CAN SYSTEM (TYPE 2)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

Steering angle sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-103, "Wiring Dia-gram - BRAKE CONTROL SYSTEM -"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-127</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ADP BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 2)]

Diagnosis Procedure			INFOID:00000007460097
1.CHECK CONNECTOR			
 Check the following term nector side). Driver seat control unit Harness connector B460 Harness connector B11 Is the inspection result norm 	able from the negative termi ninals and connectors for dar		nnection (unit side and con-
YES >> GO TO 2. NO >> Repair the termi 2.CHECK HARNESS FOR			
	or of driver seat control unit. tween the driver seat control	unit harness connector t	erminals.
	er seat control unit harness connect		Resistance (Ω)
Connector No.	Terminal	No.	
Connector No. B451 Is the measurement value w	Terminal 3		Resistance (Ω) Approx. 54 – 66
Connector No. B451 Is the measurement value w YES >> GO TO 3.	Terminal 3 ithin the specification? r seat control unit branch line Y AND GROUND CIRCUIT the ground circuit of the drive Procedure".	No. 19	Approx. 54 – 66
Connector No. B451 Is the measurement value w YES >> GO TO 3. NO >> Repair the driver 3. CHECK POWER SUPPLY Check the power supply and CONTROL UNIT : Diagnosis Is the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error was	Terminal 3 ithin the specification? r seat control unit branch line Y AND GROUND CIRCUIT the ground circuit of the drive Procedure".	No. 19 e. er seat control unit. Refer nit. Refer to <u>ADP-221, "Ex</u> control unit branch line.	Approx. 54 – 66 to <u>ADP-58, "DRIVER SEAT</u>

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ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-45, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-124</u>, "Exploded <u>View"</u>.

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

Revision: 2014 October

IPDM-E BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 2)]

Diagnosis Procedure			INFOID:00000000746009
1.CHECK CONNECTOR			
	able from the negative termina I connectors of the IPDM E/R		l loose connection (unit side
YES >> GO TO 2. NO >> Repair the termi 2.CHECK HARNESS FOR	nal and connector.		
1. Disconnect the connect		connector terminals.	
	IPDM E/R harness connector		Resistance (Ω)
	Terminal No.		
Connector No.	Terminal N	lo.	
E6	40	lo. 39	Approx. 108 – 132
E6 Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM 3.CHECK POWER SUPPL Check the power supply and Is the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error wa	40 thin the specification? I E/R branch line. Y AND GROUND CIRCUIT the ground circuit of the IPDN al? ace the IPDM E/R. Refer to P as detected in the IPDM E/R b	39 A E/R. Refer to <u>PCS-17</u> <u>CS-32. "Exploded View</u> branch line.	Approx. 108 – 132 7, "Diagnosis Procedure".
E6 Is the measurement value w YES >> GO TO 3. NO >> Repair the IPDM 3. CHECK POWER SUPPL Check the power supply and Is the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error wa	40 thin the specification? I E/R branch line. Y AND GROUND CIRCUIT the ground circuit of the IPDM al? ace the IPDM E/R. Refer to P	39 A E/R. Refer to <u>PCS-17</u> <u>CS-32. "Exploded View</u> branch line.	Approx. 108 – 132 7, "Diagnosis Procedure

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CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication system.
- 4. Check terminals and connectors for damage, bend and loose connection.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector terminals.

	Data link connector			
Connector No.	Termi	Continuity		
M24	6	6 14		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause.

3.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the data link connector and the ground.

Data link	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
 M24	6	Ground	Not existed
10124	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Check the harness and repair the root cause.

4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT

- 1. Remove the ECM and the IPDM E/R.
- 2. Check the resistance between the ECM terminals.

ECM		Resistance (Ω)
Termi	Terminal No.	
114	113	Approx. 108 – 132

3. Check the resistance between the IPDM E/R terminals.

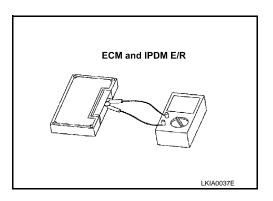
IPDN	Resistance (Ω)	
Termi	Terminal No.	
40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the IPDM E/R.

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.



LAN-110

INFOID:000000007460100

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Inspection result А Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. 6.CHECK UNIT REPRODUCTION В Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. С Disconnect the battery cable from the negative terminal. 2. 3. Disconnect one of the unit connectors of CAN communication system. NOTE: ECM and IPDM E/R have a termination circuit. Check other units first. D 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN AV AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DTC/CIRCUIT DIAGNOSIS MAIN LINE BETWEEN AV AND DLC CIRCUIT

Diagnosis Procedure

INFOID:000000007460101

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- AV control unit
- 4. Check the continuity between the AV control unit harness connector and the data link connector.
- Models with navigation system

AV control unit h	arness connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M210	90	M24	6	Existed
WZ TO	74	10124	14	Existed

Models without navigation system

AV control unit h	arness connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M204	81	M24	6	Existed
IVI∠04	80	₩24	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

- YES (Past error)>>Error was detected in the main line between the AV control unit and the data link connector.
- NO >> Repair the main line between the AV control unit and the data link connector.

< DTC/CIRCUIT DIA		TWEEN DLC AND		SYSTEM (TYPE 3)]
MAIN LINE BE	TWEEN DLC A	ND M&A CIRCU	JIT	
Diagnosis Proce	dure			INFOID:000000007460102
1.CHECK HARNES	S CONTINUITY (OPE	EN CIRCUIT)		
	attery cable from the blowing harness conn			
- Unified meter and		a link connector and the	e unified meter and A/C	amp. harness con-
 Unified meter and Check the continnector. 			e unified meter and A/C	
 Unified meter and Check the continnector. 	uity between the data			Continuity
 Unified meter and Check the continnector. 	uity between the data	Unified meter and A/C a	amp. harness connector	

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter G and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

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MAIN LINE BETWEEN M&A AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN M&A AND ADP CIRCUIT

Diagnosis Procedure

INFOID:000000007460103

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector B1

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- Unified meter and A/C amp.
- Harness connectors M7 and B1
- Check the continuity between the unified meter and A/C amp. harness connector and the harness connector.

Unified meter and A/C	amp. harness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M67	56	M7	34	Existed
10107	72	1717	35	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the unified meter and A/C amp. and the harness connector M7.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the harness connectors B11 and B460.
- 2. Check the continuity between the harness connectors.

Harness	Harness connector Harness connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B1	34	B11	3	Existed
DI	35		19	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the unified meter and A/C amp. and the driver seat control unit.

NO >> Repair the main line between the harness connectors B1 and B11.

DTC/CIRCUIT DIA	GNOSIS >		[CAN	N SYSTEM (TYPE 3)]
/AIN LINE BE	TWEEN ADP AI	ND BSW CIRC	UIT	
Diagnosis Procec	lure			INFOID:000000007460104
CHECK HARNESS		N CIRCUIT)		
 Disconnect the fol ECM Harness connecto BSW control mod 	attery cable from the ne llowing harness conne ors B460 and B11	ectors.	BSW control module	harness connector.
Harness	connector	BSW control modu	le harness connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B11	3	B50	14	Existed
B11 s the inspection result	19	B50	14 15	Existed Existed
<u>s the inspection resul</u> YES (Present error)> YES (Past error)>>E trol modul	19 t normal? >Check CAN system rror was detected in th	type decision again. le main line between t	15 the driver seat control	Existed unit and the BSW con-

MAIN LINE BETWEEN ADP AND BSW CIRCUIT

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MAIN LINE BETWEEN BSW AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN BSW AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000007460105

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the following harness connectors.

- BSW control module
- Harness connectors B1 and M7
- 2. Check the continuity between the BSW control module harness connector and the harness connector.

BSW control modu	le harness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B50	14	B1	36	Existed
630	15		37	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the BSW control module and the harness connector B1.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	Harness connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M7	36	M6	85	Existed
1017	37	IVIO	86	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	Harness connector ABS		BS actuator and electric unit (control unit) harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	-
E106	85	E41	35	Existed
L100	86	L41	14	Existed

Is the inspection result normal?

MAIN LINE BETWEEN BSW AND ABS CIRCUIT

SIS > [CAN SYSTEM (TYPE 3)]	C/CIRCUIT DIAGNOSIS >	< DTC/
ck CAN system type decision again. as detected in the main line between the BSW control module and the ABS actua-	(Past error)>>Error was detected	YES (YES (
line between the harness connector E106 and the ABS actuator and electric unit	tor and electric unit (contro >> Repair the main line betwee (control unit).	NO
В	(
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ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460106

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	ECM harness connector				
Connector No.	Termi	nal No.	Resistance (Ω)		
M107	114	113	Approx. 108 – 132		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-153, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-17. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

NO >> Repair the power supply and the ground circuit.

[CAN SYSTEM (TYPE 3)]

A-BAG BRANCH LINE CIRCUIT А **Diagnosis** Procedure INFOID:000000007460107 WARNING: В Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.) • Never use unspecified tester or other measuring device. С 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. D Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose con-3. nection (unit side and connector side). Is the inspection result normal? Е YES >> GO TO 2. NO >> Replace the main harness. 2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT F Check the air bag diagnosis sensor unit. Refer to SRC-5, "Work Flow". Is the inspection result normal? YES >> Replace the main harness. NO >> Replace parts whose air bag system has a malfunction. Н

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< DTC/CIRCUIT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460108

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.

2. Check the resistance between the AFS control unit harness connector terminals.

ŀ	AFS control unit harness connector				
Connector No.	Termi	Resistance (Ω)			
M16	30	7	Approx. 54 – 66		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-65, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-217, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

NO >> Repair the power supply and the ground circuit.

AV BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 3)]

V BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INF0ID:000000007460109
.CHECK CONNECTOR			
 Check the terminals and side and connector side at connector side at the inspection result norm YES >> GO TO 2. NO >> Repair the terminals and connect the conn	cable from the negative terr d connectors of the AV cor). <u>al?</u> nal and connector. OPEN CIRCUIT or of AV control unit. etween the AV control unit h	ntrol unit for damage, bei	nd and loose connection (unit
,	AV control unit harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
M210	90	74	Approx. 54 – 66
Connector No.	AV control unit harness connecto Termi	r nal No.	Resistance (Ω)
M204	81	80	Approx. 54 – 66
the measurement value w YES >> GO TO 3. NO >> Repair the AV co CHECK POWER SUPPL heck the power supply and Base audio without naviga BOSE audio without navigation	ontrol unit branch line. Y AND GROUND CIRCUIT I the ground circuit of the A tion: <u>AV-93, "AV CONTRO</u> ation: <u>AV-268, "AV CONTR</u>	V control unit. Refer to th L UNIT : Diagnosis Proce OL UNIT : Diagnosis Pro	edure" ocedure"
Base audio wi	ace the AV control unit. Re thout navigation: <u>AV-128.</u> "	Exploded View"	
 BOSE audio w 'ES (Past error)>>Error wa 	vithout navigation: <u>AV-316.</u> vith navigation: <u>AV-519, "Ex</u> as detected in the AV contr er supply and the ground ci	<u>kploded View"</u> ol unit branch line.	
NO >> Repair the powe	ה סטאטיין מוים נווכ פוסטוום טו	rouit.	

< DTC/CIRCUIT DIAGNOSIS >

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LANE BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460110

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Lane camera unit
- Harness connector R7
- Harness connector M110

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of lane camera unit.

2. Check the resistance between the lane camera unit harness connector terminals.

L	Lane camera unit harness connector				
Connector No.	Termi	Terminal No.			
R8	10	5	Approx. 54 – 66		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the lane camera unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the lane camera unit. Refer to <u>DAS-298</u>, "LANE CAMERA <u>UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the lane camera unit. Refer to DAS-332, "Exploded View".

YES (Past error)>>Error was detected in the lane camera unit branch line.

NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 3)]

Diagnosis Procedure			INFOID:00000007460111
.CHECK CONNECTOR			
 Check the terminals an connector side). <u>s the inspection result norm</u> YES >> GO TO 2. NO >> Repair the term CHECK HARNESS FOR Disconnect the connect 	cable from the negative term d connectors of the BCM for <u>al?</u> nal and connector. OPEN CIRCUIT	or damage, bend and lo	ose connection (unit side and
	BCM barness connector		
Connector No.	BCM harness connector Termin	al No.	Resistance (Ω)
Connector No. M122 s the measurement value w	Termin 91	al No. 90	— Resistance (Ω) Approx. 54 – 66

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< DTC/CIRCUIT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460112

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector				
Connector No.	Termi	nal No.	Resistance (Ω)		
M24	6	14	Approx. 54 – 66		

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

TCM BRANCH LINE CIRCUIT

iagnosis Procedure					INFOID:000000074601
CHECK CONNECTOR					
nector side). A/T assembly Harness connector F10 Harness connector M11 the inspection result norm (ES >> GO TO 2. NO >> Repair the term .CHECK HARNESS FOR Disconnect the connect	cable from t ninals and o 3 6 <u>nal?</u> inal and cor OPEN CIR or of A/T as	nnector. CUIT	amage, bend and		nection (unit side and con
Check the resistance be		-		terminais.	
		nbly harness connector			Resistance (Ω)
Connector No.		Termin	Terminal No.		
F51 the measurement value w (ES >> GO TO 3. NO >> Repair the TCN	l branch line	3 ecification? e.	al No. 8		Approx. 54 – 66
F51 the measurement value w (ES >> GO TO 3. NO >> Repair the TCM .CHECK HARNESS FOR Remove the joint conne	l branch line OPEN CIR ctor. Refer tween the A	3 ecification? e. CUIT to <u>TM-182, "Ren</u>	8 noval and Installa		· · ·
F51 the measurement value w (ES >> GO TO 3. NO >> Repair the TCW CHECK HARNESS FOR Remove the joint conne Check the continuity be	I branch line OPEN CIR ctor. Refer tween the A tor.	3 ecification? e. CUIT to <u>TM-182, "Ren</u>	8 noval and Installa rness connector s		Approx. 54 – 66
F51 the measurement value w YES >> GO TO 3. NO >> Repair the TCM .CHECK HARNESS FOR Remove the joint connec Check the continuity be side of the joint connect	I branch line OPEN CIR ctor. Refer tween the A tor.	3 ecification? e. CUIT to <u>TM-182, "Ren</u> VT assembly ha	8 noval and Installa rness connector s		Approx. 54 – 66
F51 the measurement value w (ES >> GO TO 3. IO >> Repair the TCM CHECK HARNESS FOR Remove the joint connec Check the continuity be side of the joint connect	I branch line OPEN CIR ctor. Refer tween the A tor.	3 ecification? e. CUIT to <u>TM-182, "Ren</u> A/T assembly ha TCM harness of	8 noval and Installa rness connector s connector side al No.		Approx. 54 – 66
F51 the measurement value w YES >> GO TO 3. NO >> Repair the TCM .CHECK HARNESS FOR Remove the joint connec Check the continuity be side of the joint connect A/T assembly harness connect Terminal No.	I branch line OPEN CIR octor. Refer tween the A tor.	3 ecification? e. CUIT to <u>TM-182, "Ren</u> VT assembly ha TCM harness o Termin	8 noval and Installa rness connector s connector side al No.		Approx. 54 – 66 ne TCM harness connecto Continuity

< DTC/CIRCUIT DIAGNOSIS >

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Unified meter and A/C amp. harness connector				
Connector No.	Termi	nal No.	Resistance (Ω)		
M67	56	72	Approx. 54 – 66		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-55, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-135, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000007460114

STRG BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 3)]

Diagnosis Procedure			INFOID:00000007460115
.CHECK CONNECTOR			
	able from the negative terr connectors of the steering		e, bend and loose connection
the inspection result norm: YES >> GO TO 2. NO >> Repair the termin	nal and connector.		
CHECK HARNESS FOR			
	or of steering angle sensor. tween the steering angle s	ensor harness connector	terminals.
	ring angle sensor harness conne	ctor	Resistance (Ω)
Connector No.	Termir		
M37 the measurement value wi	1	2	Approx. 54 – 66
CHECK POWER SUPPLY	I the ground circuit of the <u>YSTEM -"</u> .		efer to <u>BRC-103, "Wiring Dia-</u>
YES (Present error)>>Replay YES (Past error)>>Error wat NO >> Repair the powe		angle sensor branch line	

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ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460116

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of driver seat control unit.

2. Check the resistance between the driver seat control unit harness connector terminals.

Driv	Driver seat control unit harness connector			
Connector No.	Terminal No.		Resistance (Ω)	
B451	3	19	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-58, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-221, "Exploded View"</u>.

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

BSW BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 3)]

Diagnosis Procedure			INFOID:0000000746011
1.CHECK CONNECTOR			
 Check the terminals and (unit side and connector <u>Is the inspection result norm</u> YES >> GO TO 2. NO >> Repair the termi 	able from the negative term d connectors of the BSW co side). <u>al?</u> nal and connector.		bend and loose connection
2.CHECK HARNESS FOR	OPEN CIRCUIT		
	or of BSW control module. tween the BSW control mo	dule harness connector te	rminals.
BS	N control module harness connect	ctor	Resistance (Ω)
Connector No.	Termin	al No.	
B50 Is the measurement value w	14 ithin the specification?	15	Approx. 54 – 66
Is the measurement value w YES >> GO TO 3. NO >> Repair the BSW <u>"System Diagran</u> 3. CHECK POWER SUPPL" Check the power supply and	ithin the specification? control module branch lin <u>n"</u> . Y AND GROUND CIRCUIT d the ground circuit of the	e (CAN communication cir	cuit side). Refer to <u>LAN-41</u>
Is the measurement value w YES >> GO TO 3. NO >> Repair the BSW "System Diagran 3.CHECK POWER SUPPL" Check the power supply and TROL MODULE : Diagnosis Is the inspection result norm YES (Present error)>>Repl YES (Past error)>>Error wa	ithin the specification? control module branch lin <u>m</u> ". Y AND GROUND CIRCUIT d the ground circuit of the <u>Procedure</u> ". <u>al?</u> ace the BSW control modu	e (CAN communication cir BSW control module. Refe le. Refer to <u>DAS-415, "Rep</u> trol module branch line.	rcuit side). Refer to <u>LAN-41</u> er to <u>DAS-406, "BSW CON</u> -

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Revision: 2014 October

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

ABS actuator a	ABS actuator and electric unit (control unit) harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-45, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-124</u>, "Exploded <u>View"</u>.

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

Revision: 2014 October

ICC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 3)]

	CIRCUIT		
Diagnosis Procedure			INFOID:00000007460119
1.CHECK CONNECTOR			
	cable from the negative terr d connectors of the ICC se	minal. ensor integrated unit for dar	nage, bend and loose con-
Is the inspection result norm YES >> GO TO 2. NO >> Repair the term	inal and connector.		
2.CHECK HARNESS FOR 1. Disconnect the connect	OPEN CIRCUIT or of ICC sensor integrated	lunit	
		grated unit harness connect	or terminals.
ICC s	ensor integrated unit harness cor	nector	Posistance (0)
Connector No.	Terminal No. Resistance (Ω)		Resistance (12)
E67	3	6	Approx. 54 – 66
Is the measurement value w	tunin the specification:		
LAN-41, "System	<u>m Diagram"</u> .	anch line (CAN communica	ation circuit side). Refer to
NO >> Repair the ICC LAN-41, "System 3.CHECK POWER SUPPL Check the power supply ar SENSOR INTEGRATED UN	<u>m Diagram"</u> . Y AND GROUND CIRCUIT nd the ground circuit of the <u>IIT : Diagnosis Procedure"</u> .	Г e ICC sensor integrated un	
NO >> Repair the ICC LAN-41. "System 3.CHECK POWER SUPPL Check the power supply ar SENSOR INTEGRATED UN Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	<u>m Diagram"</u> . Y AND GROUND CIRCUIT d the ground circuit of the <u>IIT : Diagnosis Procedure</u> ". <u>al?</u> lace the ICC sensor integra as detected in the ICC sensor	F e ICC sensor integrated un ated unit. Refer to <u>CCS-174</u> sor integrated unit branch lin	it. Refer to <u>CCS-134, "ICC</u>
NO >> Repair the ICC LAN-41. "System 3.CHECK POWER SUPPL Check the power supply an SENSOR INTEGRATED UN Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	<u>m Diagram"</u> . Y AND GROUND CIRCUIT nd the ground circuit of the <u>IIT : Diagnosis Procedure</u> ". nal? lace the ICC sensor integra	F e ICC sensor integrated un ated unit. Refer to <u>CCS-174</u> sor integrated unit branch lin	it. Refer to <u>CCS-134, "ICC</u>

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IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460120

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-17, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-32, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

APA BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 3)]

Diagnosis Procedure			INFOID:000000007460121
1.CHECK CONNECTOR			
	able from the negative termi d connectors of the accelera		amage, bend and loose con-
the inspection result norm YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
. Disconnect the connect	or of accelerator pedal actua tween the accelerator pedal		ctor terminals.
Accele	erator pedal actuator harness conne	ector	Resistance (Ω)
Connector No.	Termina	l No.	
E113	5	3	Approx. 54 – 66
CHECK POWER SUPPL	R : Diagnosis Procedure".	celerator pedal actuator.	
YES (Past error)>>Error wa	ace the accelerator pedal ac as detected in the accelerato	r pedal actuator branch	ine.
YES (Past error)>>Error wa		r pedal actuator branch	ine.
YES (Past error)>>Error wa	as detected in the accelerato	r pedal actuator branch	ine.

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BCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460122

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Brake booster control unit
- Harness connector B201
- Harness connector M117
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of brake booster control unit.
- 2. Check the resistance between the brake booster control unit harness connector terminals.

Brake booster control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B250	14	5	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair or replace (if shield line is open) the brake booster control unit branch line.

 ${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the brake booster control unit. Refer to <u>CCS-134</u>, "BRAKE <u>BOOSTER CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the brake booster control unit. Refer to CCS-175, "Exploded View".

- YES (Past error)>>Error was detected in the brake booster control unit branch line.
- NO >> Repair the power supply and the ground circuit.

< DTC/CIRCUIT DIAGNOSIS >	[CAN SYSTEM (TYPE 3)]
RDR-L BRANCH LINE CIRCUIT	
Diagnosis Procedure	INFOID:00000007460123
1.CHECK CONNECTOR	
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the following terminals and connectors for damage, bend and loose nector side). Side radar LH Harness connector B104 Harness connector B102 Harness connector B101 Harness connector B69 s the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. CHECK HARNESS FOR OPEN CIRCUIT 	connection (unit side and con-
 Disconnect the connector of side radar LH. Check the resistance between the side radar LH harness connector termin 	als.
Side radar LH harness connector	Resistance (Ω)
Connector No. Terminal No. B105 4 3	Approx. 54 – 66
s the measurement value within the specification? YES >> GO TO 3. NO >> Repair the side radar LH branch line. 3.CHECK POWER SUPPLY AND GROUND CIRCUIT	
Check the power supply and the ground circuit of the side radar LH. Refer to <u>Diagnosis Procedure</u> ". <u>Is the inspection result normal?</u> YES (Present error)>>Replace the side radar LH. Refer to <u>DAS-416, "Remove</u> YES (Past error)>>Error was detected in the side radar LH branch line. NO >> Repair the power supply and the ground circuit.	

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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460124

[CAN SYSTEM (TYPE 3)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Side radar RH
- Harness connector B106
- Harness connector B103
- Harness connector B101
- Harness connector B69

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.

2. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B107	4	3	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the side radar RH branch line.

 ${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-407. "SIDE RADAR RH :</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-416, "Removal and Installation".

- YES (Past error)>>Error was detected in the side radar RH branch line.
- NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT А **Diagnosis** Procedure INFOID:000000007460125 1.CONNECTOR INSPECTION 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. Disconnect all the unit connectors on CAN communication system. 3. C Check terminals and connectors for damage, bend and loose connection. 4. Is the inspection result normal? YES >> GO TO 2. D NO >> Repair the terminal and connector. 2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT) E Check the continuity between the data link connector terminals. Data link connector Continuity F Connector No. Terminal No. M24 6 14 Not existed Is the inspection result normal? YES >> GO TO 3. NO >> Check the harness and repair the root cause. **3.**CHECK HARNESS CONTINUITY (SHORT CIRCUIT) Н Check the continuity between the data link connector and the ground. Data link connector Continuity Connector No. Terminal No. Ground 6 Not existed M24 14 Not existed Is the inspection result normal? Κ YES >> GO TO 4. NO >> Check the harness and repair the root cause. 4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT Remove the ECM and the IPDM E/R. 1. 2. Check the resistance between the ECM terminals. LAN ECM and IPDM E/R ECM Resistance (Ω) Terminal No. Approx. 108 - 132 Ν 114 113 Check the resistance between the IPDM E/R terminals. 3 IPDM E/R Resistance (Ω) Terminal No. LKIA0037E 40 39 Approx. 108 - 132 Ρ Is the measurement value within the specification? YES >> GO TO 5. NO >> Replace the ECM and/or the IPDM E/R. 5.CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

S COMMUNIC				
agnosis Proced	ure			INFOID:000000007732867
CHECK CAN DIAG	NOSIS			
eck the CAN diagno	osis results from CON	SULT to see that the	CAN communication	circuit has no malfunc-
ı.				
TE: identification of CA	AN communication cir	rcuit, ITS communicat	ion circuit and BSW (communication circuit,
er to <u>LAN-41, "Syste</u>	<u>em Diagram"</u> .			
<u>he CAN communica</u> ES >> GO TO 2.	ation circuit normal?			
	d repair CAN commun	ication circuit.		
CONNECTOR INSP	PECTION			
Turn the ignition su		<i></i>		
	ttery cable from the ne g terminals and conne		nd and loose connect	ion (unit side and con-
nector side).	-	0.7		Υ.
ICC sensor integra Accelerator pedal				
Brake booster con Harness connector				
Harness connector	r M117			
Harness connector	r M6			
	r E106			
Harness connector				
Harness connector he inspection result ES >> GO TO 3.	normal?			
Harness connector he inspection result ES >> GO TO 3. O >> Repair the	normal? terminal and connect			
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS	terminal and connect CONTINUITY (OPEN	N CIRCUIT)		
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra	terminal and connect CONTINUITY (OPEN lowing harness conne	N CIRCUIT)		
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con	terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit	N CIRCUIT)	t harness connector a	and the brake booster
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC	N CIRCUIT)	t harness connector a	and the brake booster
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con Check the continu control unit harnes	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC	N CIRCUIT)		
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con Check the continu control unit harnes	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC as connector.	N CIRCUIT) ectors. sensor integrated uni		and the brake booster
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con Check the continu control unit harnes ICC sensor integrated Connector No.	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit uity between the ICC as connector.	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No.	unit harness connector	
Harness connector the inspection result S >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster con Check the continu control unit harnes	terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit tity between the ICC ss connector. unit harness connector Terminal No.	N CIRCUIT) ectors. sensor integrated uni Brake booster control (unit harness connector Terminal No.	Continuity
Harness connector the inspection result S >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster con Check the continu control unit harnes ICC sensor integrated Connector No. E67 the inspection result	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit uity between the ICC as connector. unit harness connector Terminal No. 2 5	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No.	unit harness connector Terminal No. 14	Continuity Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4.	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit tity between the ICC ss connector. unit harness connector Terminal No. 2 5 inormal?	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250	Terminal No. 14 5	Continuity Existed Existed
Harness connector ne inspection result S >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 ne inspection result S >> GO TO 4. D >> Repair the	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit tity between the ICC ss connector. unit harness connector Terminal No. 2 5 inormal?	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250	Terminal No. 14 5	Continuity Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. D >> Repair the <u>41. "System</u>	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit tity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal?	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS	Terminal No. 14 5	Continuity Existed Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. D >> Repair the 41, "System CHECK HARNESS Disconnect the cor	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal? E ICC sensor integrate m Diagram". CONTINUITY (SHOP nnector of accelerator	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT) r pedal actuator.	unit harness connector Terminal No. 14 5 5 6 communication circu	Continuity Existed Existed
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. O >> Repair the <u>41, "Syster</u> CHECK HARNESS Disconnect the cor	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal? E ICC sensor integrate m Diagram". CONTINUITY (SHOP nnector of accelerator	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT)	unit harness connector Terminal No. 14 5 5 6 communication circu	Continuity Existed Existed
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. O >> Repair the <u>41, "Syster</u> CHECK HARNESS Disconnect the cor	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal? E ICC sensor integrate m Diagram". CONTINUITY (SHOP nnector of accelerator	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT) r pedal actuator. ensor integrated unit h	unit harness connector Terminal No. 14 5 5 6 communication circu	Continuity Existed Existed uit side). Refer to LAN-
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. O >> Repair the <u>41. "Syster</u> CHECK HARNESS Disconnect the cor	e terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 inormal? ICC sensor integrate m Diagram". CONTINUITY (SHOP nnector of accelerator ity between the ICC s	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT) r pedal actuator. ensor integrated unit h	unit harness connector Terminal No. 14 5 5 6 communication circu	Continuity Existed Existed

NO

< DTC/CIRCUIT DIAGNOSIS >

LAN-139

>> Check the harness and repair or replace (if shield line is short) the root cause.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ICC sensor integrated unit harness connector and the ground.

ICC sensor integrated	ICC sensor integrated unit harness connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
E67	2	Ground	Not existed
207	5		Not existed

Is the inspection result normal?

YES >> GO TO 6.

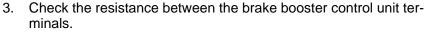
NO >> Check the harness and repair or replace (if shield line is short) the root cause.

6. CHECK TERMINATION CIRCUIT

1. Remove the ICC sensor integrated unit and the brake booster control unit.

- 2. Check the resistance between the ICC sensor integrated unit terminals.
 - 1 : ICC sensor integrated unit and brake booster control unit

ICC sensor i	ntegrated unit	Resistance (Ω)
Termi	nal No.	
2	5	Approx. 108 – 132



Brake booster control unit		Resistance (Ω)	
Terminal No.			
14	5	Approx. 108 – 132	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ICC sensor integrated unit and/or the brake booster control unit.

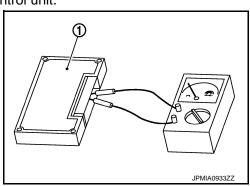
7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

Inspection result

Reproduced>>Replace the accelerator pedal actuator.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.



BSW COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 3)]

BSW COMMUN				
	IICATION CIRC	CUIT		
Diagnosis Proced	ure			INFOID:00000000773286
1.CHECK CAN DIAG	NOSIS			
Check the CAN diagno tion. NOTE: For identification of CA refer to <u>LAN-41, "Syste</u>	AN communication cir			
Is the CAN communication				
YES >> GO TO 2.		viaction circuit		
NO >> Check and 2.CONNECTOR INSP	t repair CAN commur PECTION	lication circuit.		
1. Turn the ignition s				
 Disconnect the bar Check the followin nector side). BSW control modules Side radar LH Side radar RH Harness connecto Harness connecto Harness connecto Harness connecto Is the inspection result YES >> GO TO 3. NO >> Repair the 	ttery cable from the n g terminals and conn Ile r B69 r B101 r B103 r B106	ectors for damage, be tor. N CIRCUIT)	nd and loose connec	tion (unit side and con
 Disconnect the foll BSW control module Side radar RH 			ss connector and the	side radar RH barnes
 Disconnect the foll BSW control module Side radar RH 	le		ss connector and the	side radar RH harness
 Disconnect the foll BSW control module Side radar RH Check the continuation connector. 	le	control module harnes	ss connector and the	
 Disconnect the foll BSW control module Side radar RH Check the continuit connector. 	ule ity between the BSW e harness connector Terminal No.	control module harnes	arness connector Terminal No.	Continuity
 Disconnect the foll BSW control module Side radar RH Check the continuit connector. 	ule ity between the BSW e harness connector	control module harnes Side radar RH ha	arness connector	side radar RH harness Continuity Existed Existed
 Disconnect the foll BSW control modules Side radar RH Check the continuit connector. BSW control module Connector No. BSW control modules Connector No. B50 Is the inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS Disconnect the context of the context	ule ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module biagram". CONTINUITY (SHOP nnector of side radar ity between the BSW	control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT) LH. control module harnes	arness connector Terminal No. 4 3 ommunication circuit s	Continuity Existed Existed side). Refer to <u>LAN-41</u>
 Disconnect the foll BSW control modules Side radar RH Check the continuit connector. BSW control module Connector No. BSW control modules Connector No. B50 Is the inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS Disconnect the continuity Check the continuity 	ule ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module biagram". CONTINUITY (SHOP nnector of side radar	control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT) LH. control module harnes	arness connector Terminal No. 4 3 ommunication circuit s	Continuity Existed Existed side). Refer to <u>LAN-41</u>
 Disconnect the foll BSW control modules Side radar RH Check the continuit connector. BSW control module Connector No. BSW control modules Connector No. B50 Is the inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS Disconnect the context of the context	ule ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module biagram". CONTINUITY (SHOP nnector of side radar ity between the BSW	control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT) LH. control module harnes	arness connector Terminal No. 4 3 ommunication circuit s	Continuity Existed Existed side). Refer to <u>LAN-41</u>

YES >> GO TO 5.

< DTC/CIRCUIT DIAGNOSIS >

NO >> Check the harness and repair the root cause.

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the BSW control module harness connector and the ground.

BSW control module harness connector			Continuity	
Connector No.	Terminal No.	Ground	Continuity	
B50	7	Ground	Not existed	
	8		Not existed	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the BSW control module and the side radar RH.

2. Check the resistance between the BSW control module terminals.

1 : BSW control module and side radar RH

BSW control module		Resistance (Ω)	
Terminal No.			
7	8	Approx. 108 – 132	

3. Check the resistance between the side radar RH terminals.

Side radar RH		Resistance (Ω)	
Terminal No.			
4	3	Approx. 108 – 132	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the BSW control module and/or the side radar RH.

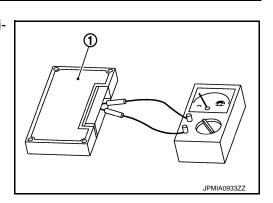
1.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

Inspection result

Reproduced>>Replace the side radar LH.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.



MAIN LINE BETWEEN AV AND DLC CIRCUIT [CAN SYSTEM (TYPE 4)] < DTC/CIRCUIT DIAGNOSIS > DTC/CIRCUIT DIAGNOSIS А MAIN LINE BETWEEN AV AND DLC CIRCUIT **Diagnosis** Procedure INFOID:000000007460128 1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT) 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. 3. Disconnect the following harness connectors. ECM D AV control unit 4. Check the continuity between the AV control unit harness connector and the data link connector. Models with navigation system Е AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. F 90 6 Existed M210 M24 74 14 Existed Models without navigation system AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. Н 81 6 Existed M204 M24 80 14 Existed Is the inspection result normal? YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the AV control unit and the data link connec-J tor. NO >> Repair the main line between the AV control unit and the data link connector. Κ L LAN Ν

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000007460129

[CAN SYSTEM (TYPE 4)]

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- Unified meter and A/C amp.
- 4. Check the continuity between the data link connector and the unified meter and A/C amp. harness connector.

Data link connector		Unified meter and A/C amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	M67	56	Existed
	14		72	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

		ND ABS CIRCL	ЛТ	
iagnosis Procedu				
-				INFOID:000000007460;
CHECK CONNECTO	J R			
	tery cable from the ne g terminals and con M6	egative terminal. nectors for damage, b	end and loose conr	nection (connector sid
the inspection result i	normal?			
YES >> GO TO 2.	terminal and connect	or		
CHECK HARNESS				
Unified meter and A Harness connectors	s M6 and E106	ed meter and A/C amp	. harness connecto	r and the harness cor
Check the continuit nector.				
nector. Unified meter and A/C a	mp. harness connector	Harness c		- Continuity
nector.	mp. harness connector Terminal No.		Terminal No.	-
nector. Unified meter and A/C a	mp. harness connector Terminal No. 56	Harness c	Terminal No. 85	Existed
nector. Unified meter and A/C a Connector No. M67 the inspection result	mp. harness connector Terminal No. 56 72	Harness c Connector No.	Terminal No.	-
nector. Unified meter and A/C a Connector No. M67 the inspection result f (ES >> GO TO 3. NO >> Repair the CHECK HARNESS (Disconnect the con	mp. harness connector Terminal No. 56 72 normal? main line between th CONTINUITY (OPEN mector of ABS actuat ty between the harne	Harness c Connector No. M6 e unified meter and A/ N CIRCUIT) for and electric unit (co ess connector and the A	Terminal No. 85 86 C amp. and the harr ntrol unit). ABS actuator and e	Existed Existed
nector. Unified meter and A/C a Connector No. M67 the inspection result r (ES >> GO TO 3. NO >> Repair the CHECK HARNESS (Disconnect the con Check the continuit	mp. harness connector Terminal No. 56 72 normal? main line between th CONTINUITY (OPEN mector of ABS actuat ty between the harne	Harness c Connector No. M6 e unified meter and A/ N CIRCUIT) tor and electric unit (co	Terminal No. 85 86 C amp. and the harr ntrol unit). ABS actuator and e	Existed Existed
nector. Unified meter and A/C a Connector No. M67 the inspection result r (ES >> GO TO 3. NO >> Repair the CHECK HARNESS (Disconnect the con Check the continuit harness connector.	mp. harness connector Terminal No. 56 72 normal? main line between th CONTINUITY (OPEN mector of ABS actuat ty between the harne	Harness c Connector No. M6 e unified meter and A/ N CIRCUIT) for and electric unit (co sss connector and the A ABS actuator and elect	Terminal No. 85 86 C amp. and the harr ntrol unit). ABS actuator and e	Existed Existed
nector. Unified meter and A/C a Connector No. M67 the inspection result r (ES >> GO TO 3. NO >> Repair the r CHECK HARNESS (Disconnect the con Check the continuit harness connector. Harness c	mp. harness connector Terminal No. 56 72 normal? main line between th CONTINUITY (OPEN mector of ABS actuat ty between the harne	Harness c Connector No. M6 e unified meter and A/ N CIRCUIT) for and electric unit (co ess connector and the A ABS actuator and elec harness co	Terminal No. 85 86 C amp. and the harr ntrol unit). ABS actuator and e	Existed Existed

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460131

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

	ECM harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
M107	114	113	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-153, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-17. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

[CAN SYSTEM (TYPE 4)]

A-BAG BRANCH LINE CIRCUIT А Diagnosis Procedure INFOID:000000007460132 WARNING: В Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.) • Never use unspecified tester or other measuring device. С 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. D Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose con-3. nection (unit side and connector side). Is the inspection result normal? Е YES >> GO TO 2. NO >> Replace the main harness. 2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT F Check the air bag diagnosis sensor unit. Refer to SRC-5, "Work Flow". Is the inspection result normal? YES >> Replace the main harness. NO >> Replace parts whose air bag system has a malfunction. Н

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460133

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AV control unit.

2. Check the resistance between the AV control unit harness connector terminals.

Models with navigation system

	AV control unit harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
M210	90	74	Approx. 54 – 66

Models without navigation system

	AV control unit harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
M204	81	80	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-93, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-268, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-476, "AV CONTROL UNIT : Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-128, "Exploded View"</u>
- BOSE audio without navigation: AV-316, "Exploded View"
- BOSE audio with navigation: <u>AV-519</u>, "Exploded View"
- YES (Past error)>>Error was detected in the AV control unit branch line.

4WD BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 4)]

4WD BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:00000007460134
CHECK CONNECTOR			
	able from the negative terr inals and connectors for d		onnection (unit side and con-
the inspection result norm: YES >> GO TO 2. NO >> Repair the termin CHECK HARNESS FOR	nal and connector.		
Disconnect the connectorCheck the resistance be	r of AWD control unit. tween the AWD control un	it harness connector termi	nals.
	VD control unit harness connect		Resistance (Ω)
Connector No. F108	8	nal No. 16	Approx. 54 – 66
CHECK POWER SUPPLY	control unit branch line. AND GROUND CIRCUIT		DI N. 45. "Diagnosis Dross
neck the power supply and <u>ure"</u> . <u>the inspection result norma</u> YES (Present error)>>Repla	al?		DLN-45, "Diagnosis Proce-
YES (Past error)>>Error wa		ntrol unit branch line.	

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460135

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of BCM.

2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	
M122	91	90	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the BCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-41, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to <u>BCS-92, "Exploded View"</u>.

YES (Past error)>>Error was detected in the BCM branch line.

DLC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 4)]

DLC BRANCH LINE CIRCUIT Diagnosis Procedure 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the data link connector for damage, bend and loose (connector side and harness side).	VFOID:000000007460136
 CHECK CONNECTOR Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the data link connector for damage, bend and loose 	IFOID:000000007460136
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the data link connector for damage, bend and loose 	
 Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the data link connector for damage, bend and loose 	
	e connection
Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT	
Check the resistance between the data link connector terminals.	
Data link connector	
Connector No. Terminal No. Resistance	;e (Ω)
M24 6 14 Approx. 5	4 - 66

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TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460137

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- A/T assembly
- Harness connector F103
- Harness connector M116
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of A/T assembly.
- 2. Check the resistance between the A/T assembly harness connector terminals.

	A/T assembly harness connector	r	Resistance (Ω)
Connector No.	Termi	nal No.	
F51	3	8	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Remove the joint connector. Refer to TM-182, "Removal and Installation".
- Check the continuity between the A/T assembly harness connector side and the TCM harness connector side of the joint connector.

A/T assembly harness connector side	TCM harness connector side	Continuity
Terminal No.	Terminal No.	Continuity
3	3	Existed
8	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the joint connector.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to <u>TM-122</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the control valve & TCM. Refer to TM-182, "Removal and Installation".

YES (Past error)>>Error was detected in the TCM branch line.

M&A BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 4)]

M&A BRANCH LINE	ECIRCUIT		
Diagnosis Procedure			INFOID:000000007460138
1.CHECK CONNECTOR			
3. Check the terminals and nection (unit side and co	cable from the negative terr d connectors of the unified onnector side).		amage, bend and loose con-
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
CHECK HARNESS FOR			
	or of unified meter and A/C etween the unified meter an		ector terminals.
	meter and A/C amp. harness cor		Resistance (Ω)
Connector No.	Termir		
M67 s the measurement value w	56	72	Approx. 54 – 66
3. CHECK POWER SUPPL		-	. Refer to <u>MWI-55, "UNIFIED</u>
IETER AND A/C AMP. : Dia the inspection result norm	agnosis Procedure".		
YES (Present error)>>Rep YES (Past error)>>Error wa NO >> Repair the powe		eter and A/C amp. branch	

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STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460139

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

Ste	ering angle sensor harness conne	ector	Resistance (Ω)
Connector No.	Termi	nal No.	
M37	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the steering angle sensor branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-103, "Wiring Dia-</u> gram - <u>BRAKE CONTROL SYSTEM -"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to <u>BRC-127</u>, "Exploded View".

YES (Past error)>>Error was detected in the steering angle sensor branch line.

ABS BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 4)]

Diagnosis Procedure			INFOID:00000007460140
.CHECK CONNECTOR			
. Check the terminals and	able from the negative termina connectors of the ABS actua nit side and connector side). al? nal and connector.		trol unit) for damage, bend
	or of ABS actuator and electric otween the ABS actuator and) harness connector termi-
	nd electric unit (control unit) harness	connector	Resistance (Ω)
ABS actuator a Connector No.	nd electric unit (control unit) harness Terminal N		Resistance (Ω)
Connector No. E41 s the measurement value w	Terminal N 35		Resistance (Ω) Approx. 54 – 66
Connector No. E41 the measurement value w YES >> GO TO 3. NO >> Repair the ABS CHECK POWER SUPPL theck the power supply and RC-45. "Diagnosis Procedu the inspection result norm YES (Present error)>>Repl <u>View"</u> .	Terminal N 35 ithin the specification? actuator and electric unit (con Y AND GROUND CIRCUIT d the ground circuit of the AE <u>ire"</u> .	trol unit) branch line. S actuator and electric	Approx. 54 – 66 unit (control unit). Refer to efer to <u>BRC-124, "Exploded</u>

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IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460141

[CAN SYSTEM (TYPE 4)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E6	40 39		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-17, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-32, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT А **Diagnosis** Procedure INFOID:000000007460142 1.CONNECTOR INSPECTION 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. Disconnect all the unit connectors on CAN communication system. 3. C Check terminals and connectors for damage, bend and loose connection. 4. Is the inspection result normal? YES >> GO TO 2. D NO >> Repair the terminal and connector. 2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT) E Check the continuity between the data link connector terminals. Data link connector Continuity F Connector No. Terminal No. M24 6 14 Not existed Is the inspection result normal? YES >> GO TO 3. NO >> Check the harness and repair the root cause. **3.**CHECK HARNESS CONTINUITY (SHORT CIRCUIT) Н Check the continuity between the data link connector and the ground. Data link connector Continuity Connector No. Terminal No. Ground 6 Not existed M24 14 Not existed Is the inspection result normal? Κ YES >> GO TO 4. NO >> Check the harness and repair the root cause. 4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT Remove the ECM and the IPDM E/R. 1. 2. Check the resistance between the ECM terminals. LAN ECM and IPDM E/R ECM Resistance (Ω) Terminal No. Approx. 108 - 132 Ν 114 113 Check the resistance between the IPDM E/R terminals. 3 IPDM E/R Resistance (Ω) Terminal No. LKIA0037E 40 39 Approx. 108 - 132 Ρ Is the measurement value within the specification? YES >> GO TO 5. NO >> Replace the ECM and/or the IPDM E/R. 5.CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

< DTC/CIRCUIT DIAGNOSIS >

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< DTC/CIRCUIT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN AV AND DLC CIRCUIT [CAN SYSTEM (TYPE 5)] < DTC/CIRCUIT DIAGNOSIS > DTC/CIRCUIT DIAGNOSIS А MAIN LINE BETWEEN AV AND DLC CIRCUIT **Diagnosis** Procedure INFOID:000000007460143 1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT) 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. 3. Disconnect the following harness connectors. ECM D AV control unit 4. Check the continuity between the AV control unit harness connector and the data link connector. Models with navigation system Е AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. F 90 6 Existed M210 M24 74 14 Existed Models without navigation system AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. Н 81 6 Existed M204 M24 80 14 Existed Is the inspection result normal? YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the AV control unit and the data link connec-J tor. NO >> Repair the main line between the AV control unit and the data link connector. Κ L LAN Ν

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000007460144

[CAN SYSTEM (TYPE 5)]

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- Unified meter and A/C amp.
- 4. Check the continuity between the data link connector and the unified meter and A/C amp. harness connector.

Data link	connector	Unified meter and A/C amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M24	6	MGZ	56	Existed
11/24	14	M67	72	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

	GNOSIS >		L	SYSTEM (TYPE 5)]
IAIN LINE BEI	WEEN M&A AI	ND ADP CIRCL	JIT	
iagnosis Proced	ure			INFOID:000000007460145
.CHECK CONNECT	OR			
Check the followin and harness side) Harness connector Harness connector the inspection result YES >> GO TO 2. NO >> Repair the	ttery cable from the ne ng terminals and conr r M7 r B1 <u>normal?</u> terminal and connect	nectors for damage, b or.	end and loose conne	ection (connector side
Disconnect the fol	CONTINUITY (OPEN	•		
Unified meter and Harness connecto Check the continu nector.		d meter and A/C amp	o. harness connector	and the harness con-
Unified meter and A/C	amp. harness connector	Harness of	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M67	56	M7	34	Existed
WO7	72	1017	35	Existed
YES >> GO TO 3.	main line between the CONTINUITY (OPEN		C amp. and the harne	ess connector M7.
CHECK HARNESS Disconnect the ha Check the continu	rness connectors B11 ity between the harnes		connector	Continuity
CHECK HARNESS Disconnect the ha Check the continu	rness connectors B11 ity between the harnes	ss connectors.	connector Terminal No.	Continuity
CHECK HARNESS Disconnect the ha Check the continu Harness Connector No.	rness connectors B11 ity between the harnes	SS CONNECTORS. Harness of Connector No.		Continuity Existed
CHECK HARNESS Disconnect the ha Check the continu	rness connectors B11 ity between the harnes connector Terminal No. 34 35	ss connectors. Harness c	Terminal No.	·

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND ABS CIRCUIT

Diagnosis Procedure

INFOID:000000007460146

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B1
- Harness connector M7
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors B1 and M7.

2. Check the continuity between the harness connector terminals.

Connector No.	Termir	Continuity	
P1	36	34	Existed
ы	37	35	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the driver seat control unit and the harness connector B1.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the harness connectors M6 and E106.

2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		onnector Harness con		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity		
M7	36	M6	85	Existed		
1017	37		86	Existed		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connectors M7 and M6.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ABS actuator and electric unit (control unit).
- 2. Check the continuity between the harness connector and the ABS actuator and electric unit (control unit) harness connector.

Harness	Harness connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E106	85	E 41	35	Existed
EIUO	86	E41	14	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the ABS actuator and electric unit (control unit).

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MAIN LINE BETWEEN ADP AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

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NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

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ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460147

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of ECM.

2. Check the resistance between the ECM harness connector terminals.

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M107	114 113		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-153, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to <u>EC-17. "ADDITIONAL SERVICE WHEN REPLACING</u> <u>CONTROL UNIT : Special Repair Requirement"</u>.

YES (Past error)>>Error was detected in the ECM branch line.

[CAN SYSTEM (TYPE 5)]

A-BAG BRANCH LINE CIRCUIT А **Diagnosis** Procedure INFOID:000000007460148 WARNING: В Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.) • Never use unspecified tester or other measuring device. С 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. D Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose con-3. nection (unit side and connector side). Is the inspection result normal? Е YES >> GO TO 2. NO >> Replace the main harness. 2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT F Check the air bag diagnosis sensor unit. Refer to SRC-5, "Work Flow". Is the inspection result normal? YES >> Replace the main harness. NO >> Replace parts whose air bag system has a malfunction. Н

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< DTC/CIRCUIT DIAGNOSIS >

AFS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460149

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AFS control unit.

2. Check the resistance between the AFS control unit harness connector terminals.

AFS control unit harness connector			Resistance (Ω)
Connector No.	Termi		
M16	30 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AFS control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AFS control unit. Refer to EXL-65, "AFS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AFS control unit. Refer to EXL-217, "Exploded View".

YES (Past error)>>Error was detected in the AFS control unit branch line.

AV BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 5)]

AV BRANCH LINE (CIRCUIT		
Diagnosis Procedure			INFOID:00000007460150
.CHECK CONNECTOR			
 Check the terminals and side and connector side side and connector side side inspection result norm YES >> GO TO 2. NO >> Repair the termi CHECK HARNESS FOR Disconnect the connector 	able from the negative tend d connectors of the AV co). al? nal and connector. OPEN CIRCUIT or of AV control unit. tween the AV control unit l		I and loose connection (unit
	AV control unit harness connecto	pr	Begistance (0)
Connector No.	Termi	nal No.	Resistance (Ω)
M210	90	74	Approx. 54 – 66
Connector No.	AV control unit harness connecto Termi	or nal No.	Resistance (Ω)
M204	81	80	Approx. 54 – 66
CHECK POWER SUPPL heck the power supply and Base audio without naviga BOSE audio without navig	the ground circuit of the A tion: <u>AV-93, "AV CONTRO</u> ation: <u>AV-268, "AV CONTR</u> n: <u>AV-476, "AV CONTROL</u>	T V control unit. Refer to the L UNIT : Diagnosis Procedu COL UNIT : Diagnosis Procedu - UNIT : Diagnosis Procedu	ure" edure"
YES (Present error)>>Repl • Base audio wi • BOSE audio w • BOSE audio w YES (Past error)>>Error wa	ace the AV control unit. Re thout navigation: <u>AV-128, "</u> /ithout navigation: <u>AV-316,</u> /ith navigation: <u>AV-519, "E</u> ;	<u>"Exploded View"</u> "Exploded View" xploded View" rol unit branch line.	

< DTC/CIRCUIT DIAGNOSIS >

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4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460151

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- AWD control unit
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AWD control unit.

2. Check the resistance between the AWD control unit harness connector terminals.

A	AWD control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
F108	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-45, "Diagnosis Proce-</u> <u>dure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-57, "Removal and Installation"</u>.

YES (Past error)>>Error was detected in the AWD control unit branch line.

BCM BRANCH LINE CIRCUIT

BCM BRANCH LINE CIRCUIT Diagnosis Procedure 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. 3. Check the terminals and connectors of the BCM for damage, bend an connector side). Is the inspection result normal? YES >> GO TO 2.	INFOID:00000000746015
 CHECK CONNECTOR Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the BCM for damage, bend an connector side). Is the inspection result normal? 	
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the BCM for damage, bend an connector side). Is the inspection result normal? 	l loose connection (unit side and
 Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the BCM for damage, bend an connector side). Is the inspection result normal? 	l loose connection (unit side and
YES >> GO TO 2.	
NO $>>$ Repair the terminal and connector.	
2.CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect the connector of BCM. Check the resistance between the BCM harness connector terminals. 	
BCM harness connector	Resistance (Ω)
Connector No. Terminal No.	
M122 91 90	Approx. 54 – 66
Is the measurement value within the specification?	
YES >> GO TO 3.	
NO >> Repair the BCM branch line.	
3. CHECK POWER SUPPLY AND GROUND CIRCUIT	
Check the power supply and the ground circuit of the BCM. Refer to <u>BCS-4</u>	<u>, "Diagnosis Procedure"</u> .
Is the inspection result normal?	
YES (Present error)>>Replace the BCM. Refer to <u>BCS-92. "Exploded View</u> YES (Past error)>>Error was detected in the BCM branch line.	<u>'</u> .
NO >> Repair the power supply and the ground circuit.	

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< DTC/CIRCUIT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460153

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector		
Connector No.	Termi	Resistance (Ω)	
M24	6 14		Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

TCM BRANCH LINE CIRCUIT

iagnosis Procedure					INFOID:00000007460154
.CHECK CONNECTOR					
nector side). A/T assembly Harness connector F10 Harness connector M11 the inspection result norm YES >> GO TO 2. NO >> Repair the term CHECK HARNESS FOR Disconnect the connect	cable from minals and 03 16 <u>nal?</u> ninal and c COPEN CI tor of A/T a	d connectors for d onnector. IRCUIT assembly.	amage, bend and		nection (unit side and con-
Check the resistance be		e A/I assembly have a big harness connector		terminals.	
Connector No.		-	nal No.		Resistance (Ω)
F51		3	8		A
the measurement value v YES >> GO TO 3. NO >> Repair the TCM	1 branch lii	ne.			Approx. 54 – 66
YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint conne Check the continuity be	I branch lin COPEN CI ector. Refe	ne. IRCUIT ir to <u>TM-182, "Rer</u>			e TCM harness connector
YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint connection Check the continuity be side of the joint connection	I branch lin COPEN CI ector. Refe etween the tor.	ne. IRCUIT r to <u>TM-182, "Rer</u> A/T assembly ha	arness connector s		
YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint conne Check the continuity be	I branch lin COPEN CI ector. Refe etween the tor.	ne. IRCUIT r to <u>TM-182, "Rer</u> A/T assembly ha TCM harness			
YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint connec Check the continuity be side of the joint connec A/T assembly harness connec	I branch lin COPEN CI ector. Refe etween the tor.	ne. IRCUIT or to <u>TM-182, "Rer</u> A/T assembly ha TCM harness Termir	arness connector s		e TCM harness connector
YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint connect Check the continuity be side of the joint connect A/T assembly harness connect Terminal No.	I branch lin COPEN CI ector. Refe etween the tor.	ne. IRCUIT r to <u>TM-182, "Rer</u> A/T assembly ha TCM harness Termir	arness connector s connector side nal No.		e TCM harness connector Continuity

< DTC/CIRCUIT DIAGNOSIS >

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	Resistance (Ω)	
Connector No.	Termi	
M67	56	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

$\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-55, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-135, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000007460155

STRG BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 5)]

Diagnosis Procedure			INFOID:00000007460156
1.CHECK CONNECTOR			
	cable from the negative terr d connectors of the steering		ge, bend and loose connection
s the inspection result norm YES >> GO TO 2. NO >> Repair the term	inal and connector.		
2.CHECK HARNESS FOR Disconnect the connect			
	or of steering angle sensor. Stween the steering angle s	ensor harness connecto	r terminals.
	ering angle sensor harness conne	ctor	Resistance (Ω)
Connector No.	Termir		
M37 the measurement value w	1	2	Approx. 54 – 66
CHECK POWER SUPPL	ing angle sensor branch lin Y AND GROUND CIRCUIT d the ground circuit of the s YSTEM -".		efer to <u>BRC-103, "Wiring Dia-</u>
the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w		angle sensor branch line	

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ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460157

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of driver seat control unit.

2. Check the resistance between the driver seat control unit harness connector terminals.

Driv	Resistance (Ω)	
Connector No.	Termi	
B451	3	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-58, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-221, "Exploded View"</u>.

YES (Past error)>>Error was detected in the driver seat control unit branch line.

ABS BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 5)]

Diagnosis Procedure			INFOID:00000007460158
1. CHECK CONNECTOR			
 Check the terminals and and loose connection (u 	able from the negative termi connectors of the ABS actu nit side and connector side).	uator and electric unit (co	ntrol unit) for damage, bend
s the inspection result norm YES >> GO TO 2. NO >> Repair the termi	nal and connector.		
2. CHECK HARNESS FOR	OPEN CIRCUIT		
nals.		d electric unit (control un	it) harness connector termi-
ABS actuator a	nd electric unit (control unit) harne	ss connector	
	nd electric unit (control unit) harne Termina		Resistance (Ω)
Connector No. E41	Termina 35		Resistance (Ω) Approx. 54 – 66
Connector No. E41 <u>s the measurement value w</u> YES >> GO TO 3. NO >> Repair the ABS 3. CHECK POWER SUPPL Check the power supply and <u>BRC-45. "Diagnosis Procedu</u> s the inspection result norm	Termina 35 thin the specification? actuator and electric unit (co (AND GROUND CIRCUIT d the ground circuit of the A are".	14 ontrol unit) branch line. ABS actuator and electric	Approx. 54 – 66
Connector No. E41 Is the measurement value w YES >> GO TO 3. NO >> Repair the ABS 3.CHECK POWER SUPPL Check the power supply and BRC-45. "Diagnosis Procedu Is the inspection result norm YES (Present error)>>Repl <u>View"</u> . YES (Past error)>>Error wa	Termina 35 thin the specification? actuator and electric unit (co (AND GROUND CIRCUIT d the ground circuit of the A are".	14 ontrol unit) branch line. ABS actuator and electric ectric unit (control unit). R ator and electric unit (cont	Approx. 54 – 66 unit (control unit). Refer t efer to <u>BRC-124, "Explode</u>

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IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460159

[CAN SYSTEM (TYPE 5)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Termi		
E6	40 39		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-17, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-32, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

CAN COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT А **Diagnosis** Procedure INFOID:000000007460160 1.CONNECTOR INSPECTION 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. Disconnect all the unit connectors on CAN communication system. 3. C Check terminals and connectors for damage, bend and loose connection. 4. Is the inspection result normal? YES >> GO TO 2. D NO >> Repair the terminal and connector. 2. CHECK HARNESS CONTINUITY (SHORT CIRCUIT) E Check the continuity between the data link connector terminals. Data link connector Continuity F Connector No. Terminal No. M24 6 14 Not existed Is the inspection result normal? YES >> GO TO 3. NO >> Check the harness and repair the root cause. **3.**CHECK HARNESS CONTINUITY (SHORT CIRCUIT) Н Check the continuity between the data link connector and the ground. Data link connector Continuity Connector No. Terminal No. Ground 6 Not existed M24 14 Not existed Is the inspection result normal? Κ YES >> GO TO 4. NO >> Check the harness and repair the root cause. 4.CHECK ECM AND IPDM E/R TERMINATION CIRCUIT Remove the ECM and the IPDM E/R. 1. 2. Check the resistance between the ECM terminals. LAN ECM and IPDM E/R ECM Resistance (Ω) Terminal No. Approx. 108 - 132 Ν 114 113 Check the resistance between the IPDM E/R terminals. 3 IPDM E/R Resistance (Ω) Terminal No. LKIA0037E 40 39 Approx. 108 - 132 Ρ Is the measurement value within the specification? YES >> GO TO 5. NO >> Replace the ECM and/or the IPDM E/R. 5.CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

< DTC/CIRCUIT DIAGNOSIS >

LAN-177

< DTC/CIRCUIT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

MAIN LINE BETWEEN AV AND DLC CIRCUIT [CAN SYSTEM (TYPE 6)] < DTC/CIRCUIT DIAGNOSIS > DTC/CIRCUIT DIAGNOSIS А MAIN LINE BETWEEN AV AND DLC CIRCUIT **Diagnosis** Procedure INFOID:000000007460161 1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT) 1. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 2. 3. Disconnect the following harness connectors. ECM D AV control unit 4. Check the continuity between the AV control unit harness connector and the data link connector. Models with navigation system Е AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. F 90 6 Existed M210 M24 Existed 74 14 Models without navigation system AV control unit harness connector Data link connector Continuity Connector No. Terminal No. Connector No. Terminal No. Н 81 6 Existed M204 M24 80 14 Existed Is the inspection result normal? YES (Present error)>>Check CAN system type decision again. YES (Past error)>>Error was detected in the main line between the AV control unit and the data link connec-J tor. NO >> Repair the main line between the AV control unit and the data link connector. Κ L LAN Ν

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MAIN LINE BETWEEN DLC AND M&A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN DLC AND M&A CIRCUIT

Diagnosis Procedure

INFOID:000000007460162

[CAN SYSTEM (TYPE 6)]

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- Unified meter and A/C amp.
- 4. Check the continuity between the data link connector and the unified meter and A/C amp. harness connector.

Data link	Data link connector		Unified meter and A/C amp. harness connector		
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
M24	6	M67	56	Existed	
11/24	14		72	Existed	

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the data link connector and the unified meter and A/C amp.

NO >> Repair the main line between the data link connector and the unified meter and A/C amp.

	WEEN M&A A		ЛТ	
iagnosis Proced	ure			INFOID:00000000746016
.CHECK CONNECT	OR			
. Check the followin and harness side) Harness connector Harness connector the inspection result YES >> GO TO 2. NO >> Repair the	ttery cable from the ne ng terminals and conn r M7 r B1	ectors for damage, b	pend and loose conn	ection (connector side
Unified meter and Harness connecto Check the continu nector.		d meter and A/C am	p. harness connector	and the harness con-
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
	56		34	Existed
M67	72	M7	35	Existed
the inspection result				
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha Check the continu	e main line between the CONTINUITY (OPEN rness connectors B11 ity between the harnes connector	CIRCUIT) and B460. s connectors.	/C amp. and the harne	
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha Check the continu	CONTINUITY (OPEN rness connectors B11 ity between the harnes	CIRCUIT) and B460. s connectors.		ess connector M7.
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha Check the continu Harness Connector No.	CONTINUITY (OPEN rness connectors B11 ity between the harnes	CIRCUIT) and B460. ss connectors. Harness Connector No.	connector	
YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the ha Check the continu	CONTINUITY (OPEN rness connectors B11 ity between the harnes connector Terminal No. 34 35	CIRCUIT) and B460. s connectors. Harness	connector Terminal No.	Continuity

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MAIN LINE BETWEEN ADP AND BSW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN ADP AND BSW CIRCUIT

Diagnosis Procedure

INFOID:000000007460164

[CAN SYSTEM (TYPE 6)]

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- Harness connectors B460 and B11
- BSW control module
- 4. Check the continuity between the harness connector and the BSW control module harness connector.

Harness	connector	BSW control module	e harness connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B11	3	BE0	14	Existed
ЫТ	19	B50	15	Existed

Is the inspection result normal?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the main line between the driver seat control unit and the BSW control module.

NO >> Repair the main line between the harness connector B11 and the BSW control module.

AIN LINE BET	WEEN BSW A	ND ABS CIRC	UH	
iagnosis Proced	lure			INFOID:00000000746016
CHECK CONNECT	OR			
Turn the ignition s Disconnect the ba Check the followin and harness side) Harness connecto Harness connecto Harness connecto the inspection result (ES >> GO TO 2. IO >> Repair the CHECK HARNESS	witch OFF. ttery cable from the ne ng terminals and conr r B1 r M7 r M6 r E106	or. I CIRCUIT)	pend and loose conne	ection (connector side
BSW control mode Harness connector	ule		ss connector and the h	narness connector.
BSW control modul	e harness connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B50	14	B1	36	Existed
200	15	21	37	Existed
CHECK HARNESS Disconnect the ha Check the continu	e main line between the CONTINUITY (OPEN rness connectors M6 a ity between the harnes	I CIRCUIT) and E106.		nector B1.
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
	36		85	Existed
M7	37	M6	86	Existed
CHECK HARNESS	e main line between the CONTINUITY (OPEN nnector of ABS actuat ity between the harne	I CIRCUIT) or and electric unit (co	ontrol unit).	ctric unit (control unit
	connector	harness o		Continuity
O a man a stan Ma	Terminal No.	Connector No.	Terminal No.	
Connector No.				
E106	85 86	E41	35	Existed

MAIN LINE BETWEEN BSW AND ABS CIRCUIT

Is the inspection result normal?

86

14

Existed

< DTC/CIRCUIT DIAGNOSIS >

YES (Present error)>>Check CAN system type decision again.

- YES (Past error)>>Error was detected in the main line between the BSW control module and the ABS actuator and electric unit (control unit).
- NO >> Repair the main line between the harness connector E106 and the ABS actuator and electric unit (control unit).

ECM BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

iagnosis Procedure			INFOID:00000007460160
.CHECK CONNECTOR			
 Turn the ignition switch OFF Disconnect the battery cabl Check the terminals and co connector side). the inspection result normal? 	e from the negative ter		se connection (unit side and
YES >> GO TO 2.			
NO >> Repair the terminal			
CHECK HARNESS FOR OP			
. Disconnect the connector o			
. Check the resistance betwe		connector terminals.	
. Check the resistance betwe	ECM harness connector		– Resistance (Ω)
Connector No.	ECM harness connector Term	inal No.	Resistance (Ω)
Connector No.	ECM harness connector Term 114		- Resistance (Ω) Approx. 108 – 132
Connector No.	ECM harness connector Term 114 In the specification? Anch line.	inal No.	
Connector No. M107 Sthe measurement value within YES >> GO TO 3. NO >> Repair the ECM brack CHECK POWER SUPPLY A Check the power supply and the	ECM harness connector Term 114 In the specification? Anch line. ND GROUND CIRCUI	inal No. 113 T	Approx. 108 – 132
Connector No. M107 S the measurement value within YES >> GO TO 3. NO >> Repair the ECM brack CHECK POWER SUPPLY A Check the power supply and the s the inspection result normal?	ECM harness connector Term 114 In the specification? Anch line. ND GROUND CIRCUI A ground circuit of the B	inal No. 113 T ECM. Refer to <u>EC-153, "Di</u>	Approx. 108 – 132 agnosis Procedure".
Connector No. M107 Sthe measurement value within YES >> GO TO 3. NO >> Repair the ECM brack CHECK POWER SUPPLY A Check the power supply and the Sthe inspection result normal? YES (Present error)>>Replace CONTROL UNIT : S	ECM harness connector Term 114 a the specification? anch line. ND GROUND CIRCUI e ground circuit of the f s the ECM. Refer to <u>Special Repair Require</u>	inal No. 113 T ECM. Refer to <u>EC-153, "Dia</u> <u>EC-17, "ADDITIONAL SE</u> <u>ement"</u> .	Approx. 108 – 132 agnosis Procedure".
Connector No. M107 Sthe measurement value within YES >> GO TO 3. NO >> Repair the ECM brack CHECK POWER SUPPLY A Check the power supply and the Sthe inspection result normal? YES (Present error)>>Replace CONTROL UNIT : S YES (Past error)>>Error was contended	ECM harness connector Term 114 h the specification? anch line. ND GROUND CIRCUI e ground circuit of the B ground circuit of the B the ECM. Refer to Special Repair Require letected in the ECM br	inal No. 113 T ECM. Refer to <u>EC-153, "Dis</u> <u>EC-17, "ADDITIONAL SE</u> <u>ement"</u> . anch line.	Approx. 108 – 132 agnosis Procedure".
Connector No. M107 Sthe measurement value within YES >> GO TO 3. NO >> Repair the ECM bra CHECK POWER SUPPLY A Check the power supply and the Sthe inspection result normal? YES (Present error)>>Replace CONTROL UNIT : S YES (Past error)>>Error was c	ECM harness connector Term 114 h the specification? anch line. ND GROUND CIRCUI e ground circuit of the B ground circuit of the B the ECM. Refer to Special Repair Require letected in the ECM br	inal No. 113 T ECM. Refer to <u>EC-153, "Dis</u> <u>EC-17, "ADDITIONAL SE</u> <u>ement"</u> . anch line.	Approx. 108 – 132 agnosis Procedure".

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A-BAG BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure

INFOID:000000007460167

WARNING:

- Before servicing, turn ignition switch OFF, disconnect battery negative terminal, and wait 3 minutes or more. (To discharge backup capacitor.)
- Never use unspecified tester or other measuring device.

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the air bag diagnosis sensor unit for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to SRC-5, "Work Flow".

Is the inspection result normal?

- YES >> Replace the main harness.
- NO >> Replace parts whose air bag system has a malfunction.

AFS BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INFOID:000000007460168
1.CHECK CONNECTOR			
	cable from the negative tern d connectors of the AFS co e). nal?		d and loose connection (unit
2.CHECK HARNESS FOR	OPEN CIRCUIT		
 Disconnect the connect Check the resistance be 	or of AFS control unit. etween the AFS control unit	t harness connector termin	als.
	AFS control unit harness connected		Resistance (Ω)
Connector No.		nal No.	
YES >> GO TO 3.		7	Approx. 54 – 66
Is the measurement value w YES >> GO TO 3. NO >> Repair the AFS 3.CHECK POWER SUPPL	vithin the specification? control unit branch line. Y AND GROUND CIRCUIT	Γ	
s the measurement value w YES >> GO TO 3. NO >> Repair the AFS CHECK POWER SUPPL Check the power supply ar UNIT : Diagnosis Procedure s the inspection result norm YES (Present error)>>Rep	vithin the specification? control unit branch line. Y AND GROUND CIRCUIT and the ground circuit of the <u>al?</u> lace the AFS control unit. F	AFS control unit. Refer t Refer to <u>EXL-217, "Explode</u>	o EXL-65, "AFS CONTROL
Is the measurement value w YES >> GO TO 3. NO >> Repair the AFS 3.CHECK POWER SUPPL Check the power supply ar UNIT : Diagnosis Procedure Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? control unit branch line. Y AND GROUND CIRCUIT and the ground circuit of the bal?	AFS control unit. Refer t Refer to <u>EXL-217, "Explode</u> trol unit branch line.	o EXL-65, "AFS CONTROL
Is the measurement value w YES >> GO TO 3. NO >> Repair the AFS 3.CHECK POWER SUPPL Check the power supply ar UNIT : Diagnosis Procedure Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? control unit branch line. Y AND GROUND CIRCUIT nd the ground circuit of the ". hal? lace the AFS control unit. F as detected in the AFS con	AFS control unit. Refer t Refer to <u>EXL-217, "Explode</u> trol unit branch line.	o EXL-65, "AFS CONTROL
Is the measurement value w YES >> GO TO 3. NO >> Repair the AFS 3.CHECK POWER SUPPL Check the power supply ar UNIT : Diagnosis Procedure Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? control unit branch line. Y AND GROUND CIRCUIT nd the ground circuit of the ". hal? lace the AFS control unit. F as detected in the AFS con	AFS control unit. Refer t Refer to <u>EXL-217, "Explode</u> trol unit branch line.	o EXL-65, "AFS CONTROL
Is the measurement value w YES >> GO TO 3. NO >> Repair the AFS 3.CHECK POWER SUPPL Check the power supply ar UNIT : Diagnosis Procedure Is the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? control unit branch line. Y AND GROUND CIRCUIT nd the ground circuit of the ". hal? lace the AFS control unit. F as detected in the AFS con	AFS control unit. Refer t Refer to <u>EXL-217, "Explode</u> trol unit branch line.	o EXL-65, "AFS CONTROL

< DTC/CIRCUIT DIAGNOSIS >

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AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460169

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AV control unit.

2. Check the resistance between the AV control unit harness connector terminals.

Models with navigation system

	AV control unit harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
M210	90	74	Approx. 54 – 66

Models without navigation system

	AV control unit harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
M204	81	80	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

 $\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-93, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio without navigation: <u>AV-268, "AV CONTROL UNIT : Diagnosis Procedure"</u>
- BOSE audio with navigation: <u>AV-476, "AV CONTROL UNIT : Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to the following.

- Base audio without navigation: <u>AV-128, "Exploded View"</u>
- BOSE audio without navigation: AV-316, "Exploded View"
- BOSE audio with navigation: <u>AV-519, "Exploded View"</u>
- YES (Past error)>>Error was detected in the AV control unit branch line.

NO >> Repair the power supply and the ground circuit.

LANE BRANCH LIN	E CIRCUIT		
Diagnosis Procedure			INFOID:000000007460170
1. CHECK CONNECTOR			
	able from the negative terr inals and connectors for d		onnection (unit side and con-
Is the inspection result norma YES >> GO TO 2. NO >> Repair the termin	nal and connector.		
 CHECK HARNESS FOR Disconnect the connector Check the resistance between the connector 		t harness connector termi	nals.
La	ne camera unit harness connect	or	
Connector No.	Termir	nal No.	Resistance (Ω)
R8	10	5	Approx. 54 – 66
3. CHECK POWER SUPPLY	camera unit branch line. / AND GROUND CIRCUIT		
UNIT : Diagnosis Procedure Is the inspection result norma	· -	ane camera unit. Refer to	DAS-298, "LANE CAMERA
YES (Present error)>>Repla YES (Past error)>>Error wa NO >> Repair the powe		nera unit branch line.	ded View".

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4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460171

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- AWD control unit
- Harness connector F103
- Harness connector M116

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of AWD control unit.

2. Check the resistance between the AWD control unit harness connector terminals.

A	WD control unit harness connect	or	Resistance (Ω)
Connector No.	Termi	nal No.	
F108	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-45, "Diagnosis Proce-</u> <u>dure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-57, "Removal and Installation"</u>.

YES (Past error)>>Error was detected in the AWD control unit branch line.

NO >> Repair the power supply and the ground circuit.

BCM BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INFOID:000000007460172
1.CHECK CONNECTOR			
	able from the negative ter I connectors of the BCM		ose connection (unit side and
YES >> GO TO 2. NO >> Repair the termin			
2.CHECK HARNESS FOR			
 Disconnect the connector Check the resistance be 	or of BCM. tween the BCM harness c	onnector terminals.	
Connector No.		nal No.	Resistance (Ω)
M122	91 thin the specification?	90	Approx. 54 – 66
	thin the specification? branch line. AND GROUND CIRCUI the ground circuit of the E	Γ	

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< DTC/CIRCUIT DIAGNOSIS >

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460173

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the data link connector for damage, bend and loose connection (connector side and harness side).
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check the resistance between the data link connector terminals.

	Data link connector		Resistance (Ω)
Connector No.	Termi	nal No.	
M24	6	14	Approx. 54 – 66

Is the measurement value within the specification?

YES (Present error)>>Check CAN system type decision again.

YES (Past error)>>Error was detected in the data link connector branch line circuit.

NO >> Repair the data link connector branch line.

TCM BRANCH LINE CIRCUIT

agnosis Procedure					INFOID:000000007460174
.CHECK CONNECTOR					
 Turn the ignition switch Disconnect the battery Check the following terr nector side). A/T assembly Harness connector F10 Harness connector M11 the inspection result norm YES >> GO TO 2. NO >> Repair the term CHECK HARNESS FOR Disconnect the connect Check the resistance be 	cable from minals and 3 6 <u>hal?</u> inal and c COPEN C	d connectors for d connector. IRCUIT assembly.	amage, bend and		nnection (unit side and con-
		bly harness connector		terminals	
Connector No.		Termir	al No.		Resistance (Ω)
F51 the measurement value v YES >> GO TO 3. NO >> Repair the TCM	1 branch li	ne.	8		Approx. 54 – 66
the measurement value v YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint conne	l branch li OPEN C ector. Refe	specification? ne. IRCUIT er to <u>TM-182, "Rer</u>	noval and Installa		Approx. 54 – 66 he TCM harness connector
the measurement value v YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint connect Check the continuity be side of the joint connect	1 branch li OPEN C ector. Refe tween the tor.	specification? ne. IRCUIT er to <u>TM-182, "Rer</u> e A/T assembly ha	noval and Installa rness connector		
the measurement value v YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint conne Check the continuity be	1 branch li OPEN C ector. Refe tween the tor.	specification? ne. IRCUIT er to <u>TM-182, "Rer</u>	noval and Installa rness connector		
a the measurement value v YES >> GO TO 3. NO >> Repair the TCM CHECK HARNESS FOR Remove the joint connect Check the continuity be side of the joint connect A/T assembly harness connect	1 branch li OPEN C ector. Refe tween the tor.	specification? ne. IRCUIT er to <u>TM-182, "Rer</u> e A/T assembly ha TCM harness	noval and Installa rness connector		he TCM harness connector
a the measurement value v YES >> GO TO 3. NO >> Repair the TCM •CHECK HARNESS FOR •CHECK the continuity be side of the joint connect A/T assembly harness connect Terminal No.	1 branch li OPEN C ector. Refe tween the tor.	specification? ne. IRCUIT er to <u>TM-182, "Rer</u> e A/T assembly ha TCM harness	noval and Installa rness connector connector side al No.		he TCM harness connector

< DTC/CIRCUIT DIAGNOSIS >

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of unified meter and A/C amp.
- 2. Check the resistance between the unified meter and A/C amp. harness connector terminals.

Unified	I meter and A/C amp. harness co	nnector	Resistance (Ω)
Connector No.	Termi	nal No.	
M67	56	72	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the unified meter and A/C amp. branch line.

$\mathbf{3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the unified meter and A/C amp. Refer to <u>MWI-55, "UNIFIED</u> <u>METER AND A/C AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the unified meter and A/C amp. Refer to MWI-135, "Exploded View".

YES (Past error)>>Error was detected in the unified meter and A/C amp. branch line.

NO >> Repair the power supply and the ground circuit.

INFOID:000000007460175

STRG BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INFOID:00000007460176
.CHECK CONNECTOR			
Check the terminals and (unit side and connecto	cable from the negative term I connectors of the steering a side).		, bend and loose connection
the inspection result norm YES >> GO TO 2. NO >> Repair the term			
2 . CHECK HARNESS FOR	OPEN CIRCUIT		
	or of steering angle sensor. Hween the steering angle se	nsor harness connector t	erminals.
	ering angle sensor harness connec		Resistance (Ω)
Connector No. M37	Termina 1	1 No. 2	Approx. 54 – 66
CHECK POWER SUPPL check the power supply an ram - BRAKE CONTROL S the inspection result norm	<u>SYSTEM -"</u> . <u>al?</u>	eering angle sensor. Rei	er to <u>BRC-103, "Wiring Dia-</u> xploded View".
YES (Past error)>>Error w	ace the steering angle sense as detected in the steering a	ngle sensor branch line.	
YES (Past error)>>Error w		ngle sensor branch line.	
YES (Past error)>>Error w	as detected in the steering a	ngle sensor branch line.	

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ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460177

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Driver seat control unit
- Harness connector B460
- Harness connector B11

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of driver seat control unit.

2. Check the resistance between the driver seat control unit harness connector terminals.

Driv	er seat control unit harness conn	ector	Resistance (Ω)
Connector No.	Termi	nal No.	
B451	3	19	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the driver seat control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-58, "DRIVER SEAT</u> <u>CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to <u>ADP-221, "Exploded View"</u>.

YES (Past error)>>Error was detected in the driver seat control unit branch line.

NO >> Repair the power supply and the ground circuit.

BSW BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INFOID:00000007460178
1 .CHECK CONNECTOR			
I. Turn the ignition switch	OFF.		
2. Disconnect the battery	cable from the negative tern d connectors of the BSW c		bend and loose connection
s the inspection result norm	nal?		
YES >> GO TO 2. NO >> Repair the term	inal and connector		
2. CHECK HARNESS FOR			
	or of BSW control module.		
		odule harness connector te	rminals.
BS	W control module harness conne	ctor	
Connector No.	Γ	nal No.	Resistance (Ω)
B50	14	15	Approx. 54 – 66
		15	Approx. 54 – 66
B50 s the measurement value w YES >> GO TO 3.		15	Approx. 54 – 66
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV	vithin the specification? V control module branch lir		Approx. 54 – 66 cuit side). Refer to <u>LAN-41</u> .
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV <u>"System Diagra</u>	vithin the specification? V control module branch lir m".	e (CAN communication cir	
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV <u>"System Diagra</u> 3.CHECK POWER SUPPL	vithin the specification? V control module branch lir m". Y AND GROUND CIRCUI	e (CAN communication cir	cuit side). Refer to <u>LAN-41.</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV <u>"System Diagra</u> 3.CHECK POWER SUPPL	vithin the specification? V control module branch lir <u>m"</u> . Y AND GROUND CIRCUIT d the ground circuit of the	e (CAN communication cir	
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV <u>"System Diagra</u> 3.CHECK POWER SUPPL Check the power supply an	vithin the specification? V control module branch lir m". Y AND GROUND CIRCUIT d the ground circuit of the <u>s Procedure"</u> .	e (CAN communication cir	cuit side). Refer to <u>LAN-41.</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV "System Diagra 3.CHECK POWER SUPPL Check the power supply an IROL MODULE : Diagnosis s the inspection result norm YES (Present error)>>Rep	vithin the specification? V control module branch lin m". Y AND GROUND CIRCUIT d the ground circuit of the <u>s Procedure</u> ". hal? lace the BSW control modu	le (CAN communication cir r BSW control module. Refe	cuit side). Refer to <u>LAN-41,</u> er to <u>DAS-406, "BSW CON-</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV "System Diagra 3.CHECK POWER SUPPL Check the power supply an IROL MODULE : Diagnosis s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? V control module branch lin m". Y AND GROUND CIRCUIT d the ground circuit of the <u>Procedure</u> ". hal? lace the BSW control modules as detected in the BSW control modules	e (CAN communication cir F BSW control module. Refe ule. Refer to <u>DAS-415, "Rei</u> ntrol module branch line.	cuit side). Refer to <u>LAN-41,</u> er to <u>DAS-406, "BSW CON-</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV "System Diagra 3.CHECK POWER SUPPL Check the power supply an IROL MODULE : Diagnosis s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? V control module branch lin m". Y AND GROUND CIRCUIT d the ground circuit of the <u>s Procedure</u> ". hal? lace the BSW control modu	e (CAN communication cir F BSW control module. Refe ule. Refer to <u>DAS-415, "Rei</u> ntrol module branch line.	cuit side). Refer to <u>LAN-41,</u> er to <u>DAS-406, "BSW CON-</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV "System Diagra 3.CHECK POWER SUPPL Check the power supply an IROL MODULE : Diagnosis s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? V control module branch lin m". Y AND GROUND CIRCUIT d the ground circuit of the <u>Procedure</u> ". hal? lace the BSW control modules as detected in the BSW control modules	e (CAN communication cir F BSW control module. Refe ule. Refer to <u>DAS-415, "Rei</u> ntrol module branch line.	cuit side). Refer to <u>LAN-41,</u> er to <u>DAS-406, "BSW CON-</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV "System Diagra 3.CHECK POWER SUPPL Check the power supply an IROL MODULE : Diagnosis s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? V control module branch lin m". Y AND GROUND CIRCUIT d the ground circuit of the <u>Procedure</u> ". hal? lace the BSW control modules as detected in the BSW control modules	e (CAN communication cir F BSW control module. Refe ule. Refer to <u>DAS-415, "Rei</u> ntrol module branch line.	cuit side). Refer to <u>LAN-41,</u> er to <u>DAS-406, "BSW CON-</u>
s the measurement value w YES >> GO TO 3. NO >> Repair the BSV "System Diagra 3.CHECK POWER SUPPL Check the power supply an IROL MODULE : Diagnosis s the inspection result norm YES (Present error)>>Rep YES (Past error)>>Error w	vithin the specification? V control module branch lin m". Y AND GROUND CIRCUIT d the ground circuit of the <u>Procedure</u> ". hal? lace the BSW control modules as detected in the BSW control modules	e (CAN communication cir F BSW control module. Refe ule. Refer to <u>DAS-415, "Rei</u> ntrol module branch line.	cuit side). Refer to <u>LAN-41,</u> er to <u>DAS-406, "BSW CON-</u>

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ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

ABS actuator a	and electric unit (control unit) har	ness connector	Resistance (Ω)
Connector No.	Termi	nal No.	
E41	35	14	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ABS actuator and electric unit (control unit) branch line.

$\mathbf{3}$. Check power supply and ground circuit

Check the power supply and the ground circuit of the ABS actuator and electric unit (control unit). Refer to BRC-45, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to <u>BRC-124</u>, "Exploded <u>View"</u>.

YES (Past error)>>Error was detected in the ABS actuator and electric unit (control unit) branch line.

NO >> Repair the power supply and the ground circuit.

Revision: 2014 October

ICC BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure	INFOID:00000007460180
1. CHECK CONNECTOR	
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. Check the terminals and connectors of the ICC sensor integrated unit for dan nection (unit side and connector side). 	nage, bend and loose con-
Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal and connector. 2.CHECK HARNESS FOR OPEN CIRCUIT	
 Disconnect the connector of ICC sensor integrated unit. Check the resistance between the ICC sensor integrated unit harness connect 	or terminals.
ICC sensor integrated unit harness connector	Resistance (Ω)
Connector No. Terminal No.	
E67 3 6	Approx. 54 – 66
Is the measurement value within the specification? YES >> GO TO 3.	
NO >> Repair the ICC sensor integrated unit branch line (CAN communica <u>LAN-41, "System Diagram"</u> . 3.CHECK POWER SUPPLY AND GROUND CIRCUIT	
 NO >> Repair the ICC sensor integrated unit branch line (CAN communica <u>LAN-41, "System Diagram"</u>. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ICC sensor integrated uni <u>SENSOR INTEGRATED UNIT : Diagnosis Procedure"</u>. 	
 NO >> Repair the ICC sensor integrated unit branch line (CAN communica <u>LAN-41. "System Diagram"</u>. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ICC sensor integrated unit 	. Refer to <u>CCS-134, "ICC</u>
 NO >> Repair the ICC sensor integrated unit branch line (CAN communica <u>LAN-41. "System Diagram"</u>. CHECK POWER SUPPLY AND GROUND CIRCUIT Check the power supply and the ground circuit of the ICC sensor integrated unit <u>SENSOR INTEGRATED UNIT : Diagnosis Procedure"</u>. Is the inspection result normal? YES (Present error)>>Replace the ICC sensor integrated unit. Refer to <u>CCS-174.</u> YES (Past error)>>Error was detected in the ICC sensor integrated unit branch line) 	. Refer to <u>CCS-134, "ICC</u>

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IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460181

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the IPDM E/R for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of IPDM E/R.

2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		Resistance (Ω)
Connector No.	Termi	nal No.	Tresistance (22)
E6	40	39	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the IPDM E/R branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-17, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-32, "Exploded View".

YES (Past error)>>Error was detected in the IPDM E/R branch line.

NO >> Repair the power supply and the ground circuit.

APA BRANCH LINE CIRCUIT

[CAN SYSTEM (TYPE 6)]

Diagnosis Procedure			INFOID:000000007460182
1.CHECK CONNECTOR			
	cable from the negative term d connectors of the acceler		amage, bend and loose con-
s the inspection result norm YES >> GO TO 2. NO >> Repair the term 2.CHECK HARNESS FOR	inal and connector.		
1. Disconnect the connect	or of accelerator pedal actu etween the accelerator peda		ector terminals.
Accele	erator pedal actuator harness con	nector	Posistance (0)
Connector No.	Termin	al No.	Resistance (Ω)
E113	5	3	Approx. 54 – 66
B. CHECK POWER SUPPL Check the power supply and <u>ERATOR PEDAL ACTUATO</u> <u>s the inspection result norm</u> YES (Present error)>>Rep YES (Past error)>>Error wa	d the ground circuit of the action of the ac	ccelerator pedal actuator. actuator. Refer to <u>DAS-19</u> or pedal actuator branch	

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BCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460183

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Brake booster control unit
- Harness connector B201
- Harness connector M117
- Harness connector M6
- Harness connector E106

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of brake booster control unit.
- 2. Check the resistance between the brake booster control unit harness connector terminals.

Brake	booster control unit harness connect	or	Resistance (Ω)
Connector No.	Terminal N	lo.	
B250	14	5	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair or replace (if shield line is open) the brake booster control unit branch line.

 ${f 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the brake booster control unit. Refer to <u>CCS-134</u>, "<u>BRAKE</u> <u>BOOSTER CONTROL UNIT</u> : <u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the brake booster control unit. Refer to CCS-175, "Exploded View".

- YES (Past error)>>Error was detected in the brake booster control unit branch line.
- NO >> Repair the power supply and the ground circuit.

< DTC/CIRCUIT DIAGNOSIS >			[CAN SYSTEM (TYPE 6)]
RDR-L BRANCH LINE	CIRCUIT		
Diagnosis Procedure			INFOID:000000007460184
1.CHECK CONNECTOR			
 Turn the ignition switch OFF Disconnect the battery cable Check the following termina nector side). Side radar LH Harness connector B104 Harness connector B102 Harness connector B101 Harness connector B69 Is the inspection result normal? YES >> GO TO 2. NO >> Repair the terminal a CHECK HARNESS FOR OPI 	e from the negative termina ls and connectors for dama and connector.		nnection (unit side and con-
 Disconnect the connector of Check the resistance between 	side radar LH.	ess connector terminals	
	radar LH harness connector		Resistance (Ω)
Connector No.	Terminal N	-	
B105 s the measurement value within	4	3	Approx. 54 – 66
YES >> GO TO 3. NO >> Repair the side rada 3. CHECK POWER SUPPLY AI			
Check the power supply and the <u>Diagnosis Procedure</u> ". <u>Is the inspection result normal?</u> YES (Present error)>>Replace YES (Past error)>>Error was d NO >> Repair the power su	the side radar LH. Refer to	o <u>DAS-416, "Removal a</u> H branch line.	

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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:000000007460185

[CAN SYSTEM (TYPE 6)]

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Side radar RH
- Harness connector B106
- Harness connector B103
- Harness connector B101
- Harness connector B69

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of side radar RH.

2. Check the resistance between the side radar RH harness connector terminals.

ę	Side radar RH harness connecto	r	Resistance (Ω)
Connector No.	Termi	nal No.	
B107	4	3	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the side radar RH branch line.

 ${
m 3.}$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-407. "SIDE RADAR RH :</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-416, "Removal and Installation".

- YES (Past error)>>Error was detected in the side radar RH branch line.
- NO >> Repair the power supply and the ground circuit.

CAN COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 6)]

	TION CIRCUIT		
Diagnosis Procedure			INFOID:000000007460186
CONNECTOR INSPECT	ION		
 B. Disconnect all the unit c Check terminals and corst the inspection result norm YES >> GO TO 2. NO >> Repair the terminals 	cable from the negative terr onnectors on CAN commu nnectors for damage, bend al? nal and connector.	nication system. and loose connection.	
CHECK HARNESS CON Check the continuity betwee			
	Data link connector		
Connector No.		nal No.	Continuity
M24	6	14	Not existed
3. CHECK HARNESS CON Check the continuity betwee	n the data link connector a		,
	connector		Continuity
Connector No.	Terminal No.	Ground	
	6	Ground	Not existed
M24	6 14	Ground	Not existed Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne CHECK ECM AND IPDM I. Remove the ECM and th	14 al? ess and repair the root caus E/R TERMINATION CIRC	se.	
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 4. CHECK ECM AND IPDM 1. Remove the ECM and th	14 al? ess and repair the root caus E/R TERMINATION CIRC he IPDM E/R.	se. UIT	
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1 .CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11	14 al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1	se. UIT	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne 1 .CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11	14 al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω	se. UIT	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harne CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be IPDM E/R	14 al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminals	se. UIT 2) 132 nals.	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harner CHECK ECM AND IPDM Remove the ECM and th Check the resistance be ECM Terminal No. 114 11 Check the resistance be IPDM E/R Terminal No.	14 al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. etween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminals Resistance (Ω Resistance (Ω Resistance (Ω	se. UIT 2) 132 nals.	Not existed
s the inspection result norm YES >> GO TO 4. NO >> Check the harner 4.CHECK ECM AND IPDM 1. Remove the ECM and th 2. Check the resistance be ECM Terminal No. 114 11 3. Check the resistance be IPDM E/R Terminal No.	14 14 al? ess and repair the root cause E/R TERMINATION CIRC he IPDM E/R. btween the ECM terminals. Resistance (Ω 13 Approx. 108 – 1 etween the IPDM E/R terminal Resistance (Ω 9 Approx. 108 – 1	se. UIT 2) 132 nals.	ECM and IPDM E/R

< DTC/CIRCUIT DIAGNOSIS >

LAN-205

< DTC/CIRCUIT DIAGNOSIS >

Inspection result

Reproduced>>GO TO 6.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

6.CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of CAN communication system. **NOTE:**

ECM and IPDM E/R have a termination circuit. Check other units first.

 Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.
 NOTE:

Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

ITS COMMUNICATION CIRCUIT

S COMMUNIC				
agnosis Proced	ure			INFOID:000000007732868
CHECK CAN DIAG	NOSIS			
eck the CAN diagno	osis results from CON	SULT to see that the	CAN communication	circuit has no malfunc-
ן. אדב.				
)TE: r identification of CA	AN communication cir	rcuit, ITS communicat	ion circuit and BSW	communication circuit,
er to <u>LAN-41, "Syste</u>	em Diagram".			
<u>he CAN communica</u> ES >> GO TO 2.	ation circuit normal?			
	l repair CAN commun	ication circuit.		
CONNECTOR INSP	PECTION			
Turn the ignition s		<i></i>		
	ttery cable from the ne g terminals and conne		nd and loose connect	ion (unit side and con-
nector side).	-	3 , 11		,
ICC sensor integra Accelerator pedal				
Brake booster con Harness connector				
Harness connector				
Harness connector	r M6			
Harness connector	r E106			
Harness connector he inspection result ES >> GO TO 3.	r E106 <u>normal?</u>			
Harness connector the inspection result ES >> GO TO 3. O >> Repair the	r E106 <u>normal?</u> terminal and connect			
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN	N CIRCUIT)		
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne	N CIRCUIT)		
Harness connector the inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit	N CIRCUIT)	t harness connector :	and the brake booster
Harness connector the inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC	N CIRCUIT)	t harness connector a	and the brake booster
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con Check the continu control unit harnes	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC as connector.	N CIRCUIT)		and the brake booster
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con Check the continu control unit harnes	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC	N CIRCUIT) ectors. sensor integrated uni		and the brake booster
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster con Check the continu control unit harnes ICC sensor integrated Connector No.	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC as connector.	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No.	unit harness connector	
Harness connector he inspection result S >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster con Check the continu control unit harnes	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit tity between the ICC ss connector. unit harness connector Terminal No.	N CIRCUIT) ectors. sensor integrated uni Brake booster control (unit harness connector Terminal No.	Continuity
Harness connector the inspection result S >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster con Check the continu control unit harnes ICC sensor integrated Connector No. E67 the inspection result	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit tity between the ICC ss connector. unit harness connector Terminal No. 2 5	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No.	unit harness connector Terminal No. 14	Continuity Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4.	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal?	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250	unit harness connector Terminal No. 14 5	Continuity Existed Existed
Harness connector the inspection result S >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 the inspection result S >> GO TO 4. D >> Repair the	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 <u>normal?</u>	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250	unit harness connector Terminal No. 14 5	Continuity Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integrated Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. D >> Repair the <u>41. "System</u>	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit hity between the ICC as connector. unit harness connector Terminal No. 2 5 normal? ICC sensor integrate m Diagram".	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS	unit harness connector Terminal No. 14 5	Continuity Existed Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. D >> Repair the <u>41, "Syster</u> CHECK HARNESS	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 <u>normal?</u> ICC sensor integrate <u>m Diagram</u> ". CONTINUITY (SHOP	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT)	unit harness connector Terminal No. 14 5	Continuity Existed Existed
Harness connector he inspection result ES >> GO TO 3. D >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. D >> Repair the 41, "System CHECK HARNESS Disconnect the cor	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit hity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal? ICC sensor integrate m Diagram". CONTINUITY (SHOP nnector of accelerator	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT)	unit harness connector Terminal No. 14 5 S communication circu	Continuity Existed Existed uit side). Refer to <u>LAN-</u>
Harness connector he inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 he inspection result ES >> GO TO 4. O >> Repair the <u>41. "Syster</u> CHECK HARNESS Disconnect the cor	r E106 normal? terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit hity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal? ICC sensor integrate m Diagram". CONTINUITY (SHOP nnector of accelerator	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT) r pedal actuator. ensor integrated unit h	unit harness connector Terminal No. 14 5 S communication circu	Continuity Existed Existed uit side). Refer to LAN-
Harness connector the inspection result ES >> GO TO 3. O >> Repair the CHECK HARNESS Disconnect the foll ICC sensor integra Brake booster com Check the continu control unit harnes ICC sensor integrated Connector No. E67 the inspection result ES >> GO TO 4. O >> Repair the <u>41. "Syster</u> CHECK HARNESS Disconnect the cor	r E106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness conne ated unit trol unit ity between the ICC ss connector. unit harness connector Terminal No. 2 5 normal? ICC sensor integrate <u>m Diagram</u> ". CONTINUITY (SHOP innector of accelerator ity between the ICC s	N CIRCUIT) ectors. sensor integrated uni Brake booster control of Connector No. B250 ed unit branch line (ITS RT CIRCUIT) r pedal actuator. ensor integrated unit h	unit harness connector Terminal No. 14 5 S communication circu	Continuity Existed Existed uit side). Refer to <u>LAN-</u>

NO

< DTC/CIRCUIT DIAGNOSIS >

LAN-207

>> Check the harness and repair or replace (if shield line is short) the root cause.

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ICC sensor integrated unit harness connector and the ground.

ICC sensor integrated	ICC sensor integrated unit harness connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
E67	2	Ground	Not existed
<u> </u>	5	-	Not existed

Is the inspection result normal?

YES >> GO TO 6.

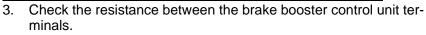
NO >> Check the harness and repair or replace (if shield line is short) the root cause.

6. CHECK TERMINATION CIRCUIT

1. Remove the ICC sensor integrated unit and the brake booster control unit.

- 2. Check the resistance between the ICC sensor integrated unit terminals.
 - 1 : ICC sensor integrated unit and brake booster control unit

ICC sensor i	ntegrated unit	Resistance (Ω)	
Termi	Terminal No.		
2	5	Approx. 108 – 132	



Brake boost	er control unit	Resistance (Ω)
Termi	nal No.	
14	5	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ICC sensor integrated unit and/or the brake booster control unit.

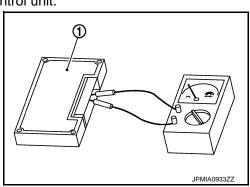
7.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

Inspection result

Reproduced>>Replace the accelerator pedal actuator.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.



BSW COMMUNICATION CIRCUIT

[CAN SYSTEM (TYPE 6)]

DIC/CIRCUIT DIAG		דוו ור		
BSW COMMUN	ICATION CIRC			
Diagnosis Proced	ure			INFOID:000000007732870
CHECK CAN DIAG	NOSIS			
•	sis results from CON	ISULT to see that the (CAN communication	circuit has no malfunc-
ion. IOTE:				
	N communication cir	rcuit, ITS communicati	on circuit, and BSW	communication circuit,
efer to <u>LAN-41, "Syste</u>				
s the CAN communica	ation circuit normal?			
YES >> GO TO 2. NO >> Check and	l repair CAN commur	vication circuit		
2.CONNECTOR INSP	-	neation chedit.		
. Turn the ignition solution. Disconnect the bat	ttery cable from the n	egative terminal.		
B. Check the following			nd and loose connec	ction (unit side and con-
nector side). BSW control modu	lle			
Side radar LH				
Side radar RH Harness connector	r 869			
Harness connector	D 4 0 0			
Harness connector				
Harness connector Harness connector	r B106			
Harness connector Harness connector s the inspection result	r B106			
Harness connector Harness connector s the inspection result YES >> GO TO 3.	r B106	tor.		
Harness connector Harness connector s the inspection result YES >> GO TO 3.	r B106 <u>normal?</u> terminal and connec			
Harness connector Harness connector s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPEN lowing harness connection	N CIRCUIT)		
Harness connector Harness connector s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPEN lowing harness connection	N CIRCUIT)		
Harness connector Harness connector s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPER lowing harness conne	N CIRCUIT)	s connector and the	side radar RH harness
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPER lowing harness conne	N CIRCUIT)	ss connector and the	e side radar RH harness
Harness connector Harness connector s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector.	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPER lowing harness conne	N CIRCUIT)		
Harness connector Harness connector s the inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector.	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPEN lowing harness conne le ity between the BSW	N CIRCUIT) ectors. control module harnes		e side radar RH harness Continuity
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector.	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPEN lowing harness conne lle ity between the BSW	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No.	irness connector	
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector.	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPEN lowing harness conne le ity between the BSW e harness connector Terminal No.	N CIRCUIT) ectors. control module harnes Side radar RH ha	rness connector Terminal No.	- Continuity
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector.	r B106 <u>normal?</u> terminal and connec CONTINUITY (OPEN lowing harness connected lity between the BSW e harness connector Terminal No. 7 8	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No.	rness connector Terminal No. 4	- Continuity Existed
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector. BSW control module Connector No. B50 sthe inspection result YES >> GO TO 4.	r B106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness connect le ity between the BSW e harness connector Terminal No. 7 8 normal?	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107	Terminal No. 4 3	Continuity Existed Existed
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continuit connector. BSW control module Connector No. B50 sthe inspection result YES >> GO TO 4. NO >> Repair the	r B106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness connect le ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107	Terminal No. 4 3	- Continuity Existed
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control module Side radar RH Check the continuit connector. BSW control module Connector No. BSW control module Connector No. BSW control module Connector No. BSW control module Connector No. BSW control module Connector No.	r B106 normal? terminal and connec CONTINUITY (OPEN lowing harness connec ile ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module biagram".	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co	Terminal No. 4 3	Continuity Existed Existed
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector. BSW control module Connector No. B50 sthe inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS	r B106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness connect ity between the BSW e harness connector Terminal No. 7 8 <u>normal?</u> BSW control module biagram". CONTINUITY (SHOP	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT)	Terminal No. 4 3	Continuity Existed Existed
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control module Side radar RH Check the continuit connector. BSW control module Connector No. BSW CONTO HARNESS Sthe inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS Disconnect the cor	r B106 normal? terminal and connec CONTINUITY (OPEN lowing harness conner le ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module biagram". CONTINUITY (SHOP nnector of side radar	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT)	Terminal No. 4 3 mmunication circuit	Continuity Existed Existed side). Refer to <u>LAN-41</u> ,
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control module Side radar RH Check the continuit connector. BSW control module Connector No. BSW CONTO A. NO >> Repair the "System D CHECK HARNESS Disconnect the cor	r B106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness connect ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module tiagram". CONTINUITY (SHOP nnector of side radar ity between the BSW	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT) LH. control module harnes	Terminal No. 4 3 mmunication circuit	Continuity Existed Existed side). Refer to <u>LAN-41</u> ,
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control modu Side radar RH Check the continui connector. BSW control module Connector No. BSW control module Connector No. BSO Sthe inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS Disconnect the cor Check the continui	r B106 normal? terminal and connec CONTINUITY (OPEN lowing harness conner le ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module biagram". CONTINUITY (SHOP nnector of side radar	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT) LH. control module harnes	Terminal No. 4 3 mmunication circuit	Continuity Existed Existed side). Refer to <u>LAN-41</u> ,
Harness connector Harness connector Sthe inspection result YES >> GO TO 3. NO >> Repair the CHECK HARNESS Disconnect the foll BSW control module Side radar RH Check the continuit connector. BSW control module Connector No. BSW CONTO HARNESS Sthe inspection result YES >> GO TO 4. NO >> Repair the "System D CHECK HARNESS Disconnect the cor	r B106 <u>normal?</u> terminal and connect CONTINUITY (OPEN lowing harness connect ity between the BSW e harness connector Terminal No. 7 8 normal? BSW control module tiagram". CONTINUITY (SHOP nnector of side radar ity between the BSW	N CIRCUIT) ectors. control module harnes Side radar RH ha Connector No. B107 e branch line (BSW co RT CIRCUIT) LH. control module harnes	Terminal No. 4 3 mmunication circuit	Continuity Existed Existed side). Refer to LAN-41,

YES >> GO TO 5. NO

< DTC/CIRCUIT DIAGNOSIS >

>> Check the harness and repair the root cause.

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the BSW control module harness connector and the ground.

BSW control module harness connector			Continuity
Connector No.	Terminal No.	Ground	Continuity
B50	7	Giouna	Not existed
600	8	1	Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check the harness and repair the root cause.

6.CHECK TERMINATION CIRCUIT

1. Remove the BSW control module and the side radar RH.

2. Check the resistance between the BSW control module terminals.

1 : BSW control module and side radar RH

BSW cont	Resistance (Ω)	
Terminal No.		
7	8	Approx. 108 – 132

3. Check the resistance between the side radar RH terminals.

Side ra	Resistance (Ω)	
Termi	nal No.	
4	3	Approx. 108 – 132

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the BSW control module and/or the side radar RH.

1.CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced.

Inspection result

Reproduced>>Replace the side radar LH.

Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

