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HOW TO USE THIS SECTION

< HOW TO USE THIS MANUAL >

[CAN FUNDAMENTAL]

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information INFOID:000000012548441

• "CAN FUNDAMENTAL" of LAN Section describes the basic knowledge of the CAN communication system and the method of trouble diagnosis.

• For information peculiar to a vehicle and inspection procedure, refer to "CAN".

PRECAUTION

PRECAUTIONS

Precautions for Trouble Diagnosis

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CAUTION:

Follow the instructions listed below. Failure to do this may cause damage to parts:

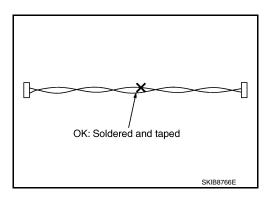
- Never apply 7.0 V or more to the measurement terminal.
- Use a tester with open terminal voltage of 7.0 V or less.
- Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.

Precautions for Harness Repair

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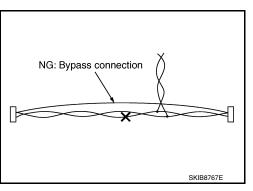
Solder the repaired area and wrap tape around the soldered area.
 NOTE:

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



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

SYSTEM

CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM: System Description

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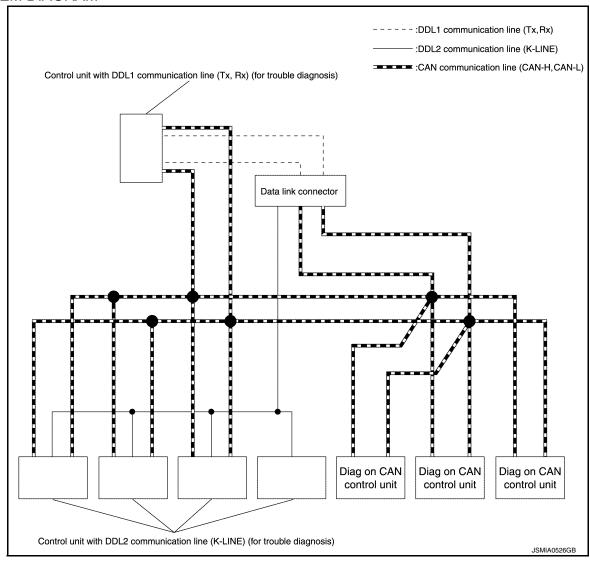
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

DIAG ON CAN

DIAG ON CAN: System Description

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SYSTEM DIAGRAM



SYSTEM

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Name	Harness	Description
DDL1	Tx Rx	For communications with the diagnostic tool. (CAN-H and CAN-L are used for controlling)
DDL2	K-LINE	For communications with the diagnostic tool. (CAN-H and CAN-L are used for controlling)
Diag on CAN	CAN-H CAN-L	For communications with the diagnostic tool. (CAN-H and CAN-L are also used for control and diagnoses.)

DESCRIPTION

"Diag on CAN" is a diagnosis method which uses the CAN communication line for the communication between the control unit and the diagnostic tool.

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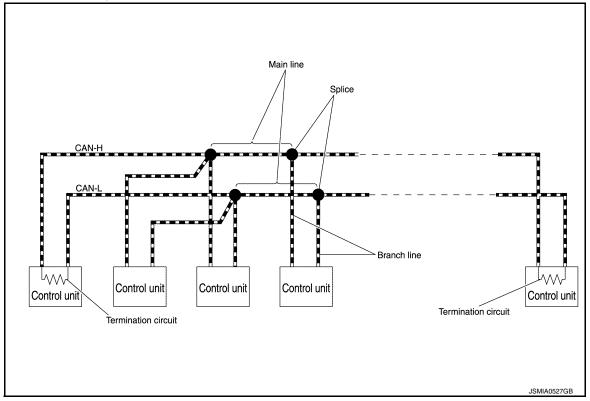
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TROUBLE DIAGNOSIS

Component Description

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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	Circuit connected across the CAN communication system. (Resistor)

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.

NOTE:

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 control unit.

Symptom When Error Occurs in CAN Communication System

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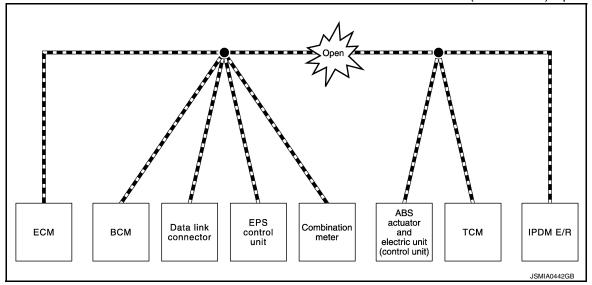
In CAN communication system, multiple control units mutually transmit and receive signals. Each control unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

ERROR EXAMPLE

NOTE:

Each vehicle differs in symptom of each control unit under fail-safe mode and CAN communication line wiring.

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



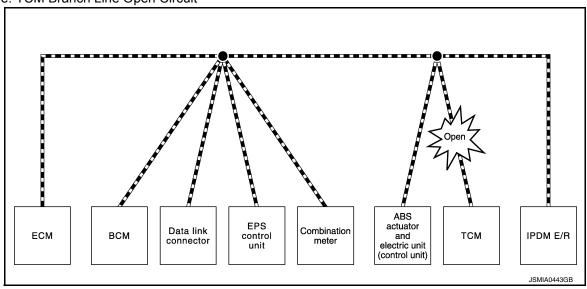
Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
ВСМ	 Reverse warning buzzer does not sound. The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position.
EPS control unit	The steering effort 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.
TCM	No impact on operation.
IPDM E/R	When the ignition switch is ON, The headlamps (Lo) turn ON. The cooling fan continues to rotate.

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Example: TCM Branch Line Open Circuit



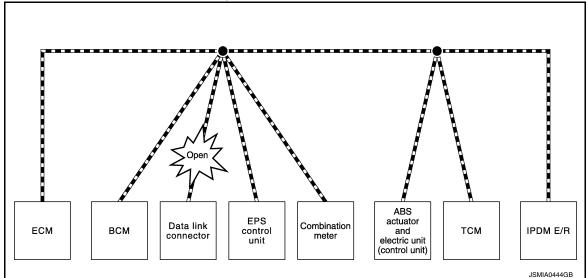
Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	Reverse warning buzzer does not sound.
EPS control unit	Normal operation.
Combination meter	 Shift position indicator and O/D OFF indicator turn OFF. Warning lamps turn ON.
ABS actuator and electric unit (control unit)	Normal operation.
TCM	No impact on operation.
IPDM E/R	Normal operation.

NOTE:

The model (all control 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 control units which are connected to the CAN communication system enter fail-safe mode or are deactivated.

Example: Data Link Connector Branch Line Open Circuit



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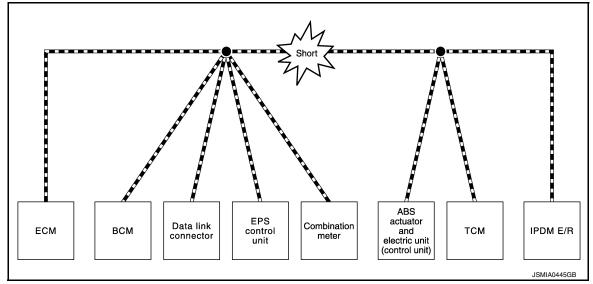
LAN

Unit name	Major symptom
ECM	
BCM	
EPS control unit	
Combination meter	Normal operation.
ABS actuator and electric unit (control unit)	
TCM	
IPDM E/R	

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.

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



Unit name	Major symptom
ECM	 Engine torque limiting is affected, and shift harshness increases. Engine speed drops.
BCM	 Reverse warning buzzer 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.
TCM	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

INFOID:0000000012548449

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

< SYSTEM DESCRIPTION >

- · 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 control 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			
U1000	U1000 CAN COMM CIRCUIT		ECM		When ECM is not transmitting or receiving CAN communication signal of OBD (emission-related diagnosis) for 2 seconds or more.		
01000	CAN COMM CINCOTT	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			
U1001	CAN COMM CIRCUIT	When ECM is not transmitting or receiving CAN communication signal other than OBD (emission-related diagnosis) for 2 seconds or more.		control unit.			
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".			

CAN Diagnostic Support Monitor

INFOID:0000000012548451

MONITOR ITEM (CONSULT)

Example: CAN DIAG SUPPORT MNTR indication

V	Vithout PAS	T		With PAST	
	всм			ENGINE	
MONITOR ITEM	PRESENT	PAST	MONITOR ITEM	PRESENT	PAST
NITIAL DIAG	OK	-	TRANSMIT DIAG	OK	OK
RANSMIT DIAG	OK	-	VDC/TCS/ABS	OK	5
CM	OK	-	METER/M&A	Not diagnosed	-
IETER/M&A	OK	-	BCM/SEC	OK	ОК
CM	OK	-	ICC	Not diagnosed	-
PDM E/R	OK	-	HVAC	Not diagnosed	-
-KEY	OK	-	TCM	OK	OK
			EPS	OK	OK
			IPDM E/R	OK	5
			e4WD	Not diagnosed	-
			AWD/4WD	Not diagnosed	-

Without PAST

Item	PRESENT	Description
Initial diagnosis	ОК	Normal at present
Initial diagnosis NG		Control unit error (Except for some control units)

TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

Item	PRESENT	Description
	OK	Normal at present
Transmission diagnosis	LINIZVAINI	Unable to transmit signals for 2 seconds or more.
UNKWN		Diagnosis not performed
OK		Normal at present
Control unit name		Unable to receive signals for 2 seconds or more.
(Reception diagnosis)	UNKWN	Diagnosis not performed
		No control unit for receiving signals. (No applicable optional parts)

With PAST

Item	PRESENT	PAST	Description	
		OK	Normal at present and in the past	Е
Transmission diagnosis	OK	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.)	F
	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.)	G
(Reception diagnosis)	UNKWN	0	Unable to receive signals for 2 seconds or more at present.	
	Not diagnood		Diagnosis not performed.	
	Not diagnosed	_	No control unit for receiving signals. (No applicable optional parts)	

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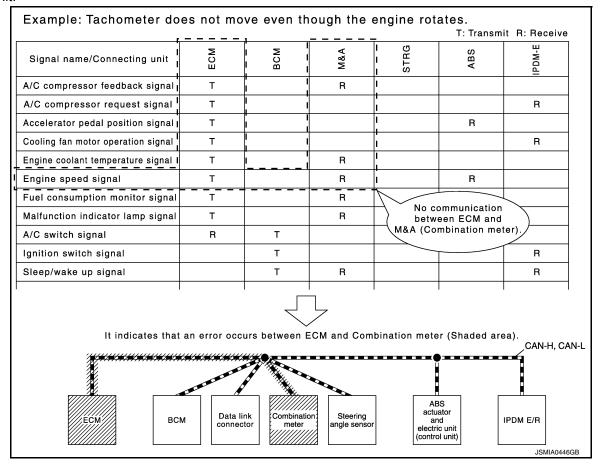
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How to Use CAN Communication Signal Chart

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The CAN communication signal chart lists the signals transmitted/received among control units. It is useful for detecting the root cause by finding a signal related to the symptom, and by checking transmission and reception unit.



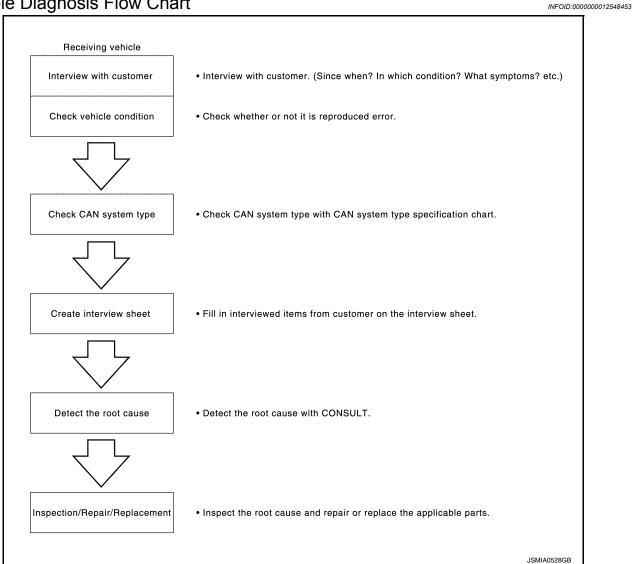
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart



DETAIL OF TROUBLE DIAGNOSIS FLOW CHART

1.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

Notes for checking error symptoms:

- 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.

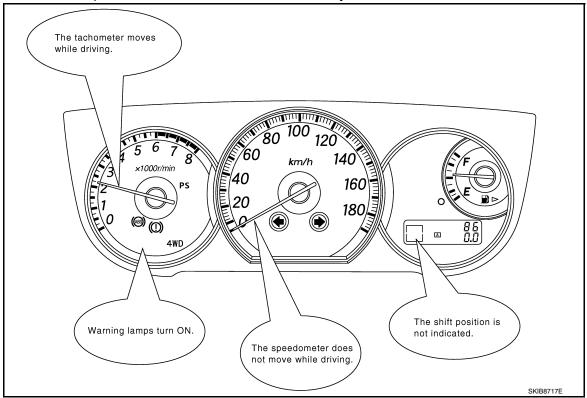
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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

• 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.



>> GO TO 2.

2.INSPECTION OF VEHICLE CONDITION

Check whether the symptom is reproduced or not.

NOTE:

Do not turn the ignition switch OFF or disconnect the 12V battery cable while reproducing the error. The error may temporarily correct itself, making it difficult to determine the root cause.

>> GO TO 3.

$3. {\sf CHECK}$ OF CAN SYSTEM TYPE (HOW TO USE CAN SYSTEM TYPE SPECIFICATION CHART)

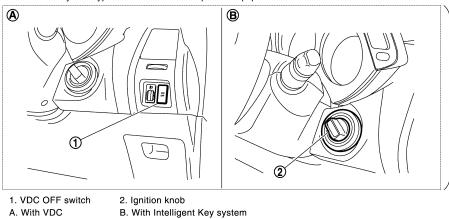
Determine CAN system type based on vehicle equipment.

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:

DIAGNOSIS AND REPAIR WORKFLOW

[CAN FUNDAMENTAL] < BASIC INSPECTION > CAN system type is easily checked with the vehicle equipment identification information shown in the chart. Α 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** В Determine CAN system type from the following specification chart. Body type Wagon Check the vehicle 2WD (AWD) Axle equipment with the VQ35DE vehicle identification QR25DE Engine number plate. CVT A/T Transmission Brake control ABS (VDC) Check the vehicle equipment. Intelligent Key system X CAN system type 2 3 4 The number indicates the D 6 CAN system type of the CAN communication control unit vehicle. ECM X X X X AWD control unit × × Е Air bag diagnosis \times X \times X × \times sensor unit **BCM** X \times X X X X Intelligent Key unit \times \times X Steering angle sensor X X X X X EPS control unit X × X X × × × × X Combination meter ABS actuator and X × × × X × electric unit (control unit) X TCM X X X X X X X Х X X X IPDM E/R X: Applicable Н VEHICLE EQUIPMENT IDENTIFICATION INFORMATION NOTE: Check CAN system type from the vehicle shape and equipment. **(B)**



In the above example,

- · Checking VDC OFF switch leads to judge whether or not VDC is equipped.
- · Checking the ignition knob leads to judge whether or not Intelligent Key system is equipped.

For the above case, CAN system type is "6".

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 CAN System Type Specification Chart (Style B) 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: Sedan, 2WD, MR20DE, CVT, ABS, Active AFS, Intelligent Key system, Navigation system and Automatic drive positioner. (shows an example of CAN system type.) **CAN System Specification Chart** Refer to the specification as shown in the chart. Body type (Sedan) Check the vehicle equipment with AWD Axle the vehicle identification number HR15DE MR20DE HR15DE Engine Transmission A/T CVT A/T Brake control ABS Check the vehicle equipment. XX-XX. SPECIFICATION CHARLA. XX-XX. SPECIFICATION CHART.C. Specification chart Select the applicable vehicle equipment. CHARTES Refer to the specification chart. x: Applicable SPECIFICATION CHART B Determine CAN system type from the following specification chart. Body type 2WD Engine MR20DE Transmission CVT Brake control ARS Active AFS Intelligent Key system Check the vehicle equipment. Navigation system Automatic drive positione CAN system type 11 12 14 15 17 18 19 The number indicates the CAN 10 13 16 20 CAN communication control unit system type of the vehicle. ECM AFS control unit всм IPDM E/R x: Applicable VEHICLE EQUIPMENT IDENTIFICATION INFORMATION Check CAN system type from the vehicle shape and equipment. **(B)** In the above example, ① · Checking Xenon bulb and bending lamp lead to judge whether or not Active AFS is equipped. · Checking the ignition knob leads to judge whether or not Intelligent Key system is equipped. Checking display and multifunction switch lead to 4 **(D**). **©** judge whether or not Navigation system is 6 equipped. · Checking seat memory switch leads to judge whether or not Automatic drive positioner is equipped. 1.Bending lamp 2.Xenon bulb 3.lanition knob 4.Display 5.Multifunction switch A. With active AFS B. With Intelligent Key system C. With navigation system

>> GO TO 4.

4. CREATE INTERVIEW SHEET

D.With automatic drive positione

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

For the above case, CAN system type is "20".

NOTE:

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

CAN Communication System Diagnosis Interview Sheet	Α
Date received: 3, Feb. 2006	В
Type: DBA-KG11 VIN No.: KG11-005040	С
Model: BDRARGZG11EDA-E-J-	D
First registration: 10, Jan. 2001 Mileage: 62,140	
CAN system type: Type 19	Е
Symptom (Results from interview with customer)	F
 Headlamps suddenly turn ON while driving the vehicle. The engine does not restart after stopping the vehicle and turning the ignition switch OFF. The cooling fan continues rotating while turning the ignition switch ON. 	G
	Н
Condition at inspection	I
Error Symptom: Present / Past	J
The engine does not start. While turning the ignition switch ON, The headlamps (Lo) turn ON, and the cooling fan continues rotating. The interior lamp does not turn ON.	K
	L
JSMIA0531GB	LAN
>> GO TO 5. 5. DETECT THE ROOT CAUSE	
CAN diagnosis function of CONSULT detects a root cause.	N
>> GO TO 6. 6. REPAIR OR REPLACE MALFUNCTIONING PART	0
Repair or replace malfunctioning parts identified by CAN diagnosis function of CONSULT.	
CAN communication circuit>>Refer to LAN-71, "CAN Communication Circuit". ITS communication circuit>> Refer to LAN-72, "ITS Communication Circuit".	Р

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information INFOID:000000012548454

- "CAN" of LAN Section describes information peculiar to a vehicle and inspection procedures.
 For trouble diagnosis procedure, refer to <u>LAN-21</u>, "<u>Trouble Diagnosis Flow Chart</u>" of "CAN FUNDAMEN-
- TAL".

Abbreviation List

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

Abbreviation	Unit name
4WD	4WD control unit
A-BAG	Air bag diagnosis sensor unit
ABS	ABS actuator and electric unit (control unit)
ADP	Driver seat control unit
AV	AV control unit
AVM	Around view monitor control unit
BCM	BCM
BSW/BUZZER	ADAS control unit
CGW	CAN gateway
DLC	Data link connector
ECM	ECM
EPS	Power steering control module
HVAC	A/C auto amp.
IPDM-E	IPDM E/R
M&A	Combination meter
PWBD	Automatic back door control module
RDR-L	Side radar LH
RDR-R	Side radar RH
STRG	Steering angle sensor
SONAR	Sonar control unit
TCM	TCM

PRECAUTIONS

< PRECAUTION > [CAN]

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

WARNING:

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

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

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT 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 or batteries, and wait at least three minutes before performing any service.

Precautions for Trouble Diagnosis

CAUTION:

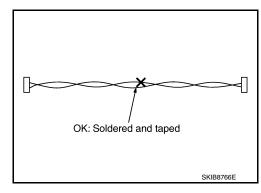
Follow the instructions listed below. Failure to do this may cause damage to parts:

- 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).



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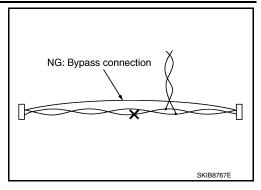
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PRECAUTIONS

< PRECAUTION > [CAN]

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.



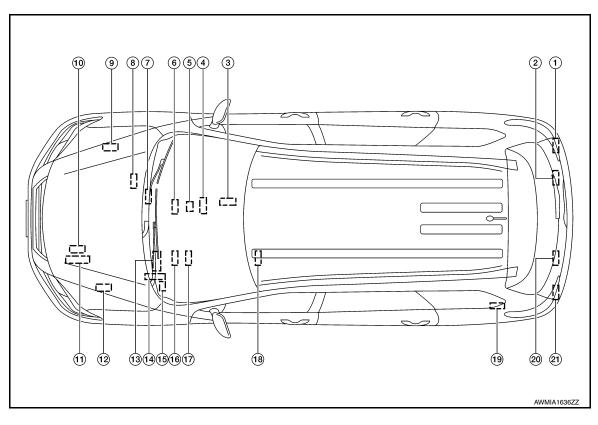
• Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



- Side radar RH
- AV control unit
- (7) CAN gateway
- ① TCM
- (13) BCM
- Combination meter
- 19 Automatic back door control module

- 2 ADAS control unit
- A/C auto amp.
- ABS actuator and electric unit (control unit)
- (1) ECM
- (14) Sonar control unit
- (17) Steering angle sensor
- 4WD control unit

- Around view monitor control unit
- 6) Air bag diagnosis sensor unit
- Power steering control module
- (12) IPDM E/R
- (15) Data link connector
- Driver seat control unit
- (21) Side radar LH

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SYSTEM

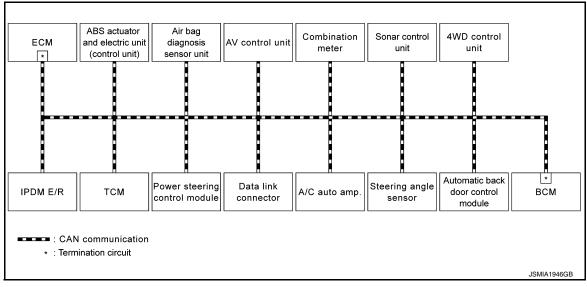
CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM: System Description

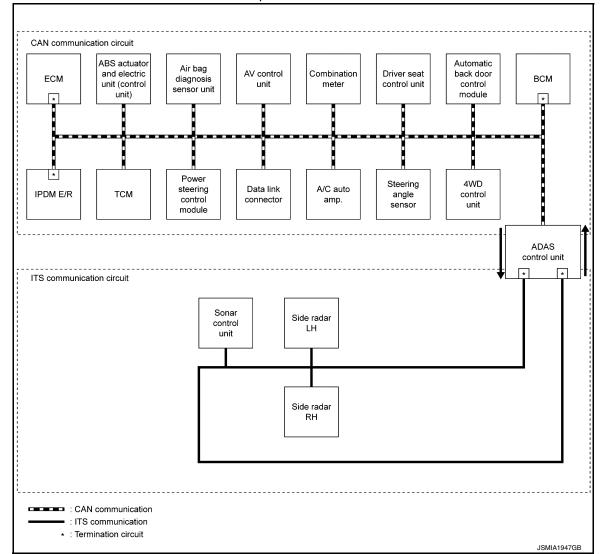
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SYSTEM DIAGRAM

Without around view monitor and automatic drive positioner



Without around view monitor with automatic drive positioner



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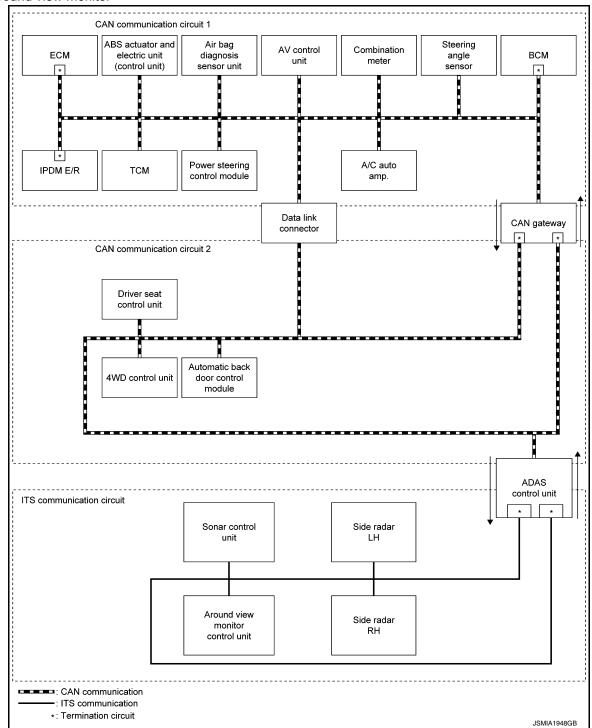
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With around view monitor



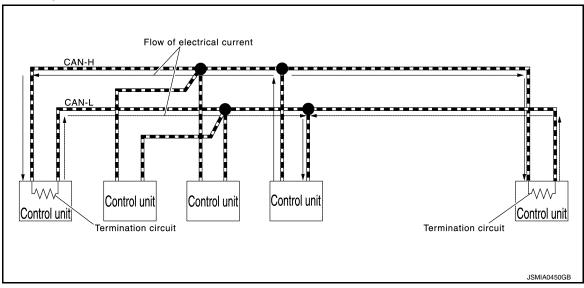
DESCRIPTION

- CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle
 multiplex communication line with high data communication speed and excellent error detection ability. Many
 electronic control units are equipped onto a vehicle, and each control unit shares information and links with
 other control units during operation (not independent). In CAN communication, control units are connected
 with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with
 less wiring. Each control unit transmits/receives data but selectively reads required data only.
- The following control units include a gateway function and communicate signals between the different CAN communication circuits.

CAN communication circuit	Gateway control unit	Reference
CAN communication circuit 1 \Leftrightarrow CAN communication circuit 2	CAN gateway	LAN-118, "System Description"
CAN communication circuit 2 \Leftrightarrow ITS communication circuit	ADAS control unit	DAS-13, "System Description"

CAN Communication Signal Generation

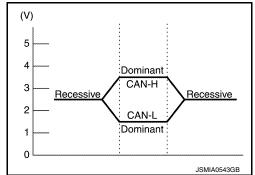
 Termination circuits (resistors) are connected across the CAN communication system. When transmitting a CAN communication signal, each control unit passes a current to the CAN-H line and the current returns to the CAN-L line.



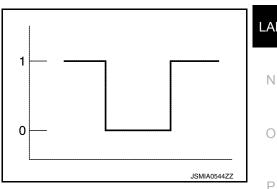
• The current flows separately into the termination circuits connected across the CAN communication system and the termination circuits drop voltage to generate a potential difference between the CAN-H line and the CAN-L line.

NOTE:

A signal with no current passage is called "Recessive" and one with current passage is called "Dominant".



 The system produces digital signals for signal communications, by using the potential difference.



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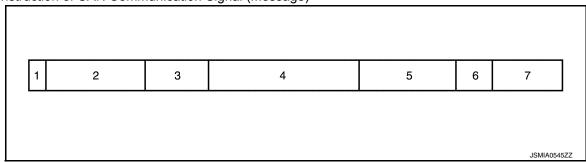
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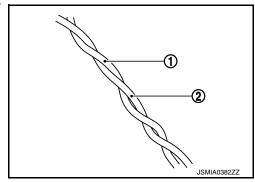
The Construction of CAN Communication Signal (Message)



No.	Message name	Description					
1	Start of frame (1 bit)	Start of message.					
2	Arbitration of field (11 bit)	Priorities of message-sending are shown when there is a possibility that multiple messages are sent at the same time.					
3	Control field (6 bit)	Signal quantity in data field is shown.					
4	Data field (0-64 bit)	Actual signal is shown.					
5	CRC field (16 bit)	 The transmitting control unit calculates sending data in advance and writes the calculated value in a message. The receiving control unit calculates received data and judges that the data reception is normal when the calculated value is the same as the value written in the sent data. 					
6	ACK field (2 bit)	The completion of normal reception is sent to the transmitting control unit.					
7	End of frame (7 bit)	End of message.					

CAN COMMUNICATION LINE

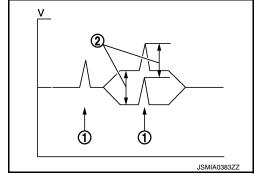
The CAN communication line is a twisted pair wire consisting of strands of CAN-H (1) and CAN-L (2) and has noise immunity.



NOTE:

The CAN communication system has the characteristics of noise-resistant because this system produces digital signals by using the potential difference between the CAN-H line and the CAN-L line and has the twisted pair wire structure.

Since the CAN-H line and the CAN-L line are always adjacent to each other, the same degree of noise occurs, respectively, when a noise (1) occurs. Although the noise changes the voltage, the potential difference (2) between the CAN-H line and the CAN-L line is insensitive to noise. Therefore, noise-resistant signals can be obtained.



CAN SIGNAL COMMUNICATIONS

CAN1

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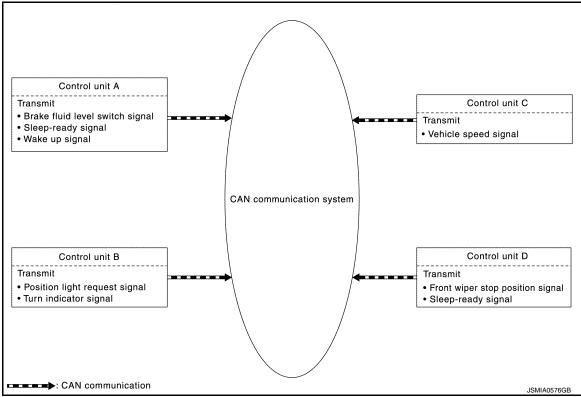
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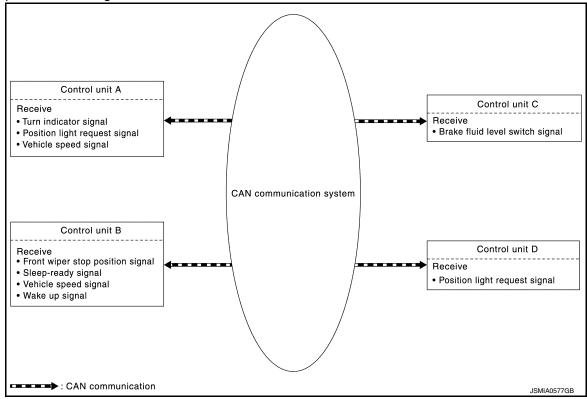
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Each control unit of the CAN communication system transmits signals through the CAN communication control circuit included in the control unit and receives only necessary signals from each control unit to perform various kinds of control.

· Example: Transmitted signals



Example: Received signals



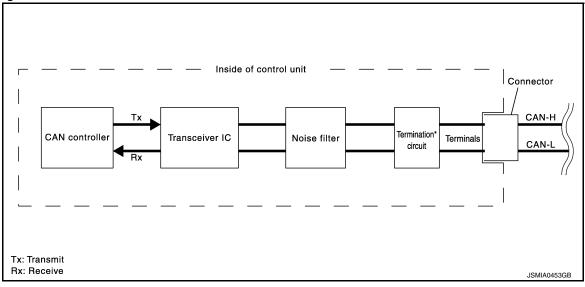
NOTE:

The above signal names and signal communications are provided for reference purposes. For CAN communications signals of this vehicle, refer to <u>LAN-38</u>, "CAN COMMUNICATION SYSTEM: CAN Communication <u>Signal Chart</u>".

CAN COMMUNICATION SYSTEM: CAN Communication Control Circuit

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CAN communication control circuit is incorporated into the control unit and transmits/receives CAN communication signals.



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)	Generates a potential difference between CAN-H and CAN-L.						

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

CAN COMMUNICATION SYSTEM: CAN System Specification Chart

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Determine CAN system type from the following specification chart.

NOTE:

Refer to LAN-21, "Trouble Diagnosis Flow Chart" for how to use CAN system specification chart.

Body type Wagon											
Axle	2WD				4WD						
Engine	VQ35DE										
Transmission	CVT										
Brake control	VDC										
Color display		×	×	×		×	×	×	×		
Around view monitor				×					×		
Automatic back door system			×	×			×	×	×		
Automatic drive positioner			×	×				×	×		
CAN system type	1	2	3	4	5	6	7	8	9		
		CAN co	mmunicati	on control	unit	l .	l .	l .			
ECM	×	×	×	×	×	×	×	×	×		
IPDM E/R	×	×	×	×	×	×	×	×	×		
TCM	×	×	×	×	×	×	×	×	×		
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×		

SYSTEM

< SYSTEM DESCRIPTION >

[CAN]

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Body type	Wagon											
Axle		2\	WD				4WD					
Engine					VQ35DE							
Transmission					CVT							
Brake control					VDC							
Color display		×	×	×		×	×	×	×			
Around view monitor				×					×			
Automatic back door system			×	×			×	×	×			
Automatic drive positioner			×	×				×	×			
CAN system type	1	2	3	4	5	6	7	8	9			
		CAN co	mmunicati	on control	unit	l			I			
Power steering control module	×	×	×	×	×	×	×	×	×			
Air bag diagnosis sensor unit	×	×	×	×	×	×	×	×	×			
AV control unit		×	×	×		×	×	×	×			
Data link connector	×	×	×	×	×	×	×	×	×			
A/C auto amp.	×	×	×	×	×	×	×	×	×			
Combination meter	×	×	×	×	×	×	×	×	×			
Sonar control unit		×				×	×					
Steering angle sensor	×	×	×	×	×	×	×	×	×			
Driver seat control unit			×	×				×	×			
4WD control unit					×	×	×	×	×			
Automatic back door control module			×	×			×	×	×			
CAN gateway				×					×			
BCM	×	×	×	×	×	×	×	×	×			
ADAS control unit			×	×				×	×			
		ITS co	mmunicatio	on control u	init	I.						
ADAS control unit			×	×				×	×			
Side radar RH			×	×				×	×			
Side radar LH			×	×				×	×			
Sonar control unit			×	×				×	×			
Around view monitor control unit				×					×			

^{×:} Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION

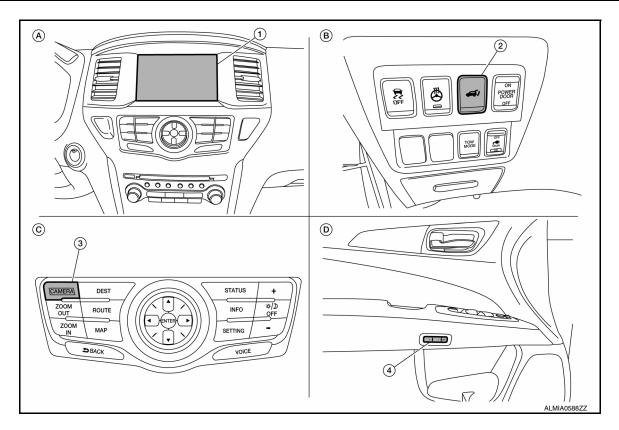
NOTE:

Check CAN system type from the vehicle shape and equipment.

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(1) Color display

- (2) Automatic back door switch
- (3) Camera switch

- Seat memory switches
- (A) With color display
- With automatic back door system
- (C) With around view monitor

With automatic drive positioner

CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart

INFOID:0000000012548463

Refer to <u>LAN-20</u>, "How to Use CAN Communication Signal Chart" for how to use CAN communication signal chart.

NOTE:

Refer to LAN-26, "Abbreviation List" for the abbreviations of the connecting units.

															7	Γ: Tran	smit	R: Re	ceive
Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	HVAC	M&A	STRG	SONAR	CGW	BCM	AVM	ADP	4WD	PWBD	BSW/BUZZER	RDR-L	RDR-R
A/C compressor request signal	Т	R																	
Accelerator pedal position signal	Т		R	R											R				
ASCD operation signal	Т		R																
ASCD status signal	Т							R											
Closed throttle position signal	Т		R																
Cooling fan speed request signal	Т	R																	
Engine and CVT integrat-	Т		R																
ed control signal	R		T																

Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	HVAC	M&A	STRG	SONAR	CGW	BCM	AVM	ADP	4WD	PWBD	BSW/BUZZER	RDR-L	RDR-R	A B
Engine coolant tempera- ture signal	Т						R	R												
Engine speed signal	Т		R	R				R							R		R			С
Engine status signal	Т				R	R		R				R								
Fuel consumption monitor signal	Т					R		R												D
Fuel filler cap warning display signal	Т							R												_
Malfunction indicator lamp signal	Т							R												Е
Oil pressure warning lamp signal	Т							R												F
Power generation com- mand value signal	Т	R																		
A/C compressor feedback signal	R	Т				R	R													G
Front wiper position signal		Т										R								
High beam status signal	R	Т				R														Н
Hood switch signal		Т										R								
Low beam status signal	R	Т				R														1
Push-button ignition switch status signal		Т										R								
CVT ratio signal			Т												R					J
CVT position indicator signal			Т			R		R		R		R	R	R		R				
Current gear position signal	R		Т																	K
Input speed signal	R		Т	R											R					
N range signal			Т	R								R								L
Next gear position signal	R		Т																	
OD OFF indicator signal			Т					R												LAN
Output shaft revolution signal	R		Т																	
P range signal			Т									R								Ν
R range signal			Т	R																
Shift position signal	R		Т					R		R			R	R			R			
Shift schedule signal	R		Т																	0
Tow mode indicator signal			Т					R												
ABS malfunction signal			R	Т																P
ABS operation signal			R	Т		R														
ABS warning lamp signal				Т				R												
Brake warning lamp signal				Т				R												
Rear LH wheel speed signal				Т									R							

		111								~							ZER		~
Signal name	ECM	IPDM-E	TCM	ABS	EPS	A	HVAC	M&A	STRG	SONAR	CGW	BCM	AVM	ADP	4WD	PWBD	BSW/BUZZER	RDR-L	RDR-R
Rear RH wheel speed signal				Т									R						
Stop lamp switch signal			R	Т								Т	R		R				
TCS operation signal	R		R	Т															
VDC OFF indicator lamp signal				Т				R											
VDC operation signal	R		R	Т															
VDC warning lamp signal				Т				R											
Vehicle speed signal	R	R	R	Т	R	R	R	R T		R		R R	R	R R	R	R R	R		
EPS operation signal	R				Т														
Hydraulic pump electric power steering warning lamp signal					Т			R											
A/C switch operation signal						Т	R												
Rear window defogger switch signal						Т						R							
System setting signal						T R						R T							
Voice recognition signal						Т	R												
A/C display signal						R	Т												
A/C evaporator tempera- ture signal	R						Т												
A/C ON signal	R						Т												
Ambient sensor signal							Т	R											
Blower fan ON signal	R						Т												
Target A/C evaporator temperature signal	R						Т												
Brake fluid level 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											
Odometer signal								Т				R							
Overdrive control switch signal			R					Т											
Parking brake switch signal				R				Т				R			R	R			
Seat belt buckle switch signal (driver side)								Т				R							

Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	HVAC	M&A	STRG	SONAR	CGW	BCM	AVM	ADP	4WD	PWBD	BSW/BUZZER	RDR-L	RDR-R	A B
Sleep-ready signal		Т						Т				R R								
Sieep-ready signal		'										R				Т				С
Tow mode switch signal			R					Т												
Wake up signal								Т				R R				Т				D
Buzzer request signal								R		R		Т	Т							Е
Low tire pressure warning lamp signal								R				Т								_
Steering angle sensor malfunction signal				R	R				Т				R							Г
Steering angle sensor sig- nal				R	R	R			Т				R		R					G
Steering angle speed sig- nal				R					Т											
Steering calibration signal				R					Т				R							Н
Sonar status signal										Т			R							
Automatic back door request signal												Т				R				I
Back door lock status signal												Т				R				J
Buzzer output signal								R R				Т					Т			
Day time running light request signal		R					R					Т	R							K
Dimmer signal								R				Т					R			
Door switch signal		R					R	R				Т	R	R						L
Door unlock signal												Т		R						
Front fog light request signal		R					R	R				Т	R							LA
Front wiper request signal		R				R	R					Т								
Handle position signal												Т		R						Ν
High beam request signal		R					R	R				Т	R							
Horn reminder signal		R										Т								
Ignition switch ON signal		R T										T R								0
Ignition switch signal		R										Т		R						
Intelligent Key system warning display signal								R				Т								Р
Interlock/PNP switch sig-		R										T R								
Key ID signal		1					R					T		R						
Low beam request signal		R					R					T	R	- 1					-	

Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	HVAC	M&A	STRG	SONAR	CGW	BCM	AVM	ADP	4WD	PWBD	BSW/BUZZER	RDR-L	RDR-R
Meter display signal								R				Т							
Meter ring illumination request signal								R				Т							
Oil pressure switch signal								R				Т							
On procoure ownorr digital		Т						R				R							
Position light request signal		R					R	R				Т	R						
Rear window defogger		R					R					Т							
control signal	R	Т				R													
Sleep wake up signal		R						R			R	Т		R		R			
Starter control relay signal		R										Т							
Ota da cada a data a sistemat		R						R				Т							
Starter relay status signal		Т										R							
Starting mode signal												Т		R		R			
Theft warning horn request signal		R										Т							
Trunk switch signal								R				Т	R						
Turn indicator signal						R	R	R				Т	R				R		
Sonar setting change signal										R			Т						
4WD signal				R											Т				
4WD warning icon/display signal								R							Т				
Hazard request signal								R								Т			
Vehicle detection signal																	R R	Т	T

NOTE:

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

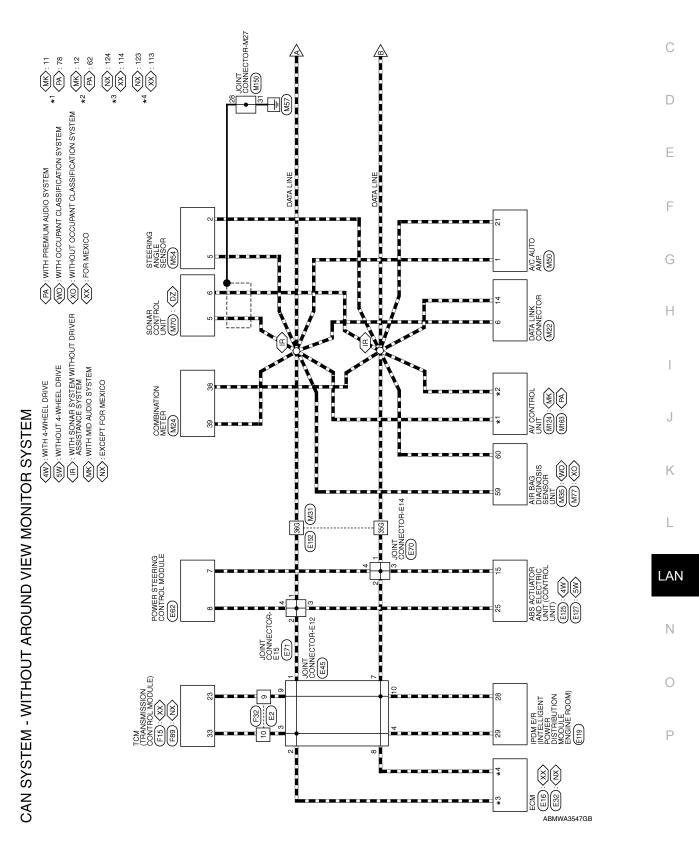
< WIRING DIAGRAM > [CAN]

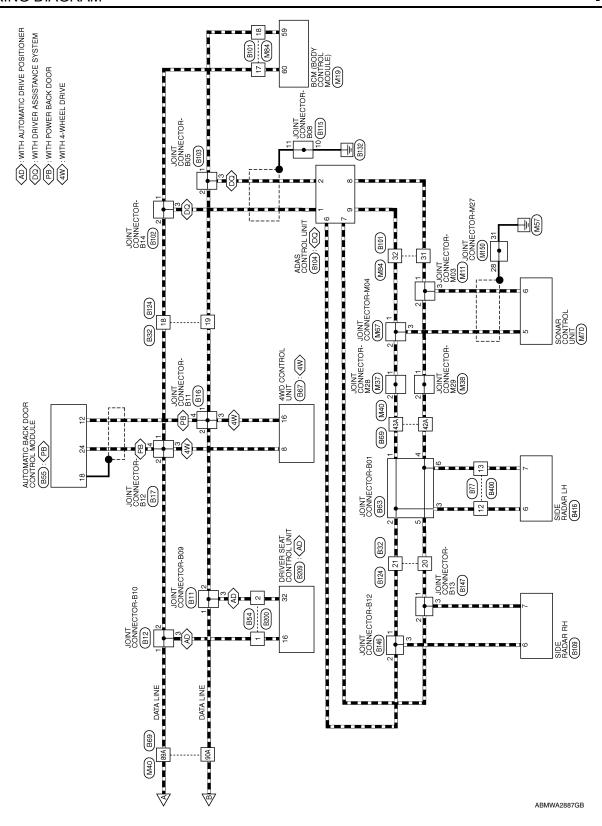
WIRING DIAGRAM

CAN SYSTEM (WITHOUT AROUND VIEW MONITOR SYSTEM)

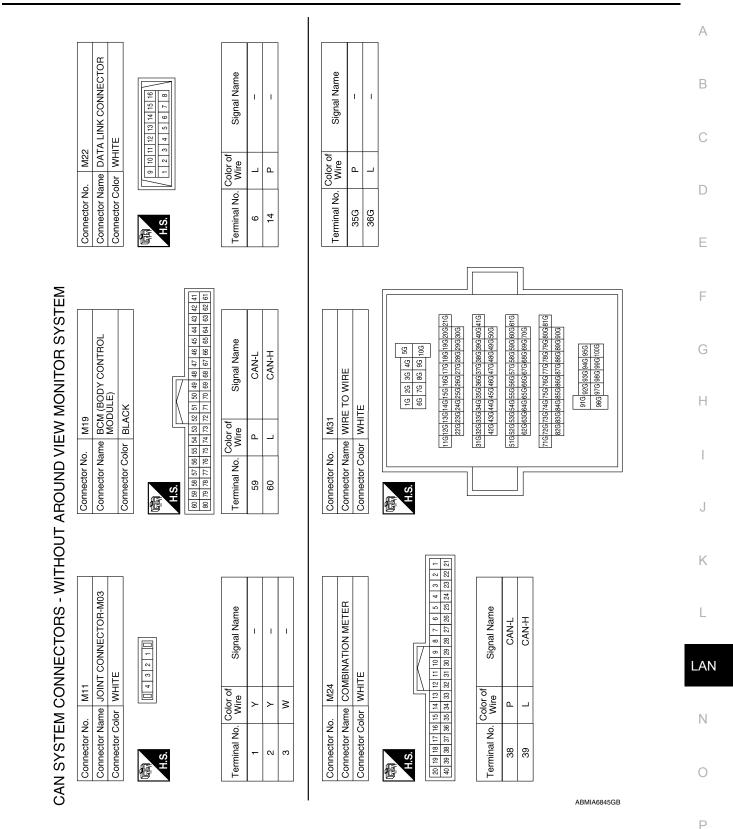
Wiring Diagram

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Connector No. M38 Connector Name JOINT CONNECTOR-M29 Connector Color WHITE	Terminal No. Wire Signal Name	- Z		Connector Name A/C ALTO AMP	Connector Color WHITE		<u>E</u>	H.S.		21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	Terminal No. Color of Signal Name	1 L CAN-H	21 P CAN-L		
Connector No. M37 Connector Name JOINT CONNECTOR-M28 Connector Color WHITE	Terminal No. Wire Signal Name	1 L – – – 2 L – – – – – – – – – – – – – –	9	Terminal No. Wire Signal Name	42A Y –	43A L –	89A L –	90A P –							
Connector No. M35 AIR BAG DIAGNOSIS SENSOR UNIT (WITH CONNECTOR OCCUPANT CLASSIFICATION SYSTEM) Connector Color YELLOW H.S. B 9 7 6 2 5 4 3 H.S. B 9 7 6 2 5 4 3 H.S. B 19 22 13 42 22 14 3 H.S.	Terminal No. Wire Signal Name	59 L CAN-H 60 P CAN-L		Connector No. M40 Connector Name WIRE TO WIRE	Connector Color GBAY	_		.S.	6A 7A 8A 9A 10A	11A 112A 13A 14A 115A 16A 17A 18A 19A 82A 12A 22A 22A 23A 28A 26A 27A 28A 29A 30A	31A 22A 23A 34A 55A 56A 67A 38A 38A 40A 41A	42H 43H 43H 43H 40H 40H 4H 43H 30H	51 A 52 A 52 A 52 A 52 A 55 A	71A 72A 73A 73A 75A 76A 77A 78A 73A 80A 80A 81A 82A 83A 84A 83A 84A 88A 89A 89A 89A 89A	91 A 920 924 954 956 968 9

< WIRING DIAGRAM > [CAN]

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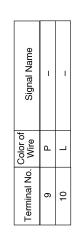
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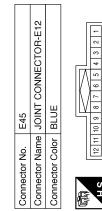
No. Color of Signa L B B Color of Signa Color of Color of	Connector No. M54 Connector Name STEERING ANGLE SENSOR Connector Color WHITE TH.S. 1 2 3 4 4 5 6 7 8	Connector Name Connector Color	Connector No. M67 Connector Name JOINT CONNECTOR-M04 Connector Color WHITE MATE LAS.	Connector Name Connector Color Connector Color RMS.	Connector No. M70 Connector Name SONAR CONTROL UNIT Connector Color WHITE 12 11 10 9 7 6 5 4 3 2 1 12 12 12 12 13 18 17 16 15 14 13 13 22 22 22 23 13 18 17 16 15 14 13
Connector No. M77	Color of Wire P				
Color of Signal Name Color of Signal N	Connector No. M77 AIR BAG DIAGNOSIS SENSOR UNIT (WITHOUT OCCUPANT CLASSIFICATION SYSTEM) Connector Color YELLOW	Connector No. Connector Name Connector Color	M84 WIRE TO WIRE WHITE	Connector Name Connector Color	I — — — — — — — — — — — — — — — — — — —
Color of Wire Signal Name Terminal No. Wire Color of Wire Color of Wire L CAN-H 17 L - 11 L P CAN-L 18 P - 12 P	13	H.S. [16] 12] 13] 13] 13] 14] 15] 15] 15] 15] 15] 15] 15] 15] 15] 15	25 24 23 22 21 20 19 16	H.S. 16 15 14 13 12 11 1 12 11 1 1 1 1	24 22 22 21 20 19 18
31	Color of Wire				
	-			7	

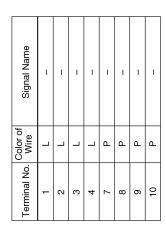
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	Connector No.	E2
VITH	Connector Name	WIRE TO WIRE
SIEM	Connector Color WHITE	WHITE

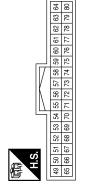






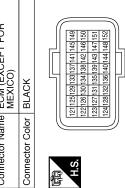


Connector Name AV CONTROL UNIT (WITH PREMIUM AUDIO SYSTEM Connector Color WHITE	Connector No.	M163
Connector Color WHITE	Connector Name	AV CONTROL UNIT (WITH PREMIUM AUDIO SYSTEM
	Connector Color	WHITE



Signal Name	CAN-L	CAN-H	
Color of Wire	Ь	٦	
Terminal No.	62	78	

E32	Connector Name ECM (EXCEPT FOR
Connector No.	Connector Name



Signal Name	CAN-L	CAN-H	
Color of Wire	Ь	٦	
Terminal No.	123	124	

Connector Name JOINT CONNECTOR-M27 Connector Color WHITE M.	Connector No.	M150
Connector Color WHITE H.S.	Connector Name	JOINT CONNECTOR-M27
H.S. 11 10 9 8 7 6 5 4 3 2 1	Connector Color	WHITE
	H.S.	20 19 18 17 16 15 14 13 12

	2 1	13 12	26 25 24 23	ıme		
r	4 3	5 15 14	7 26 25	Signal Name	ı	ı
	7 6 5	18 17 16	30 29 28 27	Sig		
	11 10 9 8	22 21 20 19 18 17 16 15 14 13 12	33 32 31 30	Color of Wire	SHIELD	GR
恒	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	┛╖┕╴ •		Terminal No.	28	31

Connector No.	E16
Connector Name	ECM (FOR MEXICO)
Connector Color	GRAY
(128 H.S. 128 128 128 128 128 128 128 128 128 128	122 120 16 12 108 104 100 122 118 115 11 107 103 99 122 118 114 10 106 102 98 121 117 13 108 105 101 97

Signal Name	CAN-L	CAN-H
Color of Wire	Ь	Γ
Terminal No.	113	114

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Connector No. E71 Connector Name JOINT CONNECTOR-E15 Connector Color BLACK	В
Signa Sign	С
No. Color of No. Wire Sys. No. Color of No. Wire No. Color of No. Wire No. Color of No. Wire No. Color of No. Col	D
Connector No. Connector Color Terminal No. Connector Name Connector No. Connector No. Connector Name Connector Name Connector Name Connector Color 15 15 25 28	Е
	F
ETO JOINT CONNECTOR-E14 BLACK E125 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH 4WD SYSTEM) BLACK CAN-L CAN-L CAN-H CAN-H CAN-H	G
E125 BLACK BLA	Н
	1
Connector Name Connector Color Terminal No. With Mane Connector No. Connector No. Connector No. Connector No. Terminal No	J
	K
F 2	
E62 BLACK A S B TREERING CONTROL MODULE BLACK A S B T B T B T B T B T B T B T B T B T B	L
E62 BLACK A 5 6 7 8 Trof Signal Nan E119 POWER STEERING CAN-H CAN-H CAN-H WHITE MODULE ENGINE R WHITE Trof Signal Nan Red Signal Na	LAN
Connector No. Connector No. Terminal No. Connector Name Connector Name Connector Name Connector Color Terminal No. 28 28 28 29 29	N
Connector No Conne	0
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< WIRING DIAGRAM > [CAN]

Connector No. F15 TCM (TRANSMISSION Connector Name CONTROL MODULE) (FOR MEXICO) Connector Color BLACK Signal 85 87 88 80 44 71 12 22 24 25 88 77 28 28 39 44 11 12 13 14 15 16 17 18 19 20 43 11 12 13 14 15 16 17 18 19 20 43 11 12 13 14 15 16 17 18 19 20 43 12 23 24 25 88 77 28 28 29 30 45 11 12 13 14 15 16 17 18 19 20 43 12 23 24 25 88 77 28 29 30 45 11 12 13 14 15 16 17 18 19 20 43 13 11 12 13 14 15 16 17 18 19 20 43 13 11 12 13 14 15 16 17 18 19 20 43 13 11 12 13 14 15 16 17 18 19 20 43 13 11 12 13 14 15 16 17 18 19 20 43 13 11 12 13 14 15 16 17 18 19 20 43 13 14 15 16 17 18 19 20 43 13 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 43 14 15 16 17 18 19 20 20 20 14 15 16 10 10 10 10 10 10 10 10 10 10 10 10 10	Connector No. B11
Signal Name	F89 TCM (TRANSMISSION CONTROL MODULE) (EXCEPT FOR MEXICO) BLACK State 12 25 27 28 29 30 45 46 14 14 15 16 17 18 19 20 43 44 14 14 15 16 17 18 19 20 43 44 14 14 15 16 17 18 19 20 43 44 14 14 15 16 17 18 19 20 43 44 14 15 16 17 18 19 20 43 44 14 15 16 17 18 19 20 43 44 14 15 16 17 18 19 10 41 42 Trof Signal Name CAN-L CAN-L
Color of Wire 35G P 36G L	Connector No. F89 Connector Name (EXCE) Connector Color BLACK (EXCE) (EXCE
Connector No. E152	Connector No. F32 Connector No. F32 Connector Name WIRE TO WIRE Connector Color WHITE

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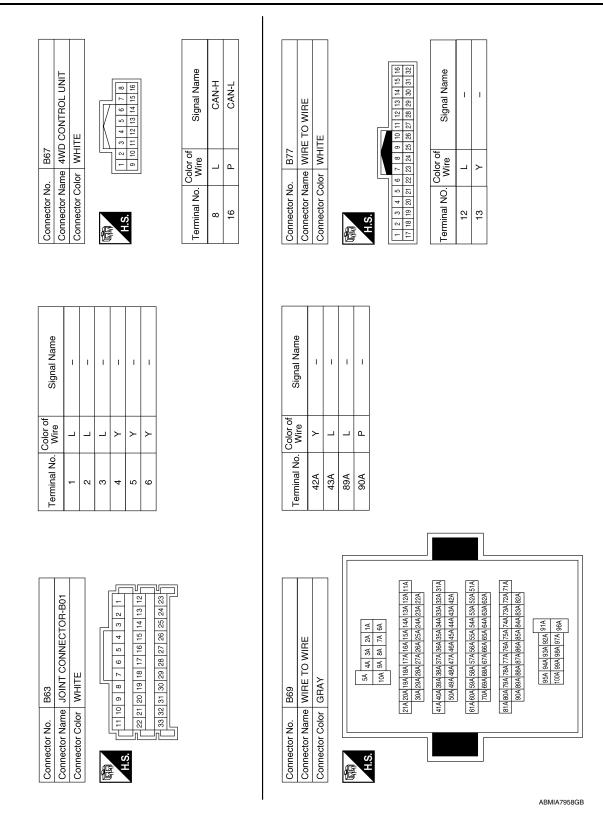
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Connector No. B17 Connector Name JOINT CONNECTOR-B12 Connector Color WHITE H.S	Terminal No. Wire Signal Name 1 L	Connector No. B55 Connector Name AUTOMATIC BACK DOOR CONTROL MODULE Connector Color BLACK 2 3 4 5 7 8 9 10 11 2 14 15 16 17 18 19 20 21 22 23 24 24 24 24 24 24	Terminal No. Wire Signal Name 12 W CAN-L 18 SHIELD CAN SHIELD 24 B CAN-H
ame JOINT CO Join WHITE	Terminal No. Wire Signal Name 1 P	Connector No. B54	Color of Signal Name 1 L
Connector No. B12 Connector Name JOINT CONNECTOR-B10 Connector Color WHITE ##S	Terminal No. Wire Signal Name 1	Connector No. B32 Connector Name WIRE TO WIRE Connector Color WHITE H.S. 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	Terminal No. Color of Signal Name 18

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Connector Name JOINT CONNECTOR-B13 Connector Color WHITE	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Terminal NO. Wire Signal Name	2 Y	> ©	Connector No. B400	Connector Name WIRE TO WIRE	Connector Color WHITE		16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	Terminal NO. Wire Signal Name	12 L –	13 Y
JOINT CONNECTOR-B12 WHITE	3 2 1	Signal Name	-	ı	6	DRIVER SEAT CONTROL	ITE	7	8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17	Signal Name	CAN-H	CAN-L
	4	Color of Wire	L	7	Vo. B209		-		11 10 9 27 26 25	Color of Wire	Ь	>
Connector Name	E.S.	Terminal NO.	2	ო	Connector No.	Connector Name	Connector Color	原 H.S.	16 15 14 13 12 32 31 30 29 28	Terminal NO.	16	32
WIRE TO WIRE WHITE	10 11 12 13 14 15 16 5 26 27 28 29 30 31 32	Signal Name	1	1 1		E TO WIRE	NWN	3 8 9 10 11 12 S		Signal Name	I	ı
ame WIRE T	6 7 8 9 22 23 24 25	Color of Wire L	В	>	o. B200	ame WIRI	olor BROWN	6 7 8		Color of Wire	۵	>
Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 17 18 19 20 21	Terminal NO.	19	20	Connector No.	Connector Name WIRE TO WIRE	Connector Color	H.S.		Terminal NO.	1	2

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< WIRING DIAGRAM > [CAN]

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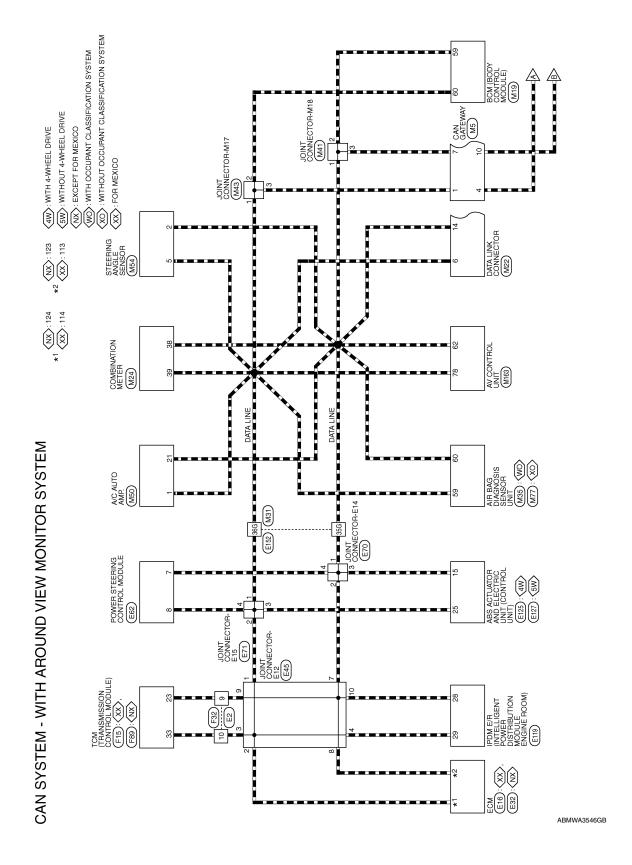
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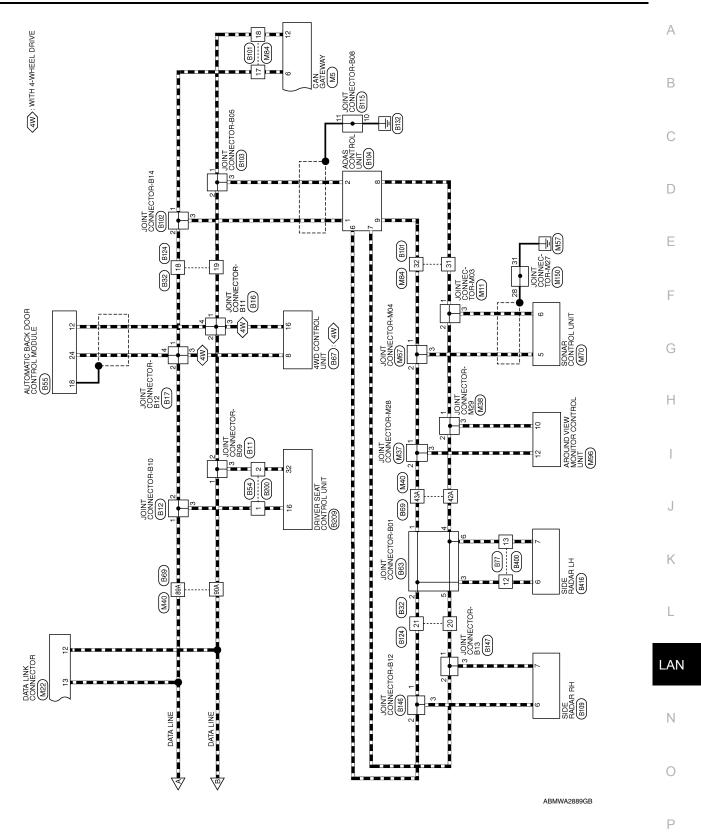
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B416	Connector Name SIDE RADAR LH	BLACK	
Connector No.	Connector Name	Connector Color BLACK	

Signal Name	CAN-H	I-NAC
Color of Wire	٦	>
Terminal NO.	9	7
	<u>_</u>	Color of Wire

Wiring Diagram





CAN SYSTEM CONNECTORS - WITH AROUND VIEW MONITOR SYSTEM

Connector No.	M19
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK

Connector Name JOINT CONNECTOR-M03

Connector Name CAN GATEWAY

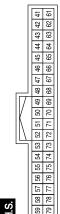
Connector No.

Connector Color WHITE

M T

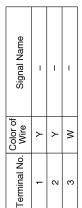
Connector No.

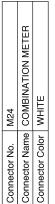
Connector Color WHITE

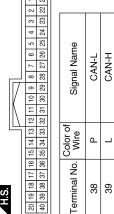


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	42	62				
	43	63				
	4	74				
	45	65		je je		
	47 46 45 44 43 42 41	98		am	١,	_
	47	67		Z	ΙΞ	÷
	48	89		Signal Name	CAN-L	CAN-H
17	49	69		Sig		0
V	요	70				
Λ	51	71				
$ \rangle$	25	72		+		_
	53	73		Color of Wire	١.	
	54	74		응통	₾	_
	55	75				
	26	9/		흐		
	22	77		🖆		
	28	79 78 77 76 75 74 73 72 71 70		erminal No.	29	09
	59	62			"	
			1	i do	ı	













Signal Name	_	I	I	ı	
Color of Wire	٦	Ь	٦	Ь	
Terminal No.	9	12	13	14	

CAN-H

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2	=
4	10
3	6
2	8
-	7
	3 4



Signal Na	CAN-H	CAN-H	CAN-H	CAN-L	CAN-L	CAN-L
Color of Wire	Т	7	Γ	Ь	Ь	Ь
erminal No.	-	4	9	7	10	12

1 L CAN-H 4 L CAN-H 6 L CAN-H 7 P CAN-L 10 P CAN-L 12 P CAN-L Onnector No. M22 Onnector Name DATA LINK CONNECTOR

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< WIRING DIAGRAM > [CAN]

Connector No. M37		A B C D
		F
AIR BAG DIAGNOSIS SENSOR UNIT (WITH OCCUPANT CLASSIFICATION SYSTEM) YELLOW Ior of Signal Name L CAN-H P CAN-L P CAN-L Signal Name Signal Name Signal Name Signal Name Signal Name	olgnal Name	G
M35		Н
nector No. Co minal No. Co mina		I
		J
		K
M31 WHIRE TO WIRE Strict	Connector Name JOINT CONNECTOR-M29 Connector Color WHITE THS.	L
M31 M31	WHITE WHITE	.AN
No. Color of No. M31	or Name Jú	Ν
Connector No. Connector Name Connector Color H.S. Terminal No. 35G Connector No. Connector No.	Connector Name Connector Color H.S.	0
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Connector No. Connector Name	o. M40 ame WIRE olor GRAY	Connector No. M40 Connector Name WIRE TO WIRE Connector Color GRAY	Ter	ġ	Wire of Color of Colo	Signal Name	Conn	Connector No. Connector Col	Connector No. M41 Connector Name JOINT Connector Color WHITE	Connector No. M41 Connector Name JOINT CONNECTOR-M18 Connector Color WHITE
H.S.		1A 2A 3A 4A 5A 6A 7A 8A 9A 10A		89A 90A	_	1 1	原 H.S.	6	1 4 3	3 2 1
	224 23A 314 32A 33A 42A 43A	11A 12A 13A 14A 15A 16A 17A 16A 15A 12A 20A 21A 22A 23A 23A 23A 25A 26A 27A 28A 29A 30A 31A 32A 33A 33A 33A 33A 33A 33A 33A 38A 37A 38A 39A 40A 41A 42A 43A 44A 45A 46A 47A 46A 46A 50A					Termi	Terminal No.	Color of Wire P P P	Signal Name
	514 524 534 624 634 714 724 734 824 834	51.8 (22.8) (32.8) (34.8) (35.								
Connector No.	M43			Connector No.	M50		Cong	Connector No.	M54	
Connector Color		JOINT CONNECTOR-M17 WHITE	0 0	Connector Color	-	UTO AMP.	Conne	Connector Color	1 1 1	STEERING ANGLE SENSOR
雨 H.S.		0 4 3 2 1 0	1 12	S. 23 24 5 5 25 24 25	6 7 8 9 26 27 28 29	10 11 12 13 14 15 16 17 18 19 19 30 31 32 33 34 35 36 37 38 39 39	(京都) (日) 20 (日)	, có	- w	C1 0 C V 4 0
Terminal No.	Color of Wire	Signal Name	Ter	Terminal No.	Color of Wire	Signal Name	Termi	Terminal No.	Color of Wire	Signal Name
-	_	ı		-	_	CAN-H		2	<u>a</u>	CAN-H
2	7	ı		21	Ъ	CAN-L		5	_	CAN-L
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< WIRING DIAGRAM > [CAN]

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Connector No. M70 Connector No. M70 Connector Name SONAR CONTROL UNIT Connector Color WHITE Signal Name Sign	Connector No. M77 Connector Name SENSOR UNIT (WITHOUT OCCUPANT CLASSIFICATION SYSTEM) Connector Color YELLOW H.S. 18 2 4 3 18 18 18 18 18 18 18 18 18 18 18 18 18	Terminal No. Wire Signal Name 59 L CAN-H 60 P CAN-L	Connector No. M150 Connector Name JOINT CONNECTOR-M27 Connector Color WHITE H.S. 11 10 9 8 7 6 5 4 3 2 1	Terminal No. Wire Signal Name 28 SHIELD - 31 GR -
STOR-M04	M70 SONAR CONTROL WHITE	Color of Wire B	M96 CONTROL UNIT WHITE WHITE 16 18 20 22 24 26 28 31 33 35 37 37 37 37 37 37	Color of Wire P
	M67 JOINT CONNECTOR-M04 WHITE A 3 2 1 1 1 1 1 1 1 1 1	, dame	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Vame

Revision: November 2015 LAN-61 2016 Pathfinder

< WIRING DIAGRAM > [CAN]

Connector No. E16 Connector Name ECM (FOR MEXICO) Connector Color GRAY	R	Signal Name Terminal No. Color of Wire Signal Name - 113 P CAN-L - 114 L CAN-H	Connector No. E62 Connector Name POWER STEERING CONTROL MODULE Connector Color BLACK		Terminal No. Wire Signal Name	- 7 P CAN-H	J	
Connector No. E2 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 9 10 11 12 13 14 15	Terminal No. Wire Signal 9 P L L	Connector No. E45 Connector Name JOINT CONNECTOR-E12 Connector Color BLUE	H.S. (2) 11 10 9 8 7 6 5 4 4 Color of Wire Signal	2		7 P	d 6
	(中) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Terminal No. Color of Wire Signal Name 62 P CAN-L 78 L CAN-H	Connector No. E32 Connector Name ECM (EXCEPT FOR MEXICO) Connector Color BLACK	H.S. (127) (125) (129) (139) (137) (141) (145) (149) (122) (126) (130) (130) (146) (150) (123) (127) (131) (136) (130) (144) (148) (152) (124) (129) (129) (129) (129) (130) (140) (149) (148) (152) (124) (130) (130) (140) (149) (Terminal No. Wire Signal Name	123 P CAN-L	1	

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[CAN] < WIRING DIAGRAM >

Connector No.	. E119	6
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	lor WH	ITE
H.S.	20 21 22 38 37 38 3	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 38 39 40 41 42 43 44 45 46 47 48 49 50
Terminal No.	Color of Wire	Signal Name
28	Ь	CAN-L
59	Т	CAN-H

			<u> </u>			
9	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	ПТЕ	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 35 36 37 38 39 40 41 42 45 46 47 48 46 47 48 49 49	Signal Name	CAN-L	CAN-H
. E119		lor WHITE	20 21 22 36 37 38	Color of Wire	Ф	٦
Connector No.	Connector Name	Connector Color	HS. 386	Terminal No.	28	29

	JOINT CONNECTOR-E15	BLACK	6 6 4 8 3 2 1	Signal Name	ı	ı	-	I
. E71				Color of Wire	٦	Т	٦	Т
Connector No.	Connector Name	Connector Color	原列 H.S.	Terminal No.	-	2	3	4

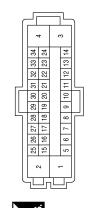
Signal Name	ı	1	_	1	
Color of Wire	_	Γ	٦	_	
Terminal No. Wire	-	2	3	4	

Signal Name	ı	1	1	1
Color of Wire	Ъ	Ь	Ъ	Ь
Terminal No. Wire	-	2	3	4

ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH 4WD SYSTEM)

Connector Name Connector Color

Connector No.



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	7	28	18		8	F'
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ا و	2	יייני			erminal No.	15	25
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27	17	1	_				
88	18	8	8	7			
ଝ	6	9	6		Šĺ		
ജ	15 16 17 18 19 20 21	ଥ	9		Jug	Q	O
31	21	21	Ξ	Ц,	=	CAN-L	¥
25 26 27 28 29 30 31 32 33 3			9 10 11 12 13 1		Signal Name	亅亅	CAN-H
33	22 23 2	23	13		<u> </u>		
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Signal Name

Color of Wire ф

Terminal No.

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Revision: November 2015

Connector Name JOINT CONNECTOR-E14

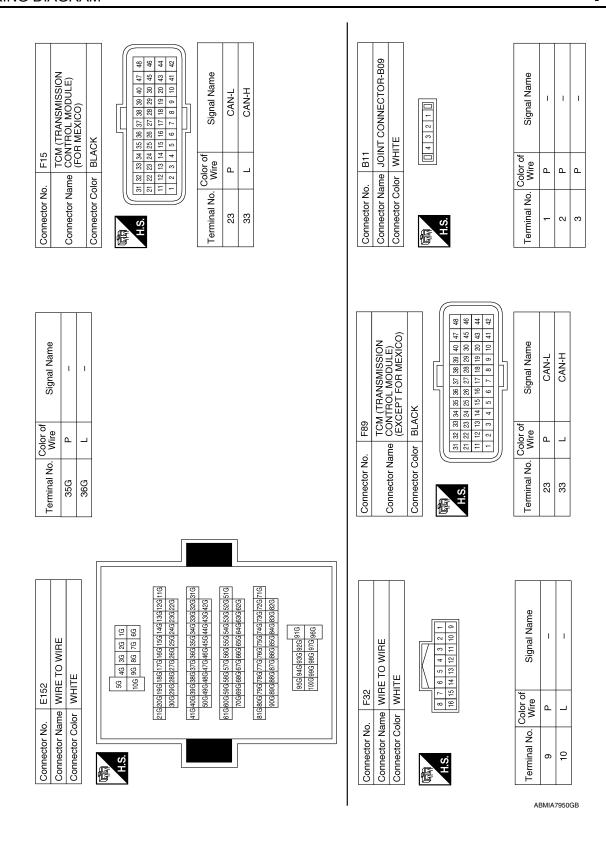
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Connector No.

Connector Color BLACK

< WIRING DIAGRAM >

[CAN]



[CAN] < WIRING DIAGRAM >

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	Connector Name JOINT CONNECTOR-B12 Connector Color WHITE	4 3 2 1 0	Signal Name	ı	ı	ı	ı
B17	ne JOIN or WHI		Color of Wire	_	٦	_	В
Connector No.	Connector Name JOINT (H.S.	Terminal No. Wire	-	2	3	4
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91	Connector Name JOINT CONNECTOR-B11 Connector Color WHITE] 4 3 2 1 []	of Signal Name	ı	1	1	ı
o. B16	ame JC		Color c Wire	۵	۵	۵	≥
Connector No.	Connector Name JOINT C	画 H.S.	Terminal No. Wire	-	2	က	4
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12	Connector Name JOINT CONNECTOR-B10 Connector Color WHITE] 4 3 2 1	of Signal Name	ı	ı	1	
). B12	ame JC		Color o Wire	_	_		
Connector No.	Connector Name JOINT C	用.S.	Terminal No. Wire	-	2	ო	

Connector No. B32	132	Connector No.	B54	Connector No.	r No. B55	355
Connector Name WIRE TO WIRE	VIRE TO WIRE	Connector Name	nnector Name WIRE TO WIRE	Connector	Name	Connector Name AUTOMATIC BACK DOOR
M rolog rotocaco			1446000		_	CONTROL MODULE

Connector Color WHITE	olor WHITE			Connector Col
所 H.S.	15 14 13 12 11 10 31 30 29 28 27 26 3	16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 2 1 2 1 3 1 3 1 3 2 3 2 3 2 3 1 3 1	1111	H.S.
Color of Wire		Signal Name		Terminal No.

Connector Color BLACK

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Signal Name

Color of Wire ≥

Terminal No.

Signal Name

Color of Wire

Signal Name	ı	ı	ı	_
Color of Wire	_	Ъ	Υ	Γ
Terminal No. Wire	18	19	20	21

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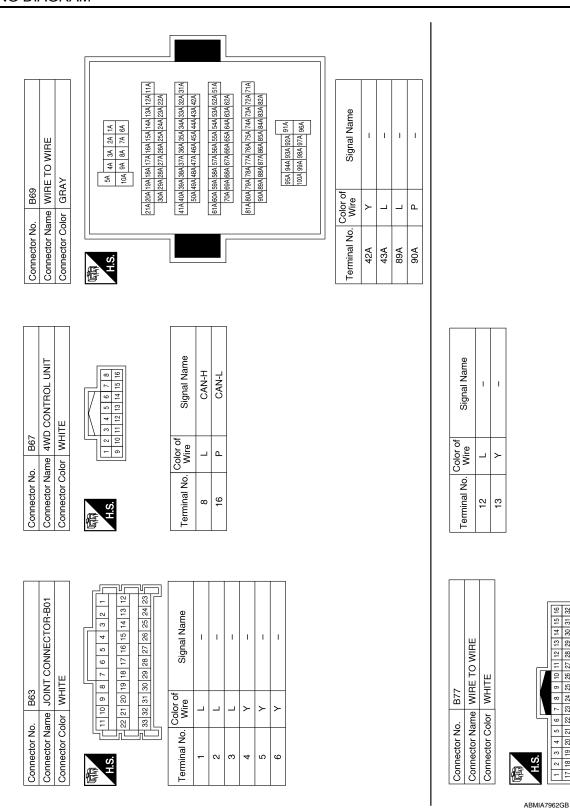
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< WIRING DIAGRAM > [CAN]

Connector No. B103 Connector Name JOINT CONNECTOR-B05 Connector Color WHITE	Terminal No. Wire Signal Name 1 P	Connector No. B115 Connector Name JOINT CONNECTOR-B08 Connector Color WHITE LS	A B C D
Connector No. B102 Connector Name JOINT CONNECTOR-B14 Connector Color WHITE MH.S.	Terminal No. Wire Signal Name 1 L – 2 L – 3 B –	Connector No. B109 Connector Name SIDE RADAR RH Connector Color BLACK L 2 3 4 5 6 7 8 Terminal No. Wire Signal Name 6 L CAN-H 7 Y CAN-H	G H J
Connector No. B101 Connector Name WIRE TO WIRE Connector Color WHITE To 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	Color of Signal Nam L Color of Signal Nam L C Color of Signal Nam L C Color of Signal Nam Color of Signal	Connector No. B104	LAN N

Revision: November 2015 LAN-67 2016 Pathfinder

_	B146	Connector No.	B147
je ,	innector Name JOINT CONNECTOR-B12	Connector Name	onnector Name JOINT CONNECTOR-B13
nnector Color	WHITE	Connector Color	WHITE

Connector Name WIRE TO WIRE Connector Color WHITE

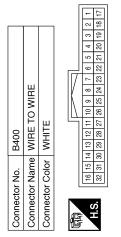
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Connector No.

Signal Name	I
Color of Wire	>
H.S. Color of Terminal No. Wire	ო



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	6 7 8	Solor of Wire	7	Ь	>	_
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Connector No.	Connector Name DRIVER SEAT CONTROL UNIT	Connector Color WHITE			Ų.	2	

16 15 14 13 12 11 10 9 8 7 6 5 4	28 27 26 25 24 23 22 21 20 1		Signal Name	CAN-H	CAN-L
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Signal Name

Color of Wire

Terminal No. 7 3

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Connector No.



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Color of Wire	۵	M
Terminal No.	-	2

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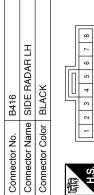
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Signal Name	CAN-H	CAN-L
Color of Wire	٦	Т
Terminal No.	9	7

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [CAN]

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Interview Sheet

NOTE:

Refer to <u>LAN-21</u>, "Trouble <u>Diagnosis Flow Chart"</u> for how to use interview sheet.

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

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

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DTC/CIRCUIT DIAGNOSIS

MALFUNCTION AREA CHART

CAN Communication Circuit

MAIN LINE

Malfunction area	Reference
Main line between IPDM E/R and ABS actuator and electric unit (control unit)	LAN-73, "Diagnosis Procedure"
Main line between ABS actuator and electric unit (control unit) and data link connector	LAN-74, "Diagnosis Procedure"
Main line between data link connector and 4WD control unit	LAN-75, "Diagnosis Procedure"
Main line between data link connector and driver seat control unit	LAN-76. "Diagnosis Procedure"
Main line between driver seat control unit and automatic back door control module	LAN-78, "Diagnosis Procedure"
Main line between data link connector and CAN gateway	LAN-77, "Diagnosis Procedure"
Main line between automatic back door control module and ADAS control unit	LAN-79, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
ECM branch line circuit	LAN-84, "Diagnosis Procedure"
IPDM E/R branch line circuit	LAN-85, "Diagnosis Procedure"
TCM branch line circuit	LAN-86, "Diagnosis Procedure"
ABS actuator and electric unit (control unit) branch line circuit	LAN-87, "Diagnosis Procedure"
Power steering control module branch line circuit	LAN-88, "Diagnosis Procedure"
Air bag diagnosis sensor unit branch line circuit	LAN-89, "Diagnosis Procedure"
AV control unit branch line circuit	LAN-90, "Diagnosis Procedure"
Data link connector branch line circuit	LAN-91, "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 1)	LAN-92, "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 2)	LAN-93, "Diagnosis Procedure"
A/C auto amp. branch line circuit	LAN-94, "Diagnosis Procedure"
Combination meter branch line circuit	LAN-95, "Diagnosis Procedure"
Sonar control unit branch line circuit	LAN-96, "Diagnosis Procedure"
Steering angle sensor branch line circuit	LAN-97, "Diagnosis Procedure"
Driver seat control unit branch line circuit	LAN-98, "Diagnosis Procedure"
4WD control unit branch line circuit	LAN-99, "Diagnosis Procedure"
Automatic back door control module branch line circuit	LAN-100, "Diagnosis Procedure"
BCM branch line circuit	LAN-103, "Diagnosis Procedure"
ADAS control unit branch line circuit	LAN-104, "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 1)	LAN-101, "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 2)	LAN-102, "Diagnosis Procedure"

SHORT CIRCUIT

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

Malfunction area	Reference
CAN communication circuit	LAN-108, "Diagnosis Procedure"
CAN communication circuit 1	LAN-110. "Diagnosis Procedure"
CAN communication circuit 2	LAN-112. "Diagnosis Procedure"

ITS Communication Circuit

INFOID:0000000012548468

MAIN LINE

Malfunction area	Reference
Main line between side radar RH and side radar LH	LAN-80, "Diagnosis Procedure"
Main line between side radar LH and sonar control unit	LAN-81, "Diagnosis Procedure"
Main line between side radar LH and around view monitor control unit	LAN-82, "Diagnosis Procedure"
Main line between around view monitor control unit and sonar control unit	LAN-83, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
Side radar RH branch line circuit	LAN-105. "Diagnosis Procedure"
Side radar LH branch line circuit	LAN-106, "Diagnosis Procedure"
Around view monitor control unit branch line circuit	LAN-107, "Diagnosis Procedure"
Sonar control unit branch line circuit	LAN-96, "Diagnosis Procedure"

SHORT CIRCUIT OR OPEN CIRCUIT

Malfunction area	Reference
ITS communication circuit	LAN-114. "Diagnosis Procedure"

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000012548469

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM É/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E125	25	Existed	
LIIS	28		15	Existed	

Without 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E127	25	Existed
E119	28	E121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

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MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000012548470

1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- 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 E152
- Harness connector M31

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the following harness connectors.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	25	E152	36G	Existed	
L123	15	L 102	35G	Existed	

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E127	25	E152	36G	Existed	
L121	15	L 132	35G	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	Harness connector		Data link connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	M22	6	Existed
IVIO I	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000012548471

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 M40
- Harness connector B69

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 M40 and B69.
- Check the continuity between the data link connector and the harness connector.

Data link	Data link connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14	10140	90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of 4WD control unit.
- 2. Check the continuity between the harness connector and the 4WD control unit harness connector.

Harness connector		4WD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B67	8	Existed
509	90A	507	16	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 4WD control unit.

NO >> Repair the main line between the harness connector B69 and the 4WD control unit.

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Revision: November 2015 LAN-75 2016 Pathfinder

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000012548472

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 M40
- Harness connector B69

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 M40 and B69.
- 2. Check the continuity between the data link connector and the harness connector.
- Without around view monitor

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14	10140	90A	Existed

With around view monitor

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
M22	13	M40	89A	Existed
IVIZZ	12		90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.check harness continuity (open circuit)

- 1. Disconnect the harness connectors B54 and B200.
- 2. Check the continuity between the harness connectors

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B54	1	Existed
D09	90A	504	2	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 driver seat control unit.

NO >> Repair the main line between the harness connectors B69 and B54.

MAIN LINE BETWEEN DLC AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN DLC AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000012548473

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
- CAN gateway
- 4. Check the continuity between the data link connector and the CAN gateway harness connector.

Data link	Data link connector CAN gateway harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M22	6	M5	1	Existed
	14	CIVIS	7	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 CAN gateway.

NO >> Repair the main line between the data link connector and the CAN gateway.

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MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

Diagnosis Procedure

INFOID:0000000012548474

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 (Models without around view monitor)
- CAN gateway (Models with around view monitor)
- Harness connector B200 and B54
- Automatic back door control module
- 4. Check the continuity between the harness connector and the automatic back door control module harness connector.

Harness	connector		oor control module connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
B54	1	B55	24	Existed	
D34	2		12	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 automatic back door control module.

NO >> Repair the main line between the harness connector B54 and the automatic back door control module.

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:0000000012548475

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B32
- Harness connector B124

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.
- Automatic back door control module
- Harness connectors B32 and B124
- Check the continuity between the automatic back door control module harness connector and the harness connector.

	oor control module connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
B55	24	B32	18	Existed
D00	12	532	19	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the automatic back door control module and the harness connector B32.

$3.\mathsf{check}$ harness continuity (open circuit)

- Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness	connector	ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
B124	18	B104	1	Existed
D124	19	D 104	2	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 automatic back door control module and the ADAS control unit.

NO >> Repair the main line between the harness connector B124 and the ADAS control unit.

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Revision: November 2015 LAN-79 2016 Pathfinder

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

INFOID:0000000012548476

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 B124
- Harness connector B32

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.
- Side radar RH
- Harness connectors B124 and B32
- 2. Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH h	arness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B109	6	B124	21	Existed
B109	7	D124	20	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B124.

3.check harness continuity (open circuit)

- Disconnect the harness connectors B77 and B400.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
B32	21	B77	12	Existed	
DJZ	20	D//	13	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 side radar RH and the side radar LH.

NO >> Repair the main line between the harness connector B32 and B77.

MAIN LINE BETWEEN RDR-L AND SONAR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN RDR-L AND SONAR CIRCUIT

Diagnosis Procedure

INFOID:0000000012548477

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 B69
- Harness connector M40

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.
- Harness connectors B400 and B77
- Harness connectors B69 and M40
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
B77	12	B69	43A	Existed	
DII	13	609	42A	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B77 and B69.

3.check harness continuity (open circuit)

- Disconnect the connector of sonar control unit.
- Check the continuity between the harness connector and the sonar control unit harness connector.

Harness	connector	Sonar control unit	harness connector	- Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
M40	43A	M70	5	Existed	
10140	10140 42A		6	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 side radar LH and the sonar control unit. NO >> Repair the main line between the harness connector M40 and the sonar control unit.

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MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000012548478

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 B69
- Harness connector M40

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.
- Harness connectors B400 and B77
- Harness connectors B69 and M40
- Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B77	12	B69	43A	Existed
DII	13		42A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B77 and B69.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of around view monitor control unit.
- 2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness	connector	Around view monitor conf	trol unit harness connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M40	43A	M96	12	Existed
IVI4U	42A	IVISO	10	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 side radar LH and the around view monitor control unit.

NO >> Repair the main line between the harness connector M40 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND SONAR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AVM AND SONAR CIRCUIT

Diagnosis Procedure

INFOID:0000000012548479

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- ADAS control unit
- Around view monitor control unit
- Sonar control unit
- 2. Check the continuity between the around view monitor control unit harness connector and the sonar control unit harness connector.

Around view monitor control unit harness connector		Sonar control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M96	12	M70	5	Existed
	10	IVI7O	6	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 around view monitor control unit and the sonar control unit.

NO >> Repair the main line between the around view monitor control unit and the sonar control unit.

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ECM BRANCH LINE CIRCUIT

[CAN] < DTC/CIRCUIT DIAGNOSIS >

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548480

1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of ECM.
- Check the resistance between the ECM harness connector terminals.
- For Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	resistance (sz)	
E16	114 113		Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	110313(81100 (52)	
E32	124	Approx. 108 – 132	

Is the measurement value within the specification?

YES >> GO TO 3.

>> Repair the ECM branch line. NO

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ECM. Refer to EC-188, "Diagnosis Procedure" (For russia and canada) or EC-666, "Diagnosis Procedure" (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548481

1. CHECK CONNECTOR

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

	IPDM E/R harness connector		
Connector No.	Termi	Resistance (Ω)	
E119	29 28		Approx. 54 – 66

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-31, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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

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

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

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IAGNOSIS > [CAN]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548482

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).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- 2. Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (52)
F15	33 23		Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (52)
F89	F89 33 23		

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: TM-176, "Diagnosis Procedure"
- RE0F10J: TM-394, "Diagnosis Procedure"

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548483

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.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)	
Connector No.	Terminal No.		Resistance (12)	
E125	25 15		Approx. 54 – 66	
1400 (4) 1 1 1				

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25	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.

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-136</u>, "<u>Diagnosis Procedure</u>" (Type 1) or <u>BRC-295</u>, "<u>Diagnosis Procedure</u>" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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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EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548484

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power steering control module harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
E62	8	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to STC-38, "Removal and Installation".

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

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

A-BAG BRANCH LINE CIRCUIT [CAN] < DTC/CIRCUIT DIAGNOSIS > A-BAG BRANCH LINE CIRCUIT Α Diagnosis Procedure INFOID:0000000012548485 **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. C 1. CHECK CONNECTOR 1. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal. D 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? 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-41, "Work Flow". Is the inspection result normal? YES >> Replace the main harness. NO >> Replace parts whose air bag system has a malfunction. Н K

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[CAN]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548486

1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of AV control unit.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M163	78 62		Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Termi	redistance (sz)	
M124	11	12	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT : Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT: Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

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

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548487

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.	Terminal No.		Resistance (Ω)
M22	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.

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000012548488

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.	Terminal No.		Resistance (Ω)
M22	6	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 (CAN communication circuit 1 side).

NO >> Repair the data link connector branch line (CAN communication circuit 1 side).

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000012548489

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.	Terminal No.		Resistance (Ω)
M22	13	12	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 (CAN communication circuit 2 side).

NO >> Repair the data link connector branch line (CAN communication circuit 2 side).

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548490

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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\c313td110c (22)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112</u>, "A/C AUTO AMP. : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548491

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 combination meter 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 combination meter.
- Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39	38	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to <u>MWI-61, "COMBINATION METER</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

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SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548492

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 connection (unit side and connector side).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

>> Repair the terminal and connector. NO

2.check harness continuity (open circuit)

- Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector			
Connector No.	Termi	Continuity		
B104	6	9	Existed	
D10 4	7	8	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- Disconnect the connector of sonar control unit.
- Check the resistance between the sonar control unit harness connector terminals.

S	Sonar control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M70	5	6	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to SN-32, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548493

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)	
M54	5	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-49</u>, "Wiring <u>Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

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

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[CAN]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548494

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 connection (unit side and connector side).
- Driver seat control unit
- Harness connector B200
- Harness connector B54
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

>> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 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.	Termi	Resistance (Ω)	
B209	16	32	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

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

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to ADP-90, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-163, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548495

1. CHECK CONNECTOR

DID:0000000012548495

- 1. Turn the ignition switch OFF.
- 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).
- 4WD control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of 4WD control unit.
- 3. Check the resistance between the 4WD control unit harness connector terminals.

4WD control unit harness connector			Desistance (O)
Connector No.	Termi	Resistance (Ω)	
B67	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the 4WD control unit branch line.

$oldsymbol{4}.$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the 4WD control unit. Refer to <u>DLN-60</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the 4WD control unit. Refer to <u>DLN-72</u>, "Removal and Installation".

YES (Past error)>>Error was detected in the 4WD control unit branch line.

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

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[CAN]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548496

1. CHECK CONNECTOR

- 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 connector side).
- Automatic back door control module
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
UIO	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of automatic back door control module.
- Check the resistance between the automatic back door control module harness connector terminals.

Automatic	Automatic back door control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B55	24	12	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

f 4 .CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the automatic back door control module. Refer to <u>DLK-160</u>, "AUTOMATIC BACK DOOR CONTROL UNIT: <u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to <u>DLK-292</u>, "Removal and <u>Installation"</u>.

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

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

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000012548497

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of CAN gateway.
- Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Termi	110013101100 (22)	
M5	1 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line (CAN communication circuit 1 side).

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-130</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-131, "Removal and Installation".

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).

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

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000012548498

1.CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.

2. Disconnect the battery cable from the negative terminal.

Check the following terminals and connectors of the CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
M5	4	6	Existed
Civi	10	12	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line (CAN communication circuit 2 side).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-130</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-131, "Removal and Installation".

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548499

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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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.		rtesistance (52)
M19	60	59	Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548500

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).
- ADAS control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
UIO	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of ADAS control unit.
- Check the resistance between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B104	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to DAS-79, "ADAS CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-88, "Removal and Installation".

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

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548501

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
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- 2. Disconnect the connector of side radar RH.
- Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Terminal No.		11001011100 (22)
B109	6	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-80, "SIDE RADAR RH:</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-89, "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.

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[CAN]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548502

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B400
- Harness connector B77
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar LH.
- Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\esistance (\(\frac{1}{2}\)
B416	6	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar LH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-79</u>, "SIDE RADAR LH: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-89, "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.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000012548503

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).
- Around view monitor control unit
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit.
- 2. Disconnect the connector of around view monitor control unit.
- Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		redistance (\$2)
M96	12	10	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to AV-371, "AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-448, "Removal and Installation"</u>.

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

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

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CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000012548504

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit.
- 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
M22	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
M22	6	Giouna	Not existed
IVIZZ	14		Not existed

Is the inspection result normal?

YES >> GO TO 4.

O >> Check the harness and repair the root cause.

4. CHECK ECM AND BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

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

Except for Mexico

ECM		Resistance (Ω)
Terminal No.		
124	123	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

BCM		Resistance (Ω)
Terminal No.		
60	59	Approx. 108 – 132

CAN COMMUNICATION CIRCUIT	
<pre>< DTC/CIRCUIT DIAGNOSIS ></pre>	[CAN]
s the measurement value within the specification?	
YES >> GO TO 5. NO >> Replace the ECM and/or the BCM.	
D.CHECK SYMPTOM	
Connect all the connectors. Check if the symptoms described in the "Symptom (Resu	ılts from interview with
customer)" are reproduced.	no nom interview with
nspection result	
Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedu detected.	re when past error is
3.CHECK UNIT REPRODUCTION	
Perform the reproduction test as per the following procedure for each unit.	
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 	
3. Disconnect one of the unit connectors of CAN communication circuit.	
NOTE: ECM and BCM have a termination circuit. Check other units first.	
4. Connect the battery cable to the negative terminal. Check if the symptoms desc	ribed in the "Symptom
(Results from interview with customer)" are reproduced. NOTE:	
Although unit-related error symptoms occur, do not confuse them with other symptoms	oms.
Inspection result	
Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.	

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[CAN]

INFOID:0000000012548505

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit 1.
- 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
M22	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
M22	6	- Ground	Not existed
IVIZZ	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

EG	ECM Resistance (Ω)		
Terminal No.		- Resistance (12)	
114	113	Approx. 108 – 132	

Except for Mexico

ECM		Resistance (Ω)	
Termi	nal No.	- ivesistance (s2)	
124 123		Approx. 108 – 132	

3. Check the resistance between the BCM terminals.

BCM		Resistance (Ω)	
Terminal No.			
60 59		Approx. 108 – 132	

CAN COMMUNICATION CIRCUIT 1

CAN COMMUNICATION CIRCUIT 1	
< DTC/CIRCUIT DIAGNOSIS >	[CAN]
s the measurement value within the specification?	
YES >> GO TO 5. NO >> Replace the ECM and/or the BCM.	
O.CHECK SYMPTOM	
Connect all the connectors. Check if the symptoms described in the "Symptom (Results from int	onviouv vvith
customer)" are reproduced.	erview with
nspection result	
Reproduced>>GO TO 6.	
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when padetected.	ast error is
CHECK UNIT REPRODUCTION	
Perform the reproduction test as per the following procedure for each unit.	
. Turn the ignition switch OFF. 2. Disconnect the battery cable from the negative terminal.	
. Disconnect one of the unit connectors of CAN communication circuit 1.	
NOTE: ECM and BCM 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.	
nspection result	
Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.	

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[CAN]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000012548506

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 circuit 2.
- 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			Continuity
Connector No.	Terminal No.		Continuity
M22	13	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.	Cround	Continuity
M22	13	Ground	Not existed
IVIZZ	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

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

f 4.CHECK CAN GATEWAY TERMINATION CIRCUIT

- Remove the CAN gateway.
- 2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)	
Termin	nal No.	— Resistance (22)	
4	10	Approx. 108 – 132	
6	12	Approx. 108 – 132	

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the CAN gateway.

CHECK SYMPTOM

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

Inspection result

Reproduced>>GO TO 6.

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

CAN COMMUNICATION CIRCUIT 2

[CAN] < DTC/CIRCUIT DIAGNOSIS > 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 circuit 2. NOTE:

CAN gateway has two termination circuits. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom

(Results from interview with customer)" are reproduced.

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.

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LAN-113 Revision: November 2015 2016 Pathfinder [CAN]

INFOID:0000000012548507

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and/or CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2.connector inspection

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the ADAS control unit harness connector.
- Check the continuity between the ADAS control unit harness connector.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6 9		Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line. (ITS communication circuit side).

f 4.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- Disconnect the following harness connectors.
- Side radar RH
- Side radar LH
- Around view monitor control unit (Models with around view monitor)
- Sonar control unit
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6 7		Not existed

Is the inspection result normal?

YES >> GO TO 5.

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

${f 5}.$ CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ADAS control unit	harness connector		Continuity	
Connector No.	Terminal No.	Ground	Continuity	
B104	6	Giodila	Not existed	
D 104	7		Not existed	

ITS COMMUNICATION CIRCUIT [CAN] < DTC/CIRCUIT DIAGNOSIS > Is the inspection result normal? Α YES >> GO TO 6. NO >> Check the harness and repair the root cause. 6. CHECK TERMINATION CIRCUIT Remove the ADAS control unit. Check the resistance between the ADAS control unit terminals. ADAS control unit Resistance (Ω) Terminal No. 7 D Approx. 108 - 132 9 8 Is the inspection result normal? Е YES >> GO TO 7. NO >> Replace the ADAS control unit. .CHECK SYMPTOM Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result Reproduced>>GO TO 8. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. Н 8.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of ITS communication circuit. NOTE: ADAS control unit has two termination circuits. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. K NOTE: Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result L Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.

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PRECAUTIONS

< PRECAUTION > [CAN GATEWAY]

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

WARNING:

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

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

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT 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 or batteries, and wait at least three minutes before performing any service.

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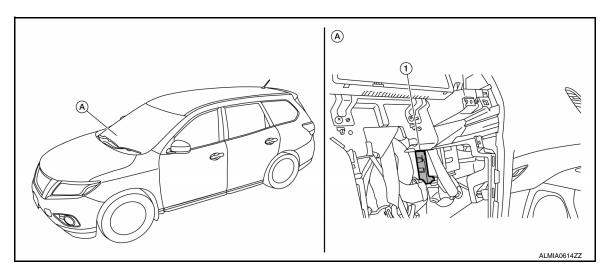
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



- CAN gateway
- (A) Left side of glove box

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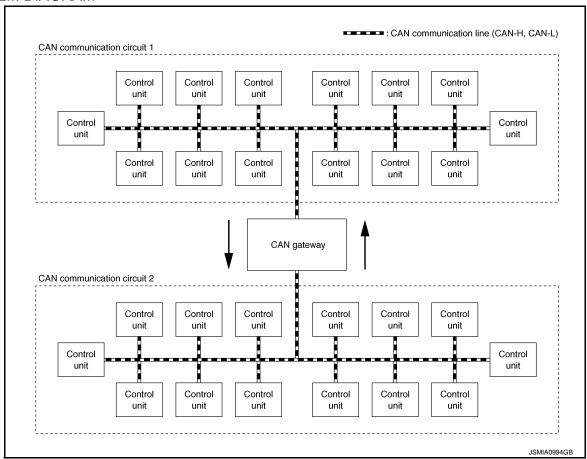
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SYSTEM

System Description

INFOID:0000000012548510

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- The CAN gateway system communicates between two CAN communication circuits.
- This system selects and transmits only necessary information.

DIAGNOSIS SYSTEM (CAN GATEWAY)

< SYSTEM DESCRIPTION >

[CAN GATEWAY]

DIAGNOSIS SYSTEM (CAN GATEWAY)

CONSULT Function

INFOID:0000000012548511

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CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with CAN gateway.

Diagnosis mode	Function Description		
Ecu Identification	The CAN gateway part number is displayed.		
Self Diagnostic Result	Displays the diagnosis results judged by CAN gateway.		
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.		
Configuration	 Read and save the vehicle specification. Write the vehicle specification when replacing CAN gateway. 		

ECU IDENTIFICATION

The CAN gateway part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to LAN-122, "DTC Index".

- When "CRNT" is displayed on self-diagnosis result
- The system is presently malfunctioning.
- When "PAST" is displayed on self-diagnosis result
- System malfunction in the past is detected, but the system is presently normal.

Freeze Frame Data (FFD)

When DTC is detected, a vehicle state shown below is recorded and displayed on CONSULT.

Item name	Display item
IGN counter (0 – 39)	 The number of times that ignition switch is turned ON after the DTC is detected is displayed. When "0" is displayed: It indicates that the system is presently malfunctioning. When except "0" is displayed: It indicates that system malfunction in the past is detected, but the system is presently normal. NOTE: Each time when ignition switch is turned OFF to ON, numerical number increases in 1 → 2 → 338 → 39. When the operation number of times exceeds 39, the number do not increase and "39" is displayed until self-diagnosis result is erased.

CAN DIAG SUPPORT MONITOR

The results of transmit/receive diagnosis of CAN communication can be read.

CONFIGURATION

Function	า	Description
Read / Write Configuration	Before Replace ECU	 Reads the vehicle configuration of current CAN gateway. Saves the read vehicle configuration.
	After Replace ECU	Writes the vehicle configuration with saved data.
Manual Configuration		Writes the vehicle configuration with manual selection.

CAUTION:

Follow the instructions listed below. Failure to do this may cause malfunctions to the CAN gateway.:

- When replacing CAN gateway, you must perform "Read / Write Configuration" or "Manual Configuration" with CONSULT.
- Complete the procedure of "Read / Write Configuration" or "Manual Configuration" in order.
- If you set incorrect "Read / Write Configuration" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

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DIAGNOSIS SYSTEM (CAN GATEWAY)

< SYSTEM DESCRIPTION >

[CAN GATEWAY]

• Never perform "Read / Write Configuration" or "Manual Configuration" except for new CAN gateway.

[CAN GATEWAY]

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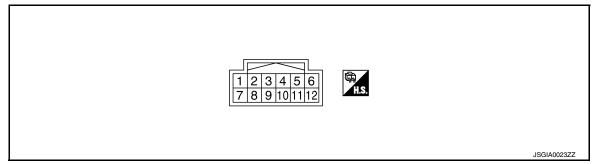
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ECU DIAGNOSIS INFORMATION

CAN GATEWAY

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Reference value	
(Wire	e color)	Signal name	Input/ Output	Condition	Standard value	(Approx.)	
1 (L)	_	CAN-H (CAN communication circuit 1)	Input/ Output	_	_	_	
3 (BG)	Ground	Battery power supply	Input	Ignition switch OFF	6 - 16 V	Battery voltage	
4 (L)	_	CAN-H (CAN commu- nication circuit 2)	Input/ Output	_	_	_	
5 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	
6 (L)	_	CAN-H (CAN communication circuit 2)	Input/ Output	_	_	_	
7 (P)	_	CAN-L (CAN commu- nication circuit 1)	Input/ Output	_	_	_	
9 (BG)	Ground	Ignition power supply	Input	Ignition switch ON	4.5 V - 16 V	Battery voltage	
10 (P)	_	CAN-L (CAN commu- nication circuit 2)	Input/ Output	_	_	_	
11 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	
12 (P)	_	CAN-L (CAN communication circuit 2)	Input/ Output	_	_	_	

DTC Inspection Priority Chart

INFOID:0000000012548513

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	B2600: CONFIG ERROR U1010: CONTROL UNIT(CAN)
2	U1000: CAN COMM CIRCUIT

CAN GATEWAY

< ECU DIAGNOSIS INFORMATION >

[CAN GATEWAY]

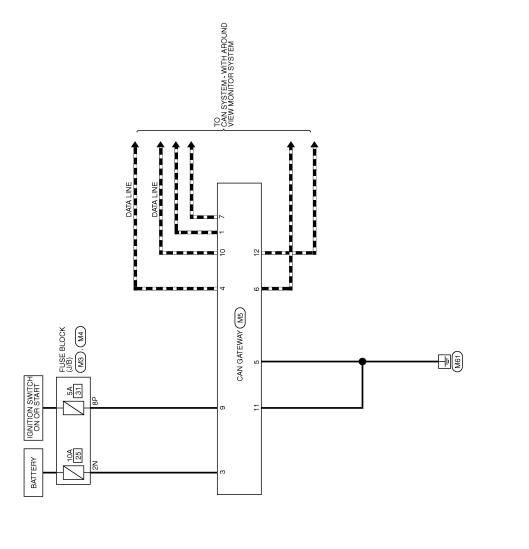
DTC Index

DTC)	Reference
No DTC is detected. Further testing may be require	red.	_
U1000: CAN COMM CIRCUI	Т	<u>LAN-127</u>
U1010: CONTROL UNIT(CA	N)	<u>LAN-128</u>
B2600: CONFIG ERROR	WRONG DATA	LAN-129
D2000. CONFIG ERROR	NOT CONFIGURED	<u>LAN-129</u>

WIRING DIAGRAM

CAN GATEWAY SYSTEM

Wiring Diagram



CAN GATEWAY SYSTEM

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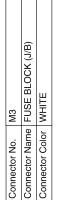
Connector No. M5
Connector Name CAN GATEWAY

Connector Color WHITE

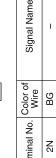
CAN GATEWAY SYSTEM CONNECTORS



Connector No. M4
Connector Name FUSE BLOCK (J/B)
Connector Color WHITE



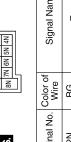




Signal Name

Color of Wire BG

Terminal No. 8Р



Signal Name	_
Color of Wire	BG
Terminal No.	SN

Signal Name	CAN-H	ı	BATTERY	CAN-H	GND	CAN-H	CAN-L	-	IGNITION	CAN-L	GND	CAN-L
Color of Wire	٦	I	BG	٦	В	٦	Ь	-	BG	Ь	В	Ь
Terminal No.	-	2	က	4	5	9	7	8	6	10	11	12

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ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

< BASIC INSPECTION > [CAN GATEWAY]

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

Description INFOID:0000000012548516

BEFORE REPLACEMENT

When replacing CAN gateway, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If "Before Replace ECU" of "Read / Write Configuration" can not be used, use the "Manual Configuration" after replacing CAN gateway.

AFTER REPLACEMENT

CAUTION:

Follow the instructions listed below. Failure to do this may cause malfunctions to the CAN gateway.:

- When replacing CAN gateway, you must perform "Read / Write Configuration" or "Manual Configuration" with CONSULT.
- Complete the procedure of "Read / Write Configuration" or "Manual Configuration" in order.
- If you set incorrect "Read / Write Configuration" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "Read / Write Configuration" or "Manual Configuration" except for new CAN gateway.

Work Procedure

1. SAVING VEHICLE SPECIFICATION

PCONSULT Configuration

Perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to LAN-125, "Description".

NOTE:

If "Before Replace ECU" of "Read / Write Configuration" can not be used, use the "Manual Configuration" after replacing CAN gateway.

>> GO TO 2.

2. REPLACE CAN GATEWAY

Replace CAN gateway. Refer to LAN-131, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

(P)CONSULT Configuration

Perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" to write vehicle specification. Refer to LAN-126, "Work Procedure".

>> WORK END

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CONFIGURATION (CAN GATEWAY)

< BASIC INSPECTION > [CAN GATEWAY]

CONFIGURATION (CAN GATEWAY)

Work Procedure

1. WRITING MODE SELECTION

©CONSULT Configuration

Select "Re/programming, Configuration" of CAN gateway.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2.PERFORM "AFTER REPLACE ECU" OF "READ / WRITE CONFIGURATION"

©CONSULT Configuration

Perform "After Replace ECU" of "Read / Write Configuration".

>> GO TO 4.

${f 3.}$ PERFORM "MANUAL CONFIGURATION"

© CONSULT Configuration

- 1. Select "Manual Configuration".
- Touch "Next".
- 3. Touch "OK".
- Check that the configuration has been successfully written and touch "End".

>> GO TO 4.

4. CHECK ALL ECU SELF-DIAGNOSIS RESULTS

- Erase all ECU self-diagnosis results using CONSULT.
- 2. Turn the ignition switch OFF.
- 3. Turn the ignition switch ON and wait for 2 seconds or more.
- 4. Check that all ECU self-diagnosis results have no DTC (e.g. U1000 and U1001) of CAN communication.

>> WORK END

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000012548519

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with two communication lines (CAN-H and CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to <u>LAN-38</u>, "CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart".

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When CAN gateway cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

Diagnosis Procedure

INFOID:0000000012548521

1.PERFORM SELF DIAGNOSTIC

- 1. Turn the ignition switch ON and wait for 2 seconds or more.
- 2. Check "Self Diagnostic Result".

Is "U1000: CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-21, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-47, "Intermittent Incident".

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000012548522

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with two communication lines (CAN-H and CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to <u>LAN-38</u>, "CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart".

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT(CAN)	When an error is detected during the initial diagnosis for CAN controller of CAN gateway.	CAN gateway

Diagnosis Procedure

INFOID:0000000012548524

1. REPLACE CAN GATEWAY

When DTC "U1010: CONTROL UNIT(CAN)" is detected, replace CAN gateway.

>> Replace CAN gateway. Refer to LAN-131, "Removal and Installation".

B2600 CONFIG ERROR

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

B2600 CONFIG ERROR

Description INFOID:0000000012548525

 $\label{thm:can} \textbf{The CAN gateway requires initial settings to judge necessary information, according to a vehicle specification. } \\$

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Probable cause
B2600	CONFIG ERROR WRONG DATA	When errors are detected in the configuration data stored in the CAN gateway.	CAN gateway
Б2000	CONFIG ERROR NOT CONFIGURED	When no data are stored in the CAN gateway.	Only galeway

Diagnosis Procedure

INFOID:0000000012548527

1. REPLACE CAN GATEWAY

When DTC "B2600: CONFIG ERROR" is detected, replace CAN gateway.

>> Replace CAN gateway. Refer to LAN-131, "Removal and Installation".

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000012548528

1.CHECK FUSE

Check that the following fuse are not blown.

Signal name	Fuse No.
Battery power supply	25
Ignition power supply	31

Is the fuse fusing?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn the ignition switch OFF.
- Disconnect the connector of CAN gateway.
- 3. Check voltage between CAN gateway harness connector and ground.

Terminals			Condition		Reference	
(+)	(-)	Condition	Standard voltage		
CAN g	ateway		Ignition	otandara voltage	voltage (Approx.)	
Connector	Terminal		switch			
M5	3	Ground	OFF	6 - 16 V	Battery voltage	
CIVI	9		ON	4.5 - 16 V	Battery voltage	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between CAN gateway harness connector and ground.

CAN g	CAN gateway		Continuity
Connector	Terminal	Ground	Continuity
M5	5	Glound	Existed
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Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

INFOID:0000000012548529

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REMOVAL AND INSTALLATION

CAN GATEWAY

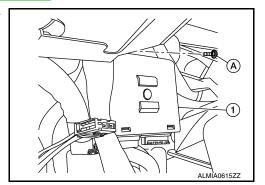
Removal and Installation

CAUTION:

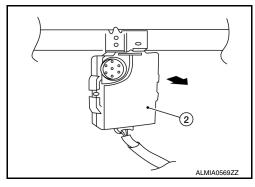
Before replacing CAN gateway, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to <u>LAN-125</u>, "<u>Description</u>".

REMOVAL

- 1. Remove the AV control unit. Refer to AV-428, "Removal and Installation".
- 2. Remove the screw (A) from the bracket of the automatic drive positioner control unit (1).



3. Position the automatic drive positioner control unit aside and remove the CAN gateway ② from the bracket by sliding it as shown.



Disconnect the harness connector from the CAN gateway and remove the CAN gateway.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

To prevent malfunction, be sure to perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" when replacing CAN gateway. Refer to <u>LAN-126, "Work Procedure"</u>.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198016

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E125	25	Existed
EII9	28	E125	15	Existed

Without 4-wheel drive

IPDM E/R har	IPDM E/R harness connector		ABS actuator and electric unit (control unit) harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E127	25	Existed
LII9	28	L121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 E152
- Harness connector M31

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the following harness connectors.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

	unit (control unit) harness nector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E125	25	E152	36G	Existed
E125	15	E 132	35G	Existed

Without 4-wheel drive

	unit (control unit) harness nector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E127	25	E152	36G	Existed
L121	15	L 132	35G	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	M22	6	Existed
IVIST	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

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Revision: November 2015 LAN-133 2016 Pathfinder

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198027

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

- Disconnect the connector of ECM.
- 2. Check the resistance between the ECM harness connector terminals.
- For Mexico

	ECM harness connector		Resistance (Ω)
Connector No.	Terminal No.		resistance (52)
E16	114	113	Approx. 108 – 132

Except for Mexico

	ECM harness connector		Resistance (Ω)
Connector No.	Terminal No.		redistance (sz)
E32	124	123	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

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

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198028

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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.		1\esistance (\frac{1}{2})
E119	29	28	Approx. 54 – 66

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-31, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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

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

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

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198029

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).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- 2. Check the resistance between the TCM harness connector terminals.
- For Mexico

	TCM harness connector		Resistance (Ω)
Connector No.	Terminal No.		Resistance (12)
F15	33	23	Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (\$2)
F89	33 23		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: TM-176, "Diagnosis Procedure"
- RE0F10J: TM-394, "Diagnosis Procedure"

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198030

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		1(63)3(4)106 (52)
E125	25 15		Approx. 54 – 66
1400 (4) 1 1 1	<u> </u>		

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		rtesistance (52)
E127	25	15	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198031

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (\$2)
E62	8	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to STC-38, "Removal and Installation".

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

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198032

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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-41, "Work Flow".

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198034

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.	Terminal No.		Tresistance (52)
M22	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.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198037

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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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

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M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198038

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 combination meter 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

- Disconnect the connector of combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\c3\3\ta1\ce (\frac{12}{2})
M24	39	38	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-61, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198040

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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.		ixesistance (12)
M54	5	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-49</u>, "Wiring <u>Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

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

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198046

1. CHECK CONNECTOR

- 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 connector side).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		(42)
M19	60	59	Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198051

1. CONNECTOR INSPECTION

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- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit.
- 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			Continuity
Connector No.	Termi	Continuity	
M22	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
M22	6	Glound	Not existed
	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 BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- 2. Check the resistance between the ECM terminals.
- For Mexico

ECM Terminal No.		Resistance (Ω)	
Except for Mexico			

ECM		Resistance (Ω)	
Terminal No.			
124	123	Approx. 108 – 132	

Check the resistance between the BCM terminals.

BCM		Resistance (Ω)	
Terminal No.			
60	59	Approx. 108 – 132	

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the BCM.

5. CHECK SYMPTOM

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

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 circuit.

NOTE:

ECM and BCM 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 IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

INFOID:0000000013198057

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DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	IPDM E/R harness connector		ABS actuator and electric unit (control unit) harness connector	
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E125	25	Existed
E119	28	E 125	15	Existed

Without 4-wheel drive

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E127	25	Existed	
E119	28	E121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

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MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198058

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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	25	E152	36G	Existed	
E125	15	L 102	35G	Existed	

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E127	25	E152	36G	Existed
E127	15	L 132	35G	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	36G	- M22	6	Existed
IVIO I	35G		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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198068

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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.
- For Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E16	114 113		Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	resistance (\$2)	
E32	124 123		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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

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

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198069

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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)
E119	29 28		Approx. 54 – 66

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-31, "Diagnosis Procedure"</u>. Is the inspection result normal?

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

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

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

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198070

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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 connection (unit side and connector side).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
F15	33 23		Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
F89	33	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: <u>TM-176, "Diagnosis Procedure"</u>
 RE0F10J: <u>TM-394, "Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198071

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (\$2)
E125	25 15		Approx. 54 – 66

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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.

EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198072

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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

- Disconnect the connector of power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power s	Power steering control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E62	8 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to STC-22, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to STC-38, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-153 Revision: November 2015 2016 Pathfinder

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198073

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.
- 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-41, "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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198074

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of AV control unit.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313141100 (32)
M163	78 62		Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (\$2)
M124	11 12		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT: Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT": Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

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

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LAN-155 Revision: November 2015 2016 Pathfinder LAN

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198075

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.	Terminal No.		Resistance (Ω)
M22	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.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198078

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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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

	A/C auto amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M50	1 21		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

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Revision: November 2015 LAN-157 2016 Pathfinder

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198079

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 combination meter 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

- Disconnect the connector of combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39 38		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-61, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198080

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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).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

1. Disconnect the connector of ADAS control unit.

2. Check the continuity between the ADAS control unit harness connector terminals.

P	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- Disconnect the connector of sonar control unit.
- 3. Check the resistance between the sonar control unit harness connector terminals.

So	Posistanas (O)		
Connector No.	Termi	Resistance (Ω)	
M70	5 6		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to <u>SN-32</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

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

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198081

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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)		
M54	5	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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198087

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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	110313(41100 (52)	
M19	60	Approx. 108 – 132	

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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Revision: November 2015 LAN-161 2016 Pathfinder

[CAN SYSTEM (TYPE 2)]

INFOID:0000000013198092

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit.
- 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		
M22	6	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	
M22	6	Giounu	Not existed	
	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

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

Except for Mexico

E	Resistance (Ω)	
Terminal No.		
124 123		Approx. 108 – 132

3. Check the resistance between the BCM terminals.

BCM		Resistance (Ω)	
Terminal No.			
60 59		Approx. 108 – 132	

CAN COMMUNICATION CIRCUIT [CAN SYSTEM (TYPE 2)] < DTC/CIRCUIT DIAGNOSIS > Is the measurement value within the specification? Α >> GO TO 5. NO >> Replace the ECM and/or the BCM. 5. CHECK SYMPTOM В Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result C Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. D 6.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Е 2. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of CAN communication circuit. NOTE: F ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 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. Н Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198096

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R harness connector		ABS actuator and electric unit (control unit harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E110	29	E125	25	Existed	
E119	E119 28	E125	15	Existed	

Without 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E127	25	Existed
LII9	28	L121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198097

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- 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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

	unit (control unit) harness nector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	25	E152	36G	Existed
E125 15	15	E 132	35G	Existed

Without 4-wheel drive

	unit (control unit) harness nector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E127	25	E152	36G	Existed	
	15	L 132	35G	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	Maa	6	Existed
I CIVI	35G M22	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

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Revision: November 2015 LAN-165 2016 Pathfinder

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000013198099

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 M40
- Harness connector B69

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 M40 and B69.
- 2. Check the continuity between the data link connector and the harness connector.
- Without around view monitor

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14		90A	Existed

With around view monitor

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	13	M40	89A	Existed
IVIZZ	12		90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.check harness continuity (open circuit)

- 1. Disconnect the harness connectors B54 and B200.
- Check the continuity between the harness connectors

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B54	1	Existed
D09	90A	504	2	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 driver seat control unit.

NO >> Repair the main line between the harness connectors B69 and B54.

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198101

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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 (Models without around view monitor)
- CAN gateway (Models with around view monitor)
- Harness connector B200 and B54
- Automatic back door control module
- Check the continuity between the harness connector and the automatic back door control module harness connector.

Harness	Harness connector		Automatic back door control module harness connector		
Connector No.	Terminal No.	Connector No.	Terminal No.		
B54	1	B55	24	Existed	
D0 4	2	5 555	12	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 automatic back door control module.

NO >> Repair the main line between the harness connector B54 and the automatic back door control module.

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Revision: November 2015 LAN-167 2016 Pathfinder

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:0000000013198102

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 B32
- Harness connector B124

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.
- Automatic back door control module
- Harness connectors B32 and B124
- Check the continuity between the automatic back door control module harness connector and the harness connector.

	Automatic back door control module harness connector		Harness connector		
Connector No.	Terminal No.	Connector No.	Terminal No.		
B55	24	B32	18	Existed	
633	12	632	19	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the automatic back door control module and the harness connector B32.

$3.\mathsf{CHECK}$ HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of ADAS control unit.
- Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness	connector	ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B124	18	B104	1	Existed
B12 4	19	6104	2	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 automatic back door control module and the ADAS control unit.

NO >> Repair the main line between the harness connector B124 and the ADAS control unit.

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

INFOID:0000000013198103

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B124
- Harness connector B32

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.
- Side radar RH
- Harness connectors B124 and B32
- Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B109	6	B124	21	Existed
D109	7	0124	20	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B124.

3.check harness continuity (open circuit)

- Disconnect the harness connectors B77 and B400.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B32	21	D77	12	Existed
DJZ	20	B77	13	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 side radar RH and the side radar LH.

NO >> Repair the main line between the harness connector B32 and B77.

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Revision: November 2015 LAN-169 2016 Pathfinder

MAIN LINE BETWEEN RDR-L AND SONAR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN RDR-L AND SONAR CIRCUIT

Diagnosis Procedure

INFOID:0000000013198104

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 B69
- Harness connector M40

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.
- Harness connectors B400 and B77
- Harness connectors B69 and M40
- Check the continuity between the harness connectors.

Harness	connector	r Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B77	12	B69	43A	Existed
DII	13	609	42A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B77 and B69.

3.check harness continuity (open circuit)

- 1. Disconnect the connector of sonar control unit.
- Check the continuity between the harness connector and the sonar control unit harness connector.

Harness	connector	Sonar control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M40	43A	M70 5	5	Existed
IVI 4 U	42A		6	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 side radar LH and the sonar control unit.

NO >> Repair the main line between the harness connector M40 and the sonar control unit.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198107

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1. CHECK CONNECTOR

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- 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.
- For Mexico

	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
E16	114	113	Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313(41100 (52)
E32	124	123	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508. "Removal and Installation".

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

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

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Revision: November 2015 LAN-171 2016 Pathfinder

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198108

1. CHECK CONNECTOR

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

- 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.		1\esistance (\(\frac{1}{2}\)
E119	29	28	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

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

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

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-31, "Diagnosis Procedure"</u>. Is the inspection result normal?

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

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

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

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198109

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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 connection (unit side and connector side).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		rvesistance (52)
F15	33 23		Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Termi	110313(41100 (52)	
F89	33	23	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: <u>TM-176, "Diagnosis Procedure"</u>
 RE0F10J: <u>TM-394, "Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

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LAN-173 Revision: November 2015 2016 Pathfinder LAN

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198110

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Tresistance (22)
E125	25 15		Approx. 54 – 66

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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.

EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198111

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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 power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power s	Power steering control module harness connector		
Connector No.	Termi	Resistance (Ω)	
E62	8	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to <u>STC-38, "Removal and Installation".</u>

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

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

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Revision: November 2015 LAN-175 2016 Pathfinder

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198112

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.
- 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-41, "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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198113

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of AV control unit.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313141100 (32)
M163	78	62	Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
M124	11 12		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT : Diagnosis Procedure"
- Premium audio: <u>AV-366, "AV CONTROL UNIT"</u>: <u>Diagnosis Procedure</u>"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

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

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LAN-177 Revision: November 2015 2016 Pathfinder LAN

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

INFOID:0000000013198114

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 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.	Termii	Resistance (Ω)	
M22	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.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198117

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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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

	A/C auto amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112, "A/C AUTO AMP. :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

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Revision: November 2015 LAN-179 2016 Pathfinder

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

INFOID:0000000013198118

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 combination meter 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

- Disconnect the connector of combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Termi	Resistance (Ω)	
M24	39	38	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-61, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198119

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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 connection (unit side and connector side).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of ADAS control unit.

Check the continuity between the ADAS control unit harness connector terminals.

P	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- Disconnect the connector of sonar control unit.
- Check the resistance between the sonar control unit harness connector terminals.

S	Sonar control unit harness connector		
Connector No.	Termin	Resistance (Ω)	
M70	5	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

f 4 .CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to SN-32, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

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

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LAN-181 Revision: November 2015 2016 Pathfinder

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198120

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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.	Terminal No.		Resistance (Ω)
M54	5 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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198121

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- 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 B200
- Harness connector B54
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of driver seat control unit.
- 3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B209	16 32		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

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

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-90, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-163, "Removal and Installation".

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

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

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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198123

1. CHECK CONNECTOR

- 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 connector side).
- Automatic back door control module
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
OIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of automatic back door control module.
- Check the resistance between the automatic back door control module harness connector terminals.

Automatic	Automatic back door control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B55	24 12		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the automatic back door control module. Refer to DLK-160. PACK DOOR CONTROL UNIT : Diagnosis Procedure.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to DLK-292, "Removal and <a href="Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198126

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M19	60 59		Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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Revision: November 2015 LAN-185 2016 Pathfinder

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198127

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).
- ADAS control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of ADAS control unit.
- Check the resistance between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B104	1	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to DAS-79, "ADAS CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-88, "Removal and Installation".

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198128

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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
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.

2. Check the continuity between the ADAS control unit harness connector terminals.

А	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar RH.
- Check the resistance between the side radar RH harness connector terminals.

	Side radar RH harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B109	6	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-80, "SIDE RADAR RH:</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to <u>DAS-89</u>, "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.

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RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198129

1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- 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 B400
- Harness connector B77
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
D404	6	9	Existed
B104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar LH.
- Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		i (22)
B416	6	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar LH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-79</u>, "SIDE RADAR LH: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-89, "Removal and Installation".

YES (Past error)>>Error was detected in the side radar LH branch line.

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198131

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1. CONNECTOR INSPECTION

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit.
- 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			Continuity
Connector No.	Terminal No.		Continuity
M22	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
M22	6	Glound	Not existed
	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 BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- 2. Check the resistance between the ECM terminals.
- For Mexico

ECM	М	Resistance (Ω)	
Termina	al No.	Resistance (12)	
114	113	Approx. 108 – 132	
- Except for Mexico			

ECM		Resistance (Ω)	
Terminal No.		Resistance (12)	
124 123		Approx. 108 – 132	

Check the resistance between the BCM terminals.

ВСМ		Resistance (Ω)	
Terminal No.			
60	59	Approx. 108 – 132	

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the BCM.

5. CHECK SYMPTOM

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

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 circuit.

NOTE:

ECM and BCM 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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198134

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and/or CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2. CONNECTOR INSPECTION

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the ADAS control unit harness connector.

Check the continuity between the ADAS control unit harness connector.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D 10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line. (ITS communication circuit side).

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- Disconnect the following harness connectors.
- Side radar RH
- Side radar LH
- Around view monitor control unit (Models with around view monitor)
- Sonar control unit
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Termi	Continuity	
B104	6 7		Not existed

Is the inspection result normal?

YES >> GO TO 5.

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

CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.	Ground	Continuity
B104	6		Not existed
	7		Not existed

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

Is the inspection result normal?

YES >> GO TO 6.

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

6. CHECK TERMINATION CIRCUIT

- Remove the ADAS control unit.
- Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)	
Terminal No.		Resistance (52)	
6	7	Approx 109 122	
9	8	Approx. 108 – 132	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS 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>>GO TO 8.

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

8. CHECK UNIT REPRODUCTION

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

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit has two termination circuits. Check other units first.

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.

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 IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

INFOID:0000000013198135

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DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R harness connector		ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E125	25	Existed
E119	28		15	Existed

Without 4-wheel drive

IPDM E/R har	IPDM E/R harness connector		ABS actuator and electric unit (control unit) harness connector		
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E127	25	Existed	
E119	28	E121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

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Revision: November 2015 LAN-193 2016 Pathfinder

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198136

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 E152
- Harness connector M31

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the following harness connectors.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	25	E152	36G	Existed	
E125	15	L 102	35G	Existed	

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E127	25	E152	36G	Existed	
	15	L 132	35G	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	Harness connector		Data link connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	M22	6	Existed
IVIS I	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

MAIN LINE BETWEEN DLC AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN DLC AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000013198139

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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
- CAN gateway
- 4. Check the continuity between the data link connector and the CAN gateway harness connector.

Data link	k connector CAN gateway harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M5	1	Existed
IVIZZ	14	IVIS	7	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 CAN gateway.

NO >> Repair the main line between the data link connector and the CAN gateway.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000013198174

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 M40
- Harness connector B69

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the harness connectors M40 and B69.
- 2. Check the continuity between the data link connector and the harness connector.
- Without around view monitor

Data link	connector Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14	10140	90A	Existed

With around view monitor

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	13	M40	89A	Existed
	12	IVI+O	90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3. Check harness continuity (open circuit)

- 1. Disconnect the harness connectors B54 and B200.
- 2. Check the continuity between the harness connectors

Harness	Harness connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B54	1	Existed
D09	90A	504	2	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 driver seat control unit.

NO >> Repair the main line between the harness connectors B69 and B54.

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198140

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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 (Models without around view monitor)
- CAN gateway (Models with around view monitor)
- Harness connector B200 and B54
- Automatic back door control module
- 4. Check the continuity between the harness connector and the automatic back door control module harness connector.

Harness	Harness connector Aut		Automatic back door control module harness connector		
Connector No.	Terminal No.	Connector No.	Terminal No.		
B54	1	B55	24	Existed	
D0 4	2	600	12	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 automatic back door control module.

NO >> Repair the main line between the harness connector B54 and the automatic back door control module.

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MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:0000000013198141

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 B32
- Harness connector B124

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.
- Automatic back door control module
- Harness connectors B32 and B124
- Check the continuity between the automatic back door control module harness connector and the harness connector.

	Automatic back door control module harness connector		Harness connector		
Connector No.	Terminal No.	Connector No.	Terminal No.	1	
B55	24	B32	18	Existed	
D33	12		19	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the automatic back door control module and the harness connector B32.

$3.\mathsf{CHECK}$ HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of ADAS control unit.
- Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness	connector	ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B124	18	B104	1	Existed
B12 4	19	6104	2	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 automatic back door control module and the ADAS control unit.

NO >> Repair the main line between the harness connector B124 and the ADAS control unit.

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B124
- Harness connector B32

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.
- Side radar RH
- Harness connectors B124 and B32
- Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B109	6	B124	21	Existed	
D109	7	0124	20	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B124.

3.check harness continuity (open circuit)

- 1. Disconnect the harness connectors B77 and B400.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B32	21	B77	12	Existed
DJZ	20	D//	13	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 side radar RH and the side radar LH.

NO >> Repair the main line between the harness connector B32 and B77.

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MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000013198144

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 B69
- Harness connector M40

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.
- Harness connectors B400 and B77
- Harness connectors B69 and M40
- 2. Check the continuity between the harness connectors.

Harness	Harness connector		connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B77	12	B69	43A	Existed
DII	13		42A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B77 and B69.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of around view monitor control unit.
- 2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness	connector	Around view monitor cont	nd view monitor control unit harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M40	43A	MQ6	12	Existed
IVI 4 U	42A	M96	10	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 side radar LH and the around view monitor control unit.

NO >> Repair the main line between the harness connector M40 and the around view monitor control unit.

MAIN LINE BETWEEN AVM AND SONAR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN AVM AND SONAR CIRCUIT

Diagnosis Procedure

INFOID:0000000013198145

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- ADAS control unit
- Around view monitor control unit
- Sonar control unit
- 2. Check the continuity between the around view monitor control unit harness connector and the sonar control unit harness connector.

Around view monitor control unit harness connector		Sonar control unit harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
M96	12	M70	5	Existed	
Meo	10	Wi7 O	6	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 around view monitor control unit and the sonar control unit.

NO >> Repair the main line between the around view monitor control unit and the sonar control unit.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198146

1. CHECK CONNECTOR

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

- Disconnect the connector of ECM.
- 2. Check the resistance between the ECM harness connector terminals.
- For Mexico

	Resistance (Ω)		
Connector No.	Termi	resistance (52)	
E16	114	113	Approx. 108 – 132

Except for Mexico

	Resistance (Ω)		
Connector No.	Termin	110313141100 (22)	
E32	124	123	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198147

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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)		
E119	29	28	Approx. 54 – 66	

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-31, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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

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

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

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198148

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).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- 2. Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Termir	Tresistance (22)	
F15	33 23		Approx. 54 – 66

Except for Mexico

	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
F89	33	23	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: TM-176, "Diagnosis Procedure"
- RE0F10J: TM-394, "Diagnosis Procedure"

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator	Resistance (Ω)			
Connector No.	Terminal No.		rtesistance (22)	
E125	25 15		Approx. 54 – 66	
1400 (4) 1 1 1				

Without 4-wheel drive

ABS actuator	Resistance (Ω)		
Connector No.	Termi	110333141100 (22)	
E127	25	15	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-205 Revision: November 2015 2016 Pathfinder LAN

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EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198150

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Powers	Power steering control module harness connector			
Connector No.	Termi	Resistance (Ω)		
E62	8	7	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

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

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to <u>STC-38, "Removal and Installation".</u>

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198151

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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-41, "Work Flow".

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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[CAN SYSTEM (TYPE 4)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198152

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.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		redistance (32)
M163	78	62	Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313(81100 (52)
M124	11	12	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT : Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT: Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000013198154

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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.	Terminal No.		Resistance (Ω)
M22	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 (CAN communication circuit 1 side).

NO >> Repair the data link connector branch line (CAN communication circuit 1 side).

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Revision: November 2015 LAN-209 2016 Pathfinder

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000013198155

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.	Terminal No.		Resistance (Ω)
M22	13	12	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 (CAN communication circuit 2 side).

NO >> Repair the data link connector branch line (CAN communication circuit 2 side).

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198156

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Check the terminals and connectors of the A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

	A/C auto amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

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Revision: November 2015 LAN-211 2016 Pathfinder

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198157

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 combination meter 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

- Disconnect the connector of combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39	38	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-61, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198158

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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).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of ADAS control unit.

2. Check the continuity between the ADAS control unit harness connector terminals.

P	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- Disconnect the connector of sonar control unit.
- 3. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector			Posistanos (O)
Connector No.	Terminal No.		Resistance (Ω)
M70	5 6		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to <u>SN-32</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

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

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198159

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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.	Terminal No.		Resistance (Ω)
M54	5	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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198160

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- 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 B200
- Harness connector B54
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of driver seat control unit.
- 3. Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110333141100 (52)
B209	16 32		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

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

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-90, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-163, "Removal and Installation".

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

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

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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198162

1. CHECK CONNECTOR

- 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 connector side).
- Automatic back door control module
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
OIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of automatic back door control module.
- Check the resistance between the automatic back door control module harness connector terminals.

Automatic back door control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (\$2)
B55	24	12	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the automatic back door control module. Refer to DLK-160. PACK DOOR CONTROL UNIT : Diagnosis Procedure.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to <u>DLK-292</u>, "Removal and <u>Installation"</u>.

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

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000013198163

1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of CAN gateway.
- Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		11001310100 (22)
M5	1 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line (CAN communication circuit 1 side).

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-130</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-131, "Removal and Installation".

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).

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

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CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000013198164

1.CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

Turn the ignition switch OFF.

2. Disconnect the battery cable from the negative terminal.

Check the following terminals and connectors of the CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.

Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line (CAN communication circuit 2 side).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-130</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-131, "Removal and Installation".

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198165

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
M19	60 59		Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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Revision: November 2015 LAN-219 2016 Pathfinder

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198166

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- ADAS control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
OIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of ADAS control unit.
- Check the resistance between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B104	1	2	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

$oldsymbol{4}.$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to DAS-79, "ADAS CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-88, "Removal and Installation".

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198167

1. CHECK CONNECTOR

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- 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
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- 2. Disconnect the connector of side radar RH.
- Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Termi	ixesistance (s2)	
B109	6	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-80, "SIDE RADAR RH:</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to <u>DAS-89</u>, "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.

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RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198168

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B400
- Harness connector B77
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar LH.
- Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\esistance (\(\frac{1}{2}\)
B416	6	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar LH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-79</u>, "SIDE RADAR LH: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-89, "Removal and Installation".

YES (Past error)>>Error was detected in the side radar LH branch line.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198169

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1. CHECK CONNECTOR

- 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).
- Around view monitor control unit
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

,	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit.
- 2. Disconnect the connector of around view monitor control unit.
- Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		1.6515(81106 (32)
M96	12 10		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to <u>AV-371</u>, "AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-448, "Removal and Installation"</u>.

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

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

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CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000013198171

1. CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit 1.
- 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			Continuity
Connector No.	Terminal No.		Continuity
M22	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 linl	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
M22	6	Ground	Not existed
IVIZZ	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 BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

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

Except for Mexico

ECM		Resistance (O)	
Terminal No.		- Resistance (Ω) Approx. 108 – 132	
124	123	Approx. 108 – 132	

3. Check the resistance between the BCM terminals.

BCM		Resistance (Ω)	
Terminal No.			
60 59		Approx. 108 – 132	

CAN COMMUNICATION CIRCUIT 1 [CAN SYSTEM (TYPE 4)] < DTC/CIRCUIT DIAGNOSIS > Is the measurement value within the specification? Α >> GO TO 5. NO >> Replace the ECM and/or the BCM. 5. CHECK SYMPTOM В Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result C Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. D 6.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Е 2. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of CAN communication circuit 1. NOTE: ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 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. Н Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000013198172

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 circuit 2.
- 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			Continuity
Connector No.	Terminal No.		Continuity
M22	13 12		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
M22	13	Ground	Not existed
IVIZZ	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

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

f 4.CHECK CAN GATEWAY TERMINATION CIRCUIT

- Remove the CAN gateway.
- 2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)	
Terminal No.		- Resistance (12)	
4	10	Approx. 108 – 132	
6	12	Approx. 108 – 132	

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the CAN gateway.

CHECK SYMPTOM

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

Inspection result

Reproduced>>GO TO 6.

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

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

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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 circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198173

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and/or CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2.connector inspection

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the ADAS control unit harness connector.
- Check the continuity between the ADAS control unit harness connector.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line. (ITS communication circuit side).

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- Disconnect the following harness connectors.
- Side radar RH
- Side radar LH
- Around view monitor control unit (Models with around view monitor)
- Sonar control unit
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6	Not existed	

Is the inspection result normal?

YES >> GO TO 5.

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

CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.	Ground	Continuity
B104	6		Not existed
D 104	7		Not existed

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

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YES >> GO TO 6.

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

6.CHECK TERMINATION CIRCUIT

- 1. Remove the ADAS control unit.
- Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)	
Terminal No.			
6	7	Approx. 108 – 132	
9	8		

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS 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>>GO TO 8.

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

8.CHECK UNIT REPRODUCTION

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

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit has two termination circuits. Check other units first.

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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198189

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E125	25	Existed
E119	28	E 125	15	Existed

Without 4-wheel drive

IPDM E/R har	IPDM E/R harness connector ABS actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E127	25	Existed
L119	28	L 121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198190

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1. CHECK CONNECTOR

- 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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	25	E152	36G	Existed
E125	15	E 132	35G	Existed

Without 4-wheel drive

	actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		
E127	25	E152	36G	Existed
	15	L132	35G	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3.check harness continuity (open circuit)

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

Harness	connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	M22	6	Existed
IVIST	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

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Revision: November 2015 LAN-231 2016 Pathfinder

MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198203

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 M40
- Harness connector B69

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 M40 and B69.
- Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14	10140	90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of 4WD control unit.
- 2. Check the continuity between the harness connector and the 4WD control unit harness connector.

Harness	connector	4WD control unit	harness connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B67	8	Existed
509	90A	507	16	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 4WD control unit.

NO >> Repair the main line between the harness connector B69 and the 4WD control unit.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198191

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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.
- For Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	110313141100 (32)	
E16	114	113	Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
E32	124 123		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the ECM branch line.

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

Check the power supply and the ground circuit of the ECM. Refer to <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508. "Removal and Installation".

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

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

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Revision: November 2015 LAN-233 2016 Pathfinder

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198192

1. CHECK CONNECTOR

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

- 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)	
E119	29	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

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

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

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-31, "Diagnosis Procedure"</u>. Is the inspection result normal?

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

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

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198193

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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 connection (unit side and connector side).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- Check the resistance between the TCM harness connector terminals.
- For Mexico

	TCM harness connector		
Connector No.	Termi	Resistance (Ω)	
F15	33 23		Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
F89	33	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: <u>TM-176, "Diagnosis Procedure"</u>
 RE0F10J: <u>TM-394, "Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198194

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (12)
E125	25 15		Approx. 54 – 66

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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

EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198195

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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 power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power steering control module harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\esistance (\(\frac{1}{2}\)
E62	8	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to <u>STC-38</u>, "Removal and Installation".

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

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

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198196

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.
- 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-41, "Work Flow".

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198197

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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.	Terminal No.		1\esistance (\(\frac{1}{2}\)
M22	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.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198198

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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

	A/C auto amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112</u>, "A/C AUTO AMP. : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198199

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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 combination meter 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 combination meter.
- Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39	38	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to <u>MWI-61, "COMBINATION METER</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198200

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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.	Terminal No.		Resistance (Ω)
M54	5	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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198204

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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).
- 4WD control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

1. Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of 4WD control unit.
- Check the resistance between the 4WD control unit harness connector terminals.

4	4WD control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B67	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the 4WD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the 4WD control unit. Refer to <u>DLN-60</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the 4WD control unit. Refer to <u>DLN-72</u>, "Removal and Installation".

YES (Past error)>>Error was detected in the 4WD control unit branch line.

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

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198201

1. CHECK CONNECTOR

- 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 connector side).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M19	60	59	Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198202

1. CONNECTOR INSPECTION

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- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit.
- 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			Continuity
Connector No.	Terminal No.		Continuity
M22	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
M22	6	Giodila	Not existed
IVIZZ	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

ECM		Resistance (Ω)	
Те	minal No.	Tresistance (22)	
114	113	Approx. 108 – 132	
Except for Movico			

Except for Mexico

EG	Resistance (Ω)	
Terminal No.		redistance (\$2)
124	123	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

BCM		- Resistance (Ω)	
Terminal No.			
60	59	Approx. 108 – 132	

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the ECM and/or the BCM.

5. CHECK SYMPTOM

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

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 circuit.

NOTE:

ECM and BCM 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 IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198205

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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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E125	25	Existed
LIIS	28	L 125	15	Existed

Without 4-wheel drive

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E127	25	Existed
E119	28	E121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

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Revision: November 2015 LAN-247 2016 Pathfinder

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198206

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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

	unit (control unit) harness nector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	25	E152	36G	Existed
E125	15	L 102	35G	Existed

Without 4-wheel drive

	unit (control unit) harness nector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E127	25	E152	36G	Existed
L121	15	L 132	35G	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	M22	6	Existed
IVIS I	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198207

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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 M40
- Harness connector B69

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 M40 and B69.
- Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14	10140	90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of 4WD control unit.
- 2. Check the continuity between the harness connector and the 4WD control unit harness connector.

Harness	connector	4WD control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B67	8	Existed
509	90A	507	16	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 4WD control unit.

NO >> Repair the main line between the harness connector B69 and the 4WD control unit.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198216

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.
- For Mexico

	ECM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E16	114	113	Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		11033441100 (22)
E32	124	123	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198217

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of IPDM E/R.
- Check the resistance between the IPDM E/R harness connector terminals.

IPDM E/R harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E119	29	28	Approx. 54 – 66

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 PCS-31, "Diagnosis Procedure". Is the inspection result normal?

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

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

>> Repair the power supply and the ground circuit.

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198218

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).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- 2. Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1(03)3(4)100 (22)
F15	33	23	Approx. 54 – 66
Except for Mexico			

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (32)
F89	33	23	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: TM-176, "Diagnosis Procedure"
- RE0F10J: TM-394, "Diagnosis Procedure"

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198219

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of ABS actuator and electric unit (control unit).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		i (22)
E125	25 15		Approx. 54 – 66
1400 (4) 1 1 1			

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
E127	25	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198220

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power steering control module harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
E62	8 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to STC-38, "Removal and Installation".

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198221

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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-41, "Work Flow".

Is the inspection result normal?

YES >> Replace the main harness.

NO >> Replace parts whose air bag system has a malfunction.

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AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198222

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.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110000100 (22)
M163	78	62	Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313(41100 (52)
M124	11	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT : Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT: Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198223

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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.	Terminal No.		1\esistance (\(\frac{1}{2}\)
M22	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.

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198226

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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		1/63/3/4/106 (22)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112</u>, "A/C AUTO AMP. : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198227

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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 combination meter 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 combination meter.
- Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39 38		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to <u>MWI-61, "COMBINATION</u> METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

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Revision: November 2015 LAN-259 2016 Pathfinder

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198228

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- 2. Disconnect the connector of sonar control unit.
- Check the resistance between the sonar control unit harness connector terminals.

S	Sonar control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M70	5 6		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to <u>SN-32</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198229

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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.	Terminal No.		Resistance (Ω)
M54	5 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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

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

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Revision: November 2015 LAN-261 2016 Pathfinder

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198231

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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).
- 4WD control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of 4WD control unit.
- Check the resistance between the 4WD control unit harness connector terminals.

4	Resistance (Ω)		
Connector No.	Termi	Tresistance (52)	
B67	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the 4WD control unit branch line.

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the 4WD control unit. Refer to <u>DLN-60</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the 4WD control unit. Refer to <u>DLN-72, "Removal and Installation"</u>.

YES (Past error)>>Error was detected in the 4WD control unit branch line.

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198235

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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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

	Resistance (Ω)		
Connector No.	Termi	11001010100 (22)	
M19	60 59		Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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[CAN SYSTEM (TYPE 6)]

INFOID:0000000013198240

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

1.CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit.
- 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.

	Continuity	
Connector No.	Termi	Continuity
M22	6	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	
M22	6	Giodila	Not existed	
IVIZZ	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

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

Except for Mexico

E	Resistance (Ω)	
Terminal No.		
124 123		Approx. 108 – 132

3. Check the resistance between the BCM terminals.

В	Resistance (Ω)	
Terminal No.		
60	59	Approx. 108 – 132

CAN COMMUNICATION CIRCUIT [CAN SYSTEM (TYPE 6)] < DTC/CIRCUIT DIAGNOSIS > Is the measurement value within the specification? Α >> GO TO 5. NO >> Replace the ECM and/or the BCM. 5. CHECK SYMPTOM В Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result C Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. D 6.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Е 2. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of CAN communication circuit. NOTE: F ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 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. Н Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198322

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	l	
E119	29	E125	25	Existed	
EII9	28		15	Existed	

Without 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E127	25	Existed
LII9	28	E127	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198323

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

	unit (control unit) harness nector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	25	E152	36G	Existed
E125	15	E 132	35G	Existed

Without 4-wheel drive

	unit (control unit) harness nector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E127	25	E152	36G	Existed	
	15	L 132	35G	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	36G	M22	6	Existed
I CIVI	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

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MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN DLC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198324

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 M40
- Harness connector B69

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 M40 and B69.
- Check the continuity between the data link connector and the harness connector.

Data link	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	89A	Existed
IVIZZ	14		90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of 4WD control unit.
- 2. Check the continuity between the harness connector and the 4WD control unit harness connector.

Harness	connector	4WD control unit	harness connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B67	8	Existed
509	90A		16	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 4WD control unit.

NO >> Repair the main line between the harness connector B69 and the 4WD control unit.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198333

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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.
- For Mexico

	ECM harness connector			
Connector No.	Termi	Resistance (Ω)		
E16	114 113		Approx. 108 – 132	

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	rvesistance (sz)	
E32	124	123	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

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

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Revision: November 2015 LAN-269 2016 Pathfinder

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198334

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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)	
E119	29 28		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

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

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

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-31, "Diagnosis Procedure"</u>. Is the inspection result normal?

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

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

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198335

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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 connection (unit side and connector side).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (22)
F15	33 23		Approx. 54 – 66

Except for Mexico

	Resistance (Ω)		
Connector No.	Termi	resistance (sz)	
F89	33 23		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: <u>TM-176, "Diagnosis Procedure"</u>
 RE0F10J: <u>TM-394, "Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

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LAN-271 Revision: November 2015 2016 Pathfinder LAN

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198336

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Tresistance (52)
E125	25 15		Approx. 54 – 66

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25 15		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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160. "Removal and Installation".

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

EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198337

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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 power steering 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 power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power s	Resistance (Ω)		
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
E62	8 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to <u>STC-22, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to <u>STC-38, "Removal and Installation".</u>

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

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

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Revision: November 2015 LAN-273 2016 Pathfinder

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198338

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.
- 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-41, "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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198339

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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.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Termi	110313141100 (32)	
M163	78	62	Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Termi	resistance (\$2)	
M124	11	12	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT : Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT": Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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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DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198340

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.	Termin	1\esistance (\frac{1}{2})	
M22	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.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198343

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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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

	A/C auto amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112, "A/C AUTO AMP. :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

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Revision: November 2015 LAN-277 2016 Pathfinder

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198344

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 combination meter 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 combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Termi	Resistance (Ω)	
M24	39 38		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-61, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198345

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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).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of ADAS control unit.

2. Check the continuity between the ADAS control unit harness connector terminals.

	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- 2. Disconnect the connector of sonar control unit.
- 3. Check the resistance between the sonar control unit harness connector terminals.

S	Sonar control unit harness connector		
Connector No.	Termin	Resistance (Ω)	
M70	5	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to <u>SN-32</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

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

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198346

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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)	
M54	5	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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198348

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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).
- 4WD control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of 4WD control unit.
- 3. Check the resistance between the 4WD control unit harness connector terminals.

4WD control unit harness connector			Posistanos (O)
Connector No.	Terminal No.		Resistance (Ω)
B67	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the 4WD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the 4WD control unit. Refer to <u>DLN-60</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the 4WD control unit. Refer to <u>DLN-72</u>, "Removal and Installation".

YES (Past error)>>Error was detected in the 4WD control unit branch line.

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

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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198349

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Automatic back door control module
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of automatic back door control module.
- Check the resistance between the automatic back door control module harness connector terminals.

Automatic	Automatic back door control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B55	24 12		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the automatic back door control module. Refer to DLK-160. PACK DOOR CONTROL UNIT : Diagnosis Procedure.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to <u>DLK-292</u>, "Removal and <u>Installation"</u>.

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198352

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1. CHECK CONNECTOR

- 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 connector side).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
M19	60 59		Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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[CAN SYSTEM (TYPE 7)]

INFOID:0000000013198357

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 circuit.
- 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	
M22	6	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	
M22	6	Giouna	Not existed	
IVIZZ	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

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

Except for Mexico

E	Resistance (Ω)	
Terminal No.		
124	123	Approx. 108 – 132

3. Check the resistance between the BCM terminals.

ВС	Resistance (Ω)	
Terminal No.		
60	59	Approx. 108 – 132

CAN COMMUNICATION CIRCUIT [CAN SYSTEM (TYPE 7)] < DTC/CIRCUIT DIAGNOSIS > Is the measurement value within the specification? Α >> GO TO 5. NO >> Replace the ECM and/or the BCM. 5. CHECK SYMPTOM В Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result C Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. D 6.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Е 2. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of CAN communication circuit. NOTE: F ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 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. Н Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198283

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E125	25	Existed
EII9	28	E125	15	Existed

Without 4-wheel drive

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E127	25	Existed	
LII9	28	L121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198284

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

	ABS actuator and electric unit (control unit) harness connector		Harness connector	
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	25	E152	36G	Existed
E125	15	E 132	35G	Existed

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E127	25	E152	36G	Existed
	15		35G	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M31	36G	M22	6	Existed	
I CIVI	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000013198286

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 M40
- Harness connector B69

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the harness connectors M40 and B69.
- 2. Check the continuity between the data link connector and the harness connector.
- Without around view monitor

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
M22	6	M40	89A	Existed
IVIZZ	14	10140	90A	Existed

With around view monitor

Data link connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M22	13	M40	89A	Existed	
IVI22	12		90A	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.check harness continuity (open circuit)

- 1. Disconnect the harness connectors B54 and B200.
- 2. Check the continuity between the harness connectors

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B69	89A	B54	1	Existed	
Б09	90A	D0 4	2	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 driver seat control unit.

NO >> Repair the main line between the harness connectors B69 and B54.

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198288

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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 (Models without around view monitor)
- CAN gateway (Models with around view monitor)
- Harness connector B200 and B54
- Automatic back door control module
- 4. Check the continuity between the harness connector and the automatic back door control module harness connector.

Harness	connector	Automatic back door control module harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.			
B54	1	P55	24	Existed	
B34 -	2	B55	12	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 automatic back door control module.

NO >> Repair the main line between the harness connector B54 and the automatic back door control module.

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Revision: November 2015 LAN-289 2016 Pathfinder

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:0000000013198289

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 B32
- Harness connector B124

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the following harness connectors.
- Automatic back door control module
- Harness connectors B32 and B124
- Check the continuity between the automatic back door control module harness connector and the harness connector.

	Automatic back door control module harness connector		Harness connector	
Connector No.	Terminal No.	Connector No. Terminal No.		
B55	24	B32	18	Existed
D33	12	532	19	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the automatic back door control module and the harness connector B32.

$3.\mathsf{CHECK}$ HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness connector		ADAS control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B124	18	B104	1	Existed
B124	19	6104	2	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 automatic back door control module and the ADAS control unit.

NO >> Repair the main line between the harness connector B124 and the ADAS control unit.

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B124
- Harness connector B32

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.
- Side radar RH
- Harness connectors B124 and B32
- Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH h	Side radar RH harness connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B109	6	B124	21	Existed
D109	7	0124	20	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B124.

3.check harness continuity (open circuit)

- 1. Disconnect the harness connectors B77 and B400.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
B32	21	D.7.7	12	Existed	
D32	20	- B77	13	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 side radar RH and the side radar LH.

NO >> Repair the main line between the harness connector B32 and B77.

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Revision: November 2015 LAN-291 2016 Pathfinder

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MAIN LINE BETWEEN RDR-L AND SONAR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN RDR-L AND SONAR CIRCUIT

Diagnosis Procedure

INFOID:0000000013198291

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 B69
- Harness connector M40

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.
- Harness connectors B400 and B77
- Harness connectors B69 and M40
- Check the continuity between the harness connectors.

Harness	Harness connector		Harness connector	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
D77	12	D60	43A	Existed
DII	B77 13	B69	42A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B77 and B69.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of sonar control unit.
- 2. Check the continuity between the harness connector and the sonar control unit harness connector.

Harness	connector	Sonar control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M40	43A	M70	5	Existed
IVI 4 U	42A	IVI / U	6	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 side radar LH and the sonar control unit.

NO >> Repair the main line between the harness connector M40 and the sonar control unit.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198294

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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.
- For Mexico

	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
E16	114	113	Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Termi	110313(41100 (52)	
E32	124	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

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

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Revision: November 2015 LAN-293 2016 Pathfinder

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198295

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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)	
E119	29	Approx. 54 – 66	

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-31, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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

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

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

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198296

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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 connection (unit side and connector side).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- Check the resistance between the TCM harness connector terminals.
- For Mexico

	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
F15	33	23	Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
F89	33	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: <u>TM-176, "Diagnosis Procedure"</u>
 RE0F10J: <u>TM-394, "Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

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LAN-295 Revision: November 2015 2016 Pathfinder LAN

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198297

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		- Resistance (12)
E125	25 15		Approx. 54 – 66

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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.

EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198298

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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

- Disconnect the connector of power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power s	Power steering control module harness connector		
Connector No.	Termi	Resistance (Ω)	
E62	8 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to STC-22, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to STC-38, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-297 Revision: November 2015 2016 Pathfinder

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198299

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.
- 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-41, "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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198300

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of AV control unit.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313141100 (32)
M163	78	62	Approx. 54 – 66

With MID audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M124	11 12		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT: Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT": Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

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

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LAN-299 Revision: November 2015 2016 Pathfinder LAN

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198301

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)	
M22	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.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198304

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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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

	A/C auto amp. harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M50	1 21		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

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

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Revision: November 2015 LAN-301 2016 Pathfinder

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198305

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 combination meter 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 combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39 38		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to MWI-61, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198306

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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).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of ADAS control unit.

2. Check the continuity between the ADAS control unit harness connector terminals.

1	ADAS control unit harness connector		
Connector No.	Terminal No.		- Continuity
B104	6	9	Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- Disconnect the connector of sonar control unit.
- 3. Check the resistance between the sonar control unit harness connector terminals.

Sonar control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (22)
M70	5 6		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to <u>SN-32</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

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

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Revision: November 2015 LAN-303 2016 Pathfinder

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198307

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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.	Terminal No.		Resistance (Ω)
M54	5 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-49</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

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

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198308

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1. CHECK CONNECTOR

- 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 B200
- Harness connector B54
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
ME	4	6	Existed
M5	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of driver seat control unit.
- Check the resistance between the driver seat control unit harness connector terminals.

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Termi	1103/314/100 (22)	
B209	16	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

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

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-90, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-163, "Removal and Installation".

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

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

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4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198309

1. CHECK CONNECTOR

- 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 connector side).
- 4WD control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector			
Connector No.	Termi	Continuity		
M5	4	6	Existed	
CIVI	10	12	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of 4WD control unit.
- Check the resistance between the 4WD control unit harness connector terminals.

	4WD control unit harness connector			
Connector No.	Termi	Resistance (Ω)		
B67	8	Approx. 54 – 66		

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the 4WD control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the 4WD control unit. Refer to <u>DLN-60</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the 4WD control unit. Refer to <u>DLN-72</u>, "Removal and Installation".

YES (Past error)>>Error was detected in the 4WD control unit branch line.

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

PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198310

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- 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).
- Automatic back door control module
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Disconnect the connector of CAN gateway.

Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector			
Connector No.	Terminal No.		Continuity	
M5	4	6	Existed	
CIVI	10	12	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of automatic back door control module.
- Check the resistance between the automatic back door control module harness connector terminals.

Automatic back door control module harness connector			Resistance (Ω)
Connector No.	Termin	rtesistance (22)	
B55	24	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the automatic back door control module. Refer to <u>DLK-160</u>, "AUTOMATIC BACK DOOR CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to DLK-292, "Removal and Installation".

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

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

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BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198313

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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

	BCM harness connector		
Connector No.	Termi	Resistance (Ω)	
M19	60	Approx. 108 – 132	

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198314

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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).
- ADAS control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector			
Connector No.	Terminal No.		Continuity	
M5	4	6	Existed	
CIVI	10	12	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of ADAS control unit.
- Check the resistance between the ADAS control unit harness connector terminals.

Α	ADAS control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
B104	1	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to DAS-79, "ADAS CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-88, "Removal and Installation".

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

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

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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198315

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
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

А	ADAS control unit harness connector			
Connector No.	Terminal No.		Continuity	
B104	6	9	Existed	
D10 4	7	8	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar RH.
- Check the resistance between the side radar RH harness connector terminals.

	Side radar RH harness connector		
Connector No.	Termi	Resistance (Ω)	
B109	6	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-80, "SIDE RADAR RH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-89, "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.

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198316

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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 B400
- Harness connector B77
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector			
Connector No.	Terminal No.		Continuity	
B104	6	9	Existed	
D104	7	8	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3. CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar LH.
- Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
B416	6	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar LH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-79</u>, "SIDE RADAR LH: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-89, "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.

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[CAN SYSTEM (TYPE 8)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198318

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 circuit.
- 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
M22	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
M22	6	Giouna	Not existed
IVIZZ	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

EG	CM	Resistance (Ω)	
Termi	nal No.		
114	113	Approx. 108 – 132	

Except for Mexico

ECM		Resistance (Ω)	
Termi	nal No.	- Resistance (12)	
124	123	Approx. 108 – 132	

3. Check the resistance between the BCM terminals.

BO	CM	Resistance (Ω)	
Terminal No.		resistance (52)	
60	59	Approx. 108 – 132	

CAN COMMUNICATION CIRCUIT [CAN SYSTEM (TYPE 8)] < DTC/CIRCUIT DIAGNOSIS > Is the measurement value within the specification? Α >> GO TO 5. NO >> Replace the ECM and/or the BCM. 5. CHECK SYMPTOM В Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result C Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. D 6.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Е 2. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of CAN communication circuit. NOTE: F ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 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. Н Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198321

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and/or CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2.connector inspection

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the ADAS control unit harness connector.
- Check the continuity between the ADAS control unit harness connector.

A	ADAS control unit harness connector			
Connector No.	Terminal No.		Continuity	
B104	6	9	Existed	
D104	7	8	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line. (ITS communication circuit side).

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- 1. Disconnect the following harness connectors.
- Side radar RH
- Side radar LH
- Around view monitor control unit (Models with around view monitor)
- Sonar control unit
- Check the continuity between the ADAS control unit harness connector terminals.

A	Continuity	
Connector No.	Termi	Continuity
B104	6	Not existed

Is the inspection result normal?

YES >> GO TO 5.

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

5. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.	Cround	Continuity
B104	6	Terminal No. Ground 7	Not existed
D 104	7		Not existed

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

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YES >> GO TO 6.

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

6. CHECK TERMINATION CIRCUIT

- 1. Remove the ADAS control unit.
- Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)	
Termin	nal No.	Resistance (52)	
6	7	Approx. 108 – 132	
9	8	Αρρίοχ. 106 – 132	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS 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>>GO TO 8.

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

8.CHECK UNIT REPRODUCTION

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

- Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit has two termination circuits. Check other units first.

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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000013198244

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
- IPDM E/R
- ABS actuator and electric unit (control unit)
- 4. Check the continuity between the IPDM E/R harness connector and the ABS actuator and electric unit (control unit) harness connector.
- With 4-wheel drive

IPDM E/R har	harness connector ABS actuator and electric unit (control unit) harness connector Co		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E125	25	Existed
E119	28	E125	15	Existed

Without 4-wheel drive

IPDM E/R har	ness connector		ABS actuator and electric unit (control unit) harness connector	
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E127	25	Existed
	28	E 121	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 IPDM E/R and the ABS actuator and electric unit (control unit).

NO >> Repair the main line between the IPDM E/R and the ABS actuator and electric unit (control unit).

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN ABS AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000013198245

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 E152
- Harness connector M31

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.
- ABS actuator and electric unit (control unit)
- Harness connectors E152 and M31.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- With 4-wheel drive

	ctric unit (control unit) harness connector Harness connector		Continuity		
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	25	E152	36G	Existed	
E125	15	E 132	35G	Existed	

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector		connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	
E127	25	E152	36G	Existed
	15		35G	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the ABS actuator and electric unit (control unit) and the harness connector E152.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	36G	M22	6	Existed
I CIVI	35G	IVIZZ	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 ABS actuator and electric unit (control unit) and the data link connector.

NO >> Repair the main line between the harness connector M31 and the data link connector.

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Revision: November 2015 LAN-317 2016 Pathfinder

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000013198247

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 M40
- Harness connector B69

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the harness connectors M40 and B69.
- 2. Check the continuity between the data link connector and the harness connector.
- Without around view monitor

Data link	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M22	6	M40	89A	Existed	
IVIZZ	14	10140	90A	Existed	

With around view monitor

Data link connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	13	M40	89A	Existed
IVIZZ	12	IVI40	90A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the data link connector and the harness connector M40.

3.check harness continuity (open circuit)

- 1. Disconnect the harness connectors B54 and B200.
- Check the continuity between the harness connectors

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B69	89A	B54	1	Existed
D09	90A	504	2	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 driver seat control unit.

NO >> Repair the main line between the harness connectors B69 and B54.

MAIN LINE BETWEEN DLC AND CGW CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN DLC AND CGW CIRCUIT

Diagnosis Procedure

INFOID:0000000013198248

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1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM
- CAN gateway
- 4. Check the continuity between the data link connector and the CAN gateway harness connector.

Data link	connector	CAN gateway harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M5	1	Existed
IVIZZ	14	IVIO	7	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 CAN gateway.

NO >> Repair the main line between the data link connector and the CAN gateway.

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MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN ADP AND PWBD CIRCUIT

Diagnosis Procedure

INFOID:0000000013198249

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect the following harness connectors.
- ECM (Models without around view monitor)
- CAN gateway (Models with around view monitor)
- Harness connector B200 and B54
- Automatic back door control module
- 4. Check the continuity between the harness connector and the automatic back door control module harness connector.

Harness	connector	Automatic back door control module harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
B54	1	B55	24	Existed	
D3 -1	2		12	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 automatic back door control module.

NO >> Repair the main line between the harness connector B54 and the automatic back door control module.

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN PWBD AND BSW/BUZZER CIRCUIT

Diagnosis Procedure

INFOID:0000000013198250

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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 B32
- Harness connector B124

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.
- Automatic back door control module
- Harness connectors B32 and B124
- Check the continuity between the automatic back door control module harness connector and the harness connector.

	oor control module connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
B55	24	B32	18	Existed
D00	12	D32	19	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the automatic back door control module and the harness connector B32.

$3.\mathsf{check}$ harness continuity (open circuit)

- Disconnect the connector of ADAS control unit.
- Check the continuity between the harness connector and the ADAS control unit harness connector.

Harness	connector	ADAS control unit harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B124	18	B104	1	Existed	
B124	19	6104	2	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 automatic back door control module and the ADAS control unit.

NO >> Repair the main line between the harness connector B124 and the ADAS control unit.

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Revision: November 2015 LAN-321 2016 Pathfinder

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

INFOID:0000000013198251

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 B124
- Harness connector B32

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the following harness connectors.
- Side radar RH
- Harness connectors B124 and B32
- Check the continuity between the side radar RH harness connector and the harness connector.

Side radar RH h	arness connector	tor Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B109	6	B124	21	Existed
B109	7	D124	20	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the side radar RH and the harness connector B124.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the harness connectors B77 and B400.
- Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B32	21	B77	12	Existed	
DJZ	20	D//	13	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 side radar RH and the side radar LH.

NO >> Repair the main line between the harness connector B32 and B77.

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN RDR-L AND AVM CIRCUIT

Diagnosis Procedure

INFOID:0000000013198253

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1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 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 B69
- Harness connector M40

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.
- Harness connectors B400 and B77
- Harness connectors B69 and M40
- 2. Check the continuity between the harness connectors.

Harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B77	12	B69	43A	Existed
	13		42A	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B77 and B69.

3.check harness continuity (open circuit)

- 1. Disconnect the connector of around view monitor control unit.
- 2. Check the continuity between the harness connector and the around view monitor control unit harness connector.

Harness connector		Around view monitor control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M40	43A	M96	12	Existed
	42A		10	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 side radar LH and the around view monitor control unit.

NO >> Repair the main line between the harness connector M40 and the around view monitor control unit.

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Revision: November 2015 LAN-323 2016 Pathfinder

MAIN LINE BETWEEN AVM AND SONAR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN AVM AND SONAR CIRCUIT

Diagnosis Procedure

INFOID:0000000013198254

1. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the following harness connectors.
- ADAS control unit
- Around view monitor control unit
- Sonar control unit
- Check the continuity between the around view monitor control unit harness connector and the sonar control unit harness connector.

Around view monitor control unit harness connector		Sonar control unit harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M96	12	M70	5	Existed
	10		6	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 around view monitor control unit and the sonar control unit.

NO >> Repair the main line between the around view monitor control unit and the sonar control unit.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198255

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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.
- For Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313141100 (32)
E16	114	113	Approx. 108 – 132

Except for Mexico

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		rvesistance (sz)
E32	124	123	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 <u>EC-188, "Diagnosis Procedure"</u> (For russia and canada) or <u>EC-666, "Diagnosis Procedure"</u> (For mexico).

Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-508, "Removal and Installation".

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

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

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Revision: November 2015 LAN-325 2016 Pathfinder

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198256

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 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)
E119	29	28	Approx. 54 – 66

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-31, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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

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

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198257

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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 connection (unit side and connector side).
- TCM
- Harness connector F32
- Harness connector E2

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 TCM.
- Check the resistance between the TCM harness connector terminals.
- For Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
F15	33	23	Approx. 54 – 66

Except for Mexico

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
F89	33	23	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the TCM branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCM. Refer to the following.

- RE0F10E: <u>TM-176, "Diagnosis Procedure"</u>
 RE0F10J: <u>TM-394, "Diagnosis Procedure"</u>

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to the following.

- RE0F10E: TM-227, "Removal and Installation"
- RE0F10J: TM-444, "Removal and Installation"

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

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

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LAN-327 Revision: November 2015 2016 Pathfinder LAN

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ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198258

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).
- Check the resistance between the ABS actuator and electric unit (control unit) harness connector terminals.
- With 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (12)
E125	25	15	Approx. 54 – 66

Without 4-wheel drive

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E127	25	15	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.

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-136, "Diagnosis Procedure" (Type 1) or BRC-295, "Diagnosis Procedure" (Type 2).

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-160, "Removal and Installation".

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

EPS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

EPS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198259

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the terminals and connectors of the power steering 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

- Disconnect the connector of power steering control module.
- 2. Check the resistance between the power steering control module harness connector terminals.

Power s	Power steering control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
E62	8	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the power steering control module branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to STC-22, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the power steering oil pump assembly. Refer to STC-38, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-329 Revision: November 2015 2016 Pathfinder

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198260

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.
- 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-41, "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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198261

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1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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

- Disconnect the connector of AV control unit.
- Check the resistance between the AV control unit harness connector terminals.
- With premium audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110333141100 (22)
M163	78	62	Approx. 54 – 66

With MID audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
M124	11	12	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AV control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

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

- Mid audio: AV-143, "AV CONTROL UNIT: Diagnosis Procedure"
- Premium audio: AV-366, "AV CONTROL UNIT": Diagnosis Procedure"

Is the inspection result normal?

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

- Mid audio: AV-186, "Removal and Installation"
- Premium audio: AV-428, "Removal and Installation"

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

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

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LAN-331 Revision: November 2015 2016 Pathfinder LAN

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000013198263

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.	Terminal No.		Resistance (Ω)
M22	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 (CAN communication circuit 1 side).

NO >> Repair the data link connector branch line (CAN communication circuit 1 side).

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000013198264

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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.	Terminal No.		Resistance (Ω)
M22	13	12	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 (CAN communication circuit 2 side).

NO >> Repair the data link connector branch line (CAN communication circuit 2 side).

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198265

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 A/C auto 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 A/C auto amp.
- 2. Check the resistance between the A/C auto amp. harness connector terminals.

A/C auto amp. harness connector			Resistance (Ω)
Connector No.	Terminal No.		1/63/3/4/106 (22)
M50	1	21	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the A/C auto amp. branch line.

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

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-112</u>, "A/C AUTO AMP. : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-156, "Removal and Installation".

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198266

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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 combination meter 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 combination meter.
- 2. Check the resistance between the combination meter harness connector terminals.

Co	Combination meter harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M24	39	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the combination meter branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the combination meter. Refer to <u>MWI-61, "COMBINATION</u> METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-85, "Removal and Installation".

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

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

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SONAR BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

SONAR BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198267

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Sonar control unit
- ADAS control unit (Models with automatic drive positioner)

Is the inspection result normal?

YES-1 >> Models with automatic drive positioner: GO TO 2.

YES-2 >> Models without automatic drive positioner: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of ADAS control unit.
- 2. Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
B104	6	9	Existed
D10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit. (Models with automatic drive positioner)
- 2. Disconnect the connector of sonar control unit.
- Check the resistance between the sonar control unit harness connector terminals.

S	Sonar control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M70	5	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the sonar control unit. Refer to SN-32, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the sonar control unit. Refer to SN-34, "Removal and Installation".

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198268

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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)	
M54	5	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-49</u>, "Wiring <u>Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-164, "Removal and Installation".

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

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

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Revision: November 2015 LAN-337 2016 Pathfinder

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198269

1. CHECK CONNECTOR

- 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 connector side).
- Driver seat control unit
- Harness connector B200
- Harness connector B54
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of driver seat control unit.
- 3. Check the resistance between the driver seat control unit harness connector terminals.

Driv	Driver seat control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
B209	16	32	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

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

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-90, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-163, "Removal and Installation".

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198270

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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).
- 4WD control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

1. Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
M5	4 6		Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of 4WD control unit.
- Check the resistance between the 4WD control unit harness connector terminals.

4WD control unit harness connector			Resistance (Ω)
Connector No.	Termi	ixesistance (12)	
B67	8	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the 4WD control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the 4WD control unit. Refer to <u>DLN-60</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the 4WD control unit. Refer to DLN-72, "Removal and Installation".

YES (Past error)>>Error was detected in the 4WD control unit branch line.

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

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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198271

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Automatic back door control module
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

Disconnect the connector of CAN gateway.

2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- Disconnect the connector of automatic back door control module.
- Check the resistance between the automatic back door control module harness connector terminals.

Automatic	Automatic back door control module harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B55	24 12		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body harness.

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the automatic back door control module. Refer to DLK-160. PACK DOOR CONTROL UNIT : Diagnosis Procedure.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to DLK-292, "Removal and <a href="Installation".

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

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000013198272

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1. CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. 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 CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect the connector of CAN gateway.

2. Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		rtesistance (22)
M5	1	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line (CAN communication circuit 1 side).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-130</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-131, "Removal and Installation".

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 1 side).

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

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Revision: November 2015 LAN-341 2016 Pathfinder

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000013198273

1.CHECK DTC

Check DTC of the CAN gateway with CONSULT.

Is U1010 or B2600 indicated?

YES >> Perform a diagnosis of the indicated DTC.

NO >> GO TO 2.

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.

2. Disconnect the battery cable from the negative terminal.

Check the following terminals and connectors of the CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.

Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Terminal No.		Continuity
M5	4	6	Existed
CIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the CAN gateway branch line (CAN communication circuit 2 side).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-130</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-131, "Removal and Installation".

YES (Past error)>>Error was detected in the CAN gateway branch line (CAN communication circuit 2 side).

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198274

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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).
- BCM
- Harness connector M84 (Models without around view monitor)
- Harness connector B101 (Models without around view monitor)
- Harness connector B124 (Models without around view monitor)
- Harness connector B32 (Models without around view monitor)
- Harness connector B69 (2WD models without automatic back door system)
- Harness connector M40 (2WD models without automatic back door system)

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

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M19	60	59	Approx. 108 – 132

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 BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-81, "Removal and Installation".

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

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

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Revision: November 2015 LAN-343 2016 Pathfinder

BSW/BUZZER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

BSW/BUZZER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198275

1. CHECK CONNECTOR

- 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 connector side).
- ADAS control unit
- CAN gateway (Models with around view monitor)

Is the inspection result normal?

YES-1 >> Models with around view monitor: GO TO 2.

YES-2 >> Models without around view monitor: GO TO 3.

NO >> Repair the terminal and connector.

2.check harness continuity (open circuit)

- Disconnect the connector of CAN gateway.
- 2. Check the continuity between the CAN gateway harness connector terminals.

	CAN gateway harness connector		
Connector No.	Termi	Continuity	
M5	4	6	Existed
OIVI	10	12	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (CAN communication circuit 2 side).

3.check harness for open circuit

- 1. Connect the connector of CAN gateway. (Models with around view monitor)
- 2. Disconnect the connector of ADAS control unit.
- Check the resistance between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B104	1	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the body No.2 harness.

$oldsymbol{4}.$ CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to DAS-79, "ADAS CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-88, "Removal and Installation".

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198276

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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
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of ADAS control unit.

2. Check the continuity between the ADAS control unit harness connector terminals.

	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
B104	6	9	Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit.
- 2. Disconnect the connector of side radar RH.
- Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Termi	Tresistance (52)	
B109	6	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-80, "SIDE RADAR RH:</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-89, "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.

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Revision: November 2015 LAN-345 2016 Pathfinder

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198277

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Side radar LH
- Harness connector B400
- Harness connector B77
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

A	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
P104	6	9	Existed
B104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.CHECK HARNESS FOR OPEN CIRCUIT

- Connect the connector of ADAS control unit.
- Disconnect the connector of side radar LH.
- Check the resistance between the side radar LH harness connector terminals.

Side radar LH harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
B416	6	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar LH branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-79</u>, "SIDE RADAR LH: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-89, "Removal and Installation".

YES (Past error)>>Error was detected in the side radar LH branch line.

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013198278

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1. CHECK CONNECTOR

- 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).
- Around view monitor control unit
- ADAS control unit

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the connector of ADAS control unit.
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
B10 4	7	8	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the harness and repair the root cause (ITS communication circuit side).

3.check harness for open circuit

- Connect the connector of ADAS control unit.
- 2. Disconnect the connector of around view monitor control unit.
- Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Termi	Tresistance (22)	
M96	12	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Replace the main harness.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to <u>AV-371</u>, "AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-448, "Removal and Installation"</u>.

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

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

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CAN COMMUNICATION CIRCUIT 1

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000013198280

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 circuit 1.
- 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			Continuity
Connector No.	Termi	Continuity	
M22	6	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
M22	6		Not existed
	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 BCM TERMINATION CIRCUIT

- 1. Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.
- For Mexico

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

Except for Mexico

ECM		Resistance (Ω)	
Terminal No.			
124	123	Approx. 108 – 132	

3. Check the resistance between the BCM terminals.

BCM		Resistance (Ω)	
Terminal No.			
60	59	Approx. 108 – 132	

CAN COMMUNICATION CIRCUIT 1 [CAN SYSTEM (TYPE 9)] < DTC/CIRCUIT DIAGNOSIS > Is the measurement value within the specification? Α >> GO TO 5. NO >> Replace the ECM and/or the BCM. 5. CHECK SYMPTOM В Connect all the connectors. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. Inspection result C Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected. D 6.CHECK UNIT REPRODUCTION Perform the reproduction test as per the following procedure for each unit. 1. Turn the ignition switch OFF. Е 2. Disconnect the battery cable from the negative terminal. 3. Disconnect one of the unit connectors of CAN communication circuit 1. NOTE: F ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. 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. Н Non-reproduced>>Replace the unit whose connector was disconnected.

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CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000013198281

1. CONNECTOR INSPECTION

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect all the unit connectors on CAN communication circuit 2.
- 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			Continuity
Connector No.	Terminal No.		Continuity
M22	13	12	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
M22	13	Glouilu	Not existed
IVIZZ	12		Not existed

Is the inspection result normal?

YES >> GO TO 4.

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

f 4.CHECK CAN GATEWAY TERMINATION CIRCUIT

- Remove the CAN gateway.
- 2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)	
Terminal No.			
4	10	Approx. 108 – 132	
6	12	Approx. 108 – 132	

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace the CAN gateway.

CHECK SYMPTOM

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

Inspection result

Reproduced>>GO TO 6.

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

CAN COMMUNICATION CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

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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 circuit 2.

NOTE:

CAN gateway has two termination circuits. Check other units first.

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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000013198282

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and/or CAN communication circuit 2 have no malfunction.

Are the CAN communication 1 and CAN communication 2 circuits normal?

YES >> GO TO 2.

NO >> Check and repair CAN communication circuit 1 and/or CAN communication circuit 2.

2.connector inspection

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the terminal and connector.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the ADAS control unit harness connector.
- Check the continuity between the ADAS control unit harness connector.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6	9	Existed
D104	7	8	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line. (ITS communication circuit side).

4. CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

- Disconnect the following harness connectors.
- Side radar RH
- Side radar LH
- Around view monitor control unit (Models with around view monitor)
- Sonar control unit
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
B104	6	7	Not existed

Is the inspection result normal?

YES >> GO TO 5.

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

${f 5.}$ CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the ADAS control unit harness connector and the ground.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.	Ground	Continuity
B104	6		Not existed
D 104	7		Not existed

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

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ls	the	inspection	result	normal?

YES >> GO TO 6.

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

6. CHECK TERMINATION CIRCUIT

- 1. Remove the ADAS control unit.
- Check the resistance between the ADAS control unit terminals.

ADAS control unit		Resistance (Ω)	
Terminal No.			
6	7	Approx 109 122	
9	8	— Approx. 108 – 132	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the ADAS 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>>GO TO 8.

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

8.CHECK UNIT REPRODUCTION

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

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 3. Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit has two termination circuits. Check other units first.

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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

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