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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:000000011216997

- "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

CAUTION:

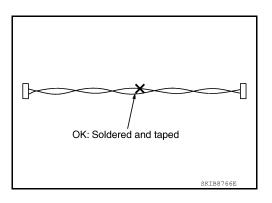
Follow the instructions listed below. Failure to do this may cause damage to parts:

- 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

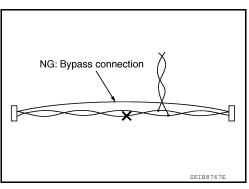
Solder the repaired area and wrap tape around the soldered area.
 NOTE:

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



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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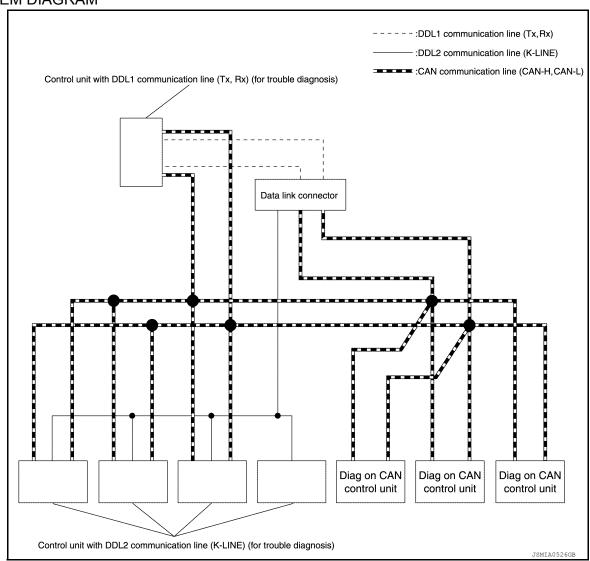
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information 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

[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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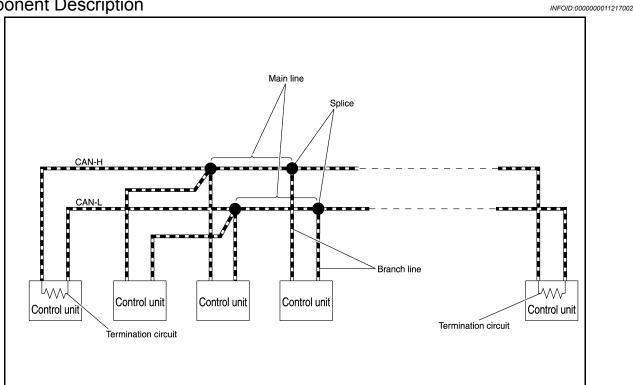
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TROUBLE DIAGNOSIS

Component Description



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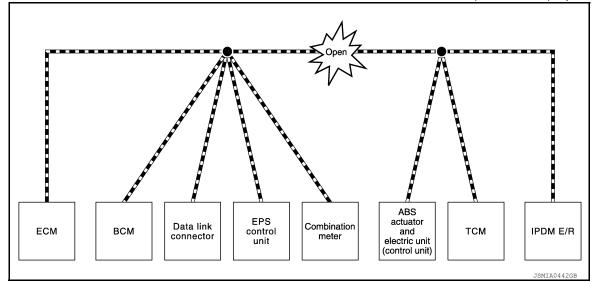
In CAN communication system, multiple control units mutually transmit and receive signals. Each control unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

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



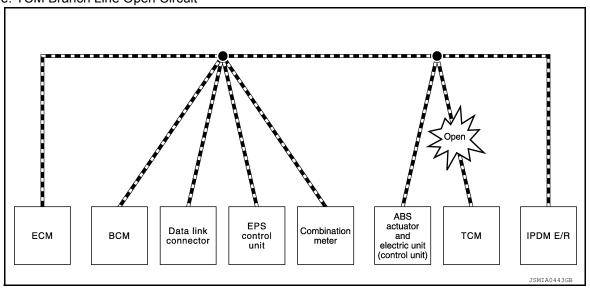
Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
ВСМ	 Reverse warning buzzer does not sound. The front wiper moves under continuous operation mode even though the front wiper switch being in the intermittent position.
EPS control unit	The steering effort 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



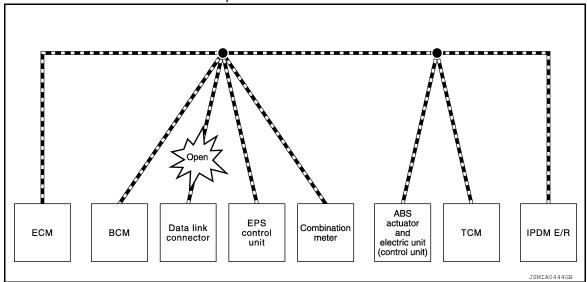
Unit name	Major symptom
ECM	Engine torque limiting is affected, and shift harshness increases.
BCM	Reverse warning buzzer does not sound.
EPS control unit	Normal operation.
Combination meter	 Shift position indicator and O/D OFF indicator turn OFF. Warning lamps turn ON.
ABS actuator and electric unit (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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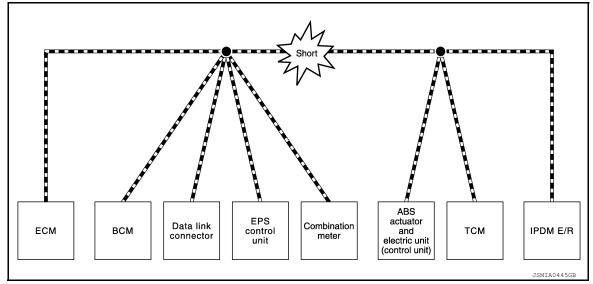
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Unit name	Major symptom
ECM	
BCM	
EPS control unit	
Combination meter	Normal operation.
ABS actuator and electric unit (control unit)	
TCM	
IPDM E/R	

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:0000000011217005

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

INFOID:0000000011217006

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"

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	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 COMINI CIRCOTT		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:0000000011217007

MONITOR ITEM (CONSULT)

Example: CAN DIAG SUPPORT MNTR indication

Without PAST With PAST всм **ENGINE** MONITOR ITEM | PRESENT PRESENT PAST MONITOR ITEM PAST INITIAL DIAG TRANSMIT DIAG OK lok OK TRANSMIT DIAG OK VDC/TCS/ABS ECM OK METER/M&A Not diagnosed METER/M&A OK BCM/SEC Not diagnosed TCM OK ICC IPDM E/R OK HVAC Not diagnosed I-KEY TCM OK OK IPDM E/R OK Not diagnosed -AWD/4WD Not diagnosed

Without PAST

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

TROUBLE DIAGNOSIS

< SYSTEM DESCRIPTION >

[CAN FUNDAMENTAL]

PRESENT	Description
OK	Normal at present
UNKWN	Unable to transmit signals for 2 seconds or more.
	Diagnosis not performed
OK	Normal at present
is) UNKWN	Unable to receive signals for 2 seconds or more.
	Diagnosis not performed
	No control unit for receiving signals. (No applicable optional parts)
	OK UNKWN OK

With PAS I

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

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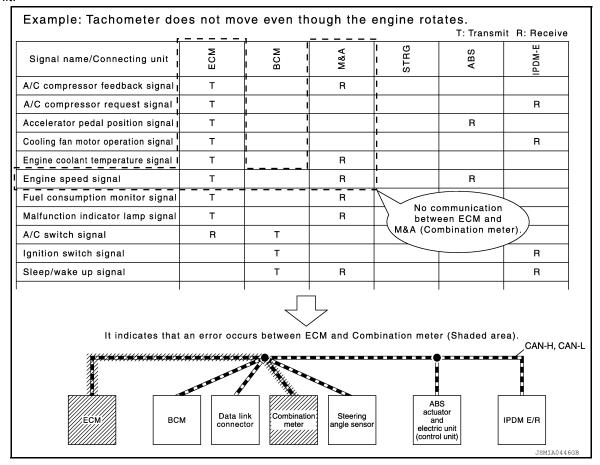
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How to Use CAN Communication Signal Chart

INFOID:0000000011217008

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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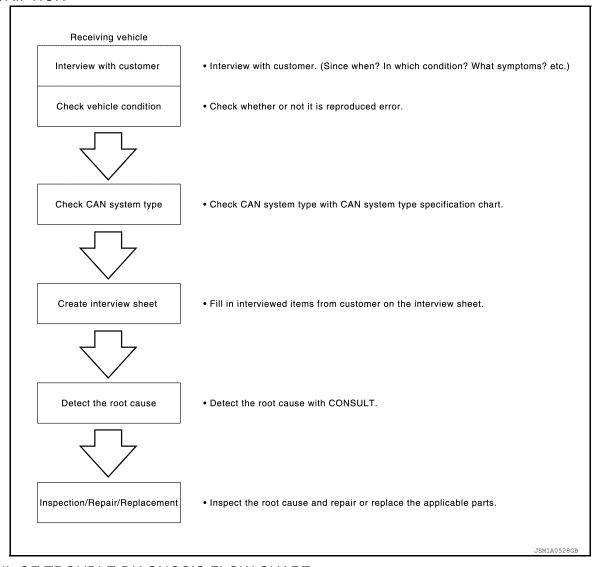
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart

DESCRIPTION



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.

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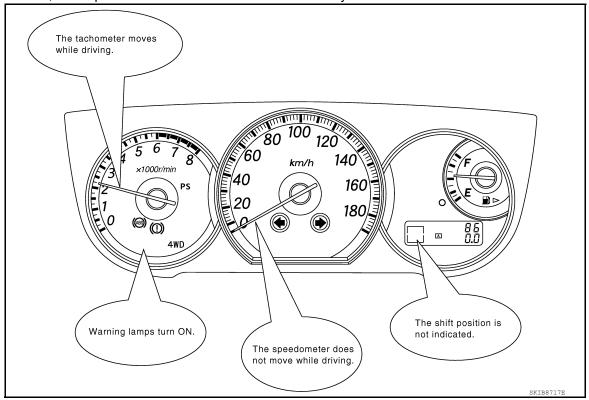
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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

- When a CAN communication system error is present, multiple control units may malfunction or go into failsafe mode.
- 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

< BASIC INSPECTION >

[CAN FUNDAMENTAL]

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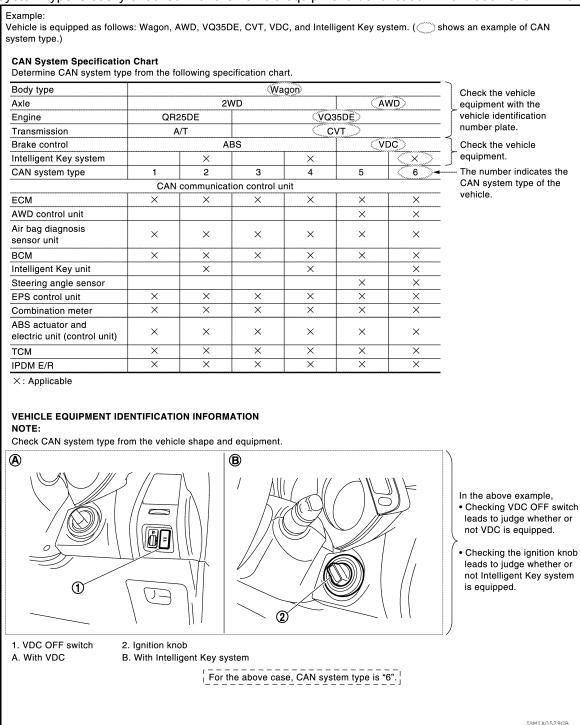
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CAN system type is easily checked with the vehicle equipment identification information shown in the chart.



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 Axle AWD 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 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 D.With automatic drive positione

>> GO TO 4.

4. CREATE INTERVIEW SHEET

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	А
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.	LAN
5.DETECT THE ROOT CAUSE CAN diagnosis function of CONSULT detects a root cause.	N
Of the diagnosis function of Gottoolar detects a root cause.	
>> GO TO 6.	0
6.REPAIR OR REPLACE MALFUNCTIONING PART Repair or replace malfunctioning parts identified by CAN diagnosis function of CONSULT.	<u>—</u>
CAN communication circuit>>Refer to LAN-63, "CAN Communication Circuit". ITS communication circuit>> Refer to LAN-64, "ITS Communication Circuit".	Р

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information INFOID:0000000011217011

- "CAN" of LAN Section describes information peculiar to a vehicle and inspection procedures.
- For trouble diagnosis procedure, refer to <u>LAN-21, "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	AWD 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	
ВСМ	BCM	
CGW	CAN gateway	
DLC	Data link connector	
ECM	ECM	
EPS/DAST 3	Power steering control module	
HVAC	A/C auto amp.	
ICC	ADAS control unit	
IPDM-E	IPDM E/R	
LASER	ICC sensor	
M&A	Combination meter	
PWBD	Automatic back door control module	
RDR-L	Side radar LH	
RDR-R	Side radar RH	
STRG	Steering angle sensor	
TCM	TCM	

< 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 "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precautions for Trouble Diagnosis

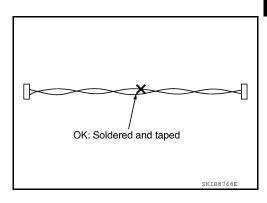
CAUTION:
Follow the instructions listed below. Failure to do this may cause damage to parts:

- 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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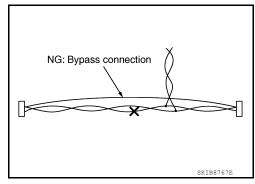
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PRECAUTIONS

< 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.

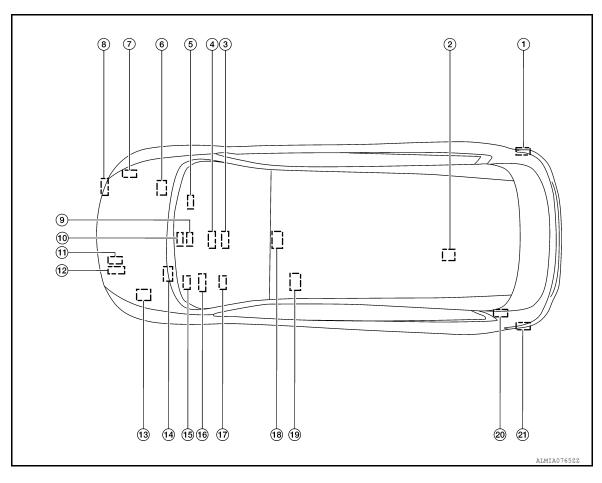
[CAN]

INFOID:0000000011217016

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



- (1) Side radar RH
- A/C auto amp.
- (7) Power steering control module
- (10) ADAS control unit
- (13) IPDM E/R
- (16) Combination meter
- ① Driver seat control unit

- (2) AWD control unit
- ⑤ CAN gateway
- (8) ICC sensor
- (1) TCM
- (14) Data link connector
- 7) Steering angle sensor
- 20 Automatic back door control module

- (3) AV control unit
- 6 ABS actuator and electric unit (control unit)
- Around view monitor control unit
- (12) ECM
- (15) BCM
- Air bag diagnosis sensor unit
- Side radar LH

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SYSTEM

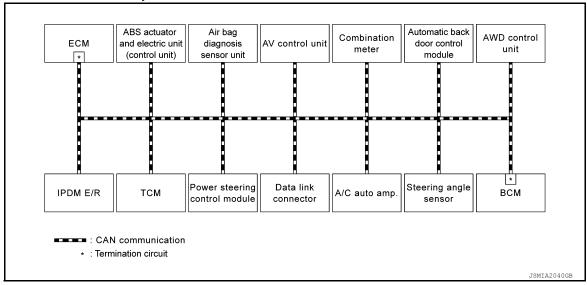
CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM: System Description

INFOID:0000000011217017

SYSTEM DIAGRAM

Without Around View Monitor System



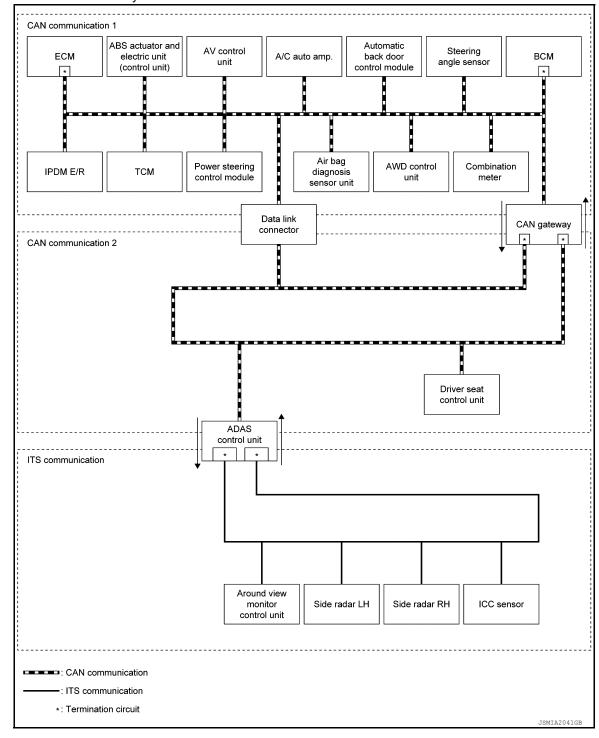
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With Around View Monitor System



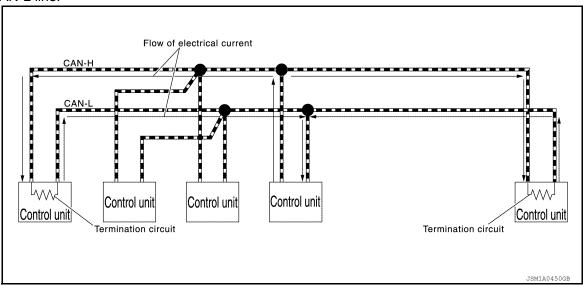
DESCRIPTION

- 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-109, "System Description"
CAN communication circuit 2 \Leftrightarrow ITS communication circuit	ADAS control unit	DAS-7, "System Description"

CAN Communication Signal Generation

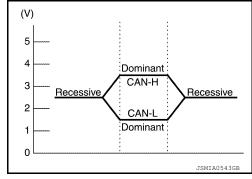
Termination circuits (resistors) are connected across the CAN communication system. When transmitting a
CAN communication signal, each control unit passes a current to the CAN-H line and the current returns to
the CAN-L line.



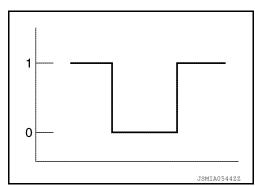
 The current flows separately into the termination circuits connected across the CAN communication system and the termination circuits drop voltage to generate a potential difference between the CAN-H line and the CAN-L line.

NOTE:

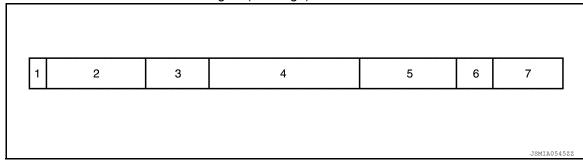
A signal with no current passage is called "Recessive" and one with current passage is called "Dominant".



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



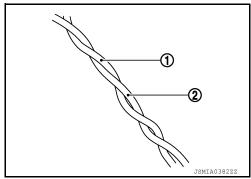
The Construction of CAN Communication Signal (Message)



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

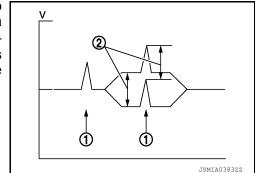
The CAN communication line is a twisted pair wire consisting of strands of CAN-H ① and CAN-L ② and has noise immunity.



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

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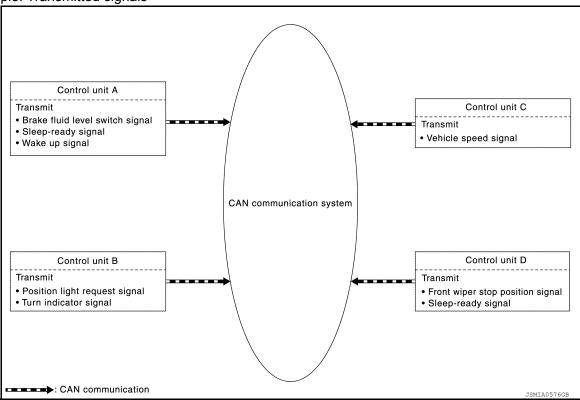
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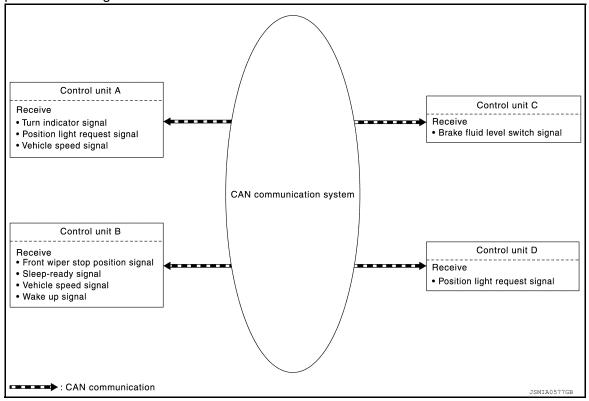
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Each control unit of the CAN communication system transmits signals through the CAN communication control circuit included in the control unit and receives only necessary signals from each control unit to perform various kinds of control.

· 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-37</u>. "CAN COMMUNICATION SYSTEM: CAN Communication <u>Signal Chart"</u>.

[CAN]

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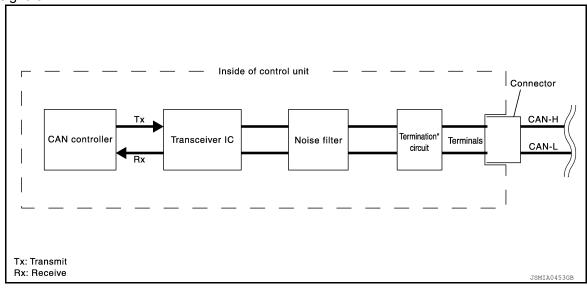
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CAN COMMUNICATION SYSTEM: CAN Communication Control Circuit

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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	FWD				AWD						
Engine	VQ35DE										
Transmission	CVT										
Brake control	VDC										
Navigation system		×	×	×	×		×	×	×	×	
Automatic back door system			×	×	×			×	×	×	
Automatic driver positioner				×	×				×	×	
ICC system					×					×	
CAN system type	1	2	3	4	5	6	7	8	9	10	
	CA	N comm	unication	control u	ınit			I.	1		
ECM	×	×	×	×	×	×	×	×	×	×	
IPDM E/R	×	×	×	×	×	×	×	×	×	×	
TCM	×	×	×	×	×	×	×	×	×	×	
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	
Power steering control module	×	×	×	×	×	×	×	×	×	×	

Revision: October 2014 LAN-35 2015 Murano

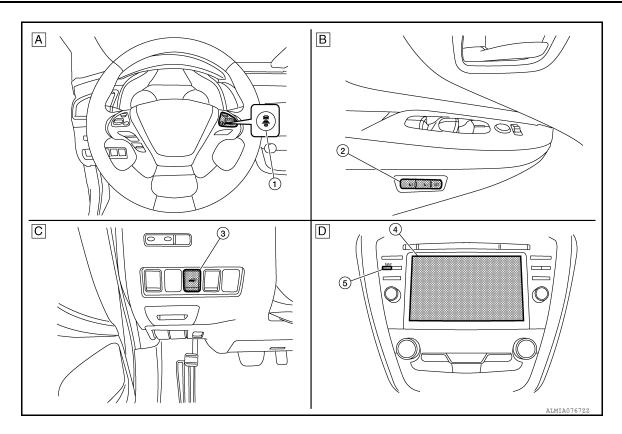
[CAN]

Body type	Wagon										
Axle	FWD					AWD					
Engine	VQ35DE										
Transmission	CVT										
Brake control	VDC										
Navigation system		×	×	×	×		×	×	×	×	
Automatic back door system			×	×	×			×	×	×	
Automatic driver positioner				×	×				×	×	
ICC system					×					×	
CAN system type	1	2	3	4	5	6	7	8	9	10	
	CA	N comm	unication	control u	ınit		ı		ı		
AV control unit		×	×	×	×		×	×	×	×	
CAN gateway				×	×				×	×	
A/C auto amp.	×	×	×	×	×	×	×	×	×	×	
Automatic back door control module			×	×	×			×	×	×	
AWD control unit						×	×	×	×	×	
Air bag diagnosis sensor unit	×	×	×	×	×	×	×	×	×	×	
Data link connector	×	×	×	×	×	×	×	×	×	×	
Combination meter	×	×	×	×	×	×	×	×	×	×	
Steering angle sensor	×	×	×	×	×	×	×	×	×	×	
BCM	×	×	×	×	×	×	×	×	×	×	
ADAS control unit				×	×				×	×	
Driver seat control unit				×	×				×	×	
	IT:	S commu	inication	control u	nit						
ADAS control unit				×	×				×	×	
Around view monitor control unit				×	×				×	×	
Side radar RH				×	×				×	×	
Side radar LH				×	×				×	×	
ICC sensor					×					×	

^{×:} Applicable

VEHICLE EQUIPMENT IDENTIFICATION INFORMATION

Check CAN system type from the vehicle shape and equipment.



- (1) Distance switch
- (4) Color display
- A With ICC system
- With navigation system
- ② Seat memory switch
- (5) Map switch
- B With automatic drive positioner
- 3 Automatic back door switch
- © With automatic back door system

CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart

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

NOTE:

- CAN data of the air bag diagnosis sensor unit is not used by usual service work, thus it is omitted.
- Refer to LAN-26, "Abbreviation List" for the abbreviations of the connecting units.

													T: Tra	ansmit	R: R	eceive
Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	CGW	HVAC	PWBD	4WD	M&A	STRG	BCM	ICC	ADP	AVM
A/C compressor request signal	Т	R														
Accelerator pedal position signal	Т		R	R						R				R		
ASCD operation signal	Т		R													
ASCD status signal	Т										R					
Closed throttle position signal	Т		R											R		
Cooling fan speed request signal	Т	R														
Engine and CVT integrated control	Т		R													
signal	R		Т													
Engine coolant temperature signal	Т		R					R			R					
Engine speed signal	Т		R	R						R	R			R		
Engine status signal	Т				R	R					R		R			
Fuel consumption monitor signal	Т					R					R					

Revision: October 2014 LAN-37 2015 Murano

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Signal name	ECM	IPDM-E	TCM	ABS	EPS	\	CGW	HVAC	PWBD	4WD	M&A	STRG	BCM	201	ADP	AVM
Fuel filler cap warning display signal	Т										R					
ICC brake switch signal	Т													R		
ICC operation signal	R			R										Т		
ICC prohibition signal	Т													R		
ICC steering switch signal	Т													R		
Malfunction indicator lamp signal	T										R					
	R		Т													
Oil pressure warning lamp signal	Т										R					
Power generation command value signal	Т	R														
	Т													R		
Stop lamp switch signal			R										Т			
				T						R				R		
A/C compressor feedback signal	R	Т				R		R								
Front wiper position signal		Т											R			
High beam status signal	R	Т				R										
Hood switch signal		Т											R			
Low beam status signal	R	Т				R										
Push-button ignition switch status signal		Т											R			
CVT ratio signal			Т							R						
CVT position indicator signal			Т			R			R		R		R		R	R
CVT self-diagnosis signal	R		Т													
Current gear position signal	R		Т											R		
Input speed signal	R		Т	R						R				R		
Manual mode shift refusal signal			Т								R					
N range signal			Т	R									R			
Next gear position signal	R		Т													
Output shaft revolution signal	R		Т											R		
P range signal			Т										R			
R range signal			Т	R												
Shift position signal			Т								R			R	R	R
Shift schedule signal	R		Т													
ABS malfunction signal			R	Т										R		
ABS operation signal			R	Т		R								R		
ABS warning lamp signal				T							R			R		
Brake warning lamp signal				Т							R T					
Decel G sensor signal				Т						R						
Rear LH wheel speed signal				Т												R
Rear RH wheel speed signal				Т												R
Side G sensor signal				Т						R				R		
TCS malfunction signal				Т										R		

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Signal name	ECM	IPDM-E	TCM	ABS	EPS	₹	CGW	HVAC	PWBD	4WD	M&A	STRG	BCM	20	ADP	AVM
TCS operation signal			R	Т										R		
VDC malfunction signal				Т										R		
VDC OFF indicator lamp signal				Т							R					
VDC OFF switch signal				Т										R		
VDC operation signal			R	Т										R		
VDC warning lamp signal				Т							R					
Yaw rate signal				Т						R				R		
Tan Tato oigina			R	T					R	R	R		R	R	R	R
Vehicle speed signal	R	R		•	R	R		R	R		Т		R		R	
EPS operation signal	R	- `			T			- `								
Hydraulic pump electric power steering warning lamp signal					Т						R					
A/C switch operation signal						Т		R								
Camera switch signal						T										R
Rear window defogger switch signal						Т							R			
System setting signal						T R							R			
Voice recognition signal						Т		R								
A/C display signal						R		Т								
A/C evaporator temperature 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								
Hazard request signal									Т		R					
AWD signal				R						Т						
AWD warning icon/display signal										Т	R					
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					
Manual mode shift down signal	- • •		R								T					
Manual mode shift up signal			R								T					
Manual mode signal			R								T					
Non-manual mode signal			R								T					
Odometer signal											T		R			
Parking brake switch signal				R					R	R	T		R	R		
Seat belt buckle switch signal (driver side)				IX.					1	1	T		R	1		

Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	CGW	HVAC	PWBD	4WD	M&A	STRG	BCM	CC	ADP	AVM
											Т		R			
Sleep-ready signal		Т											R			
									Т				R			
System selection signal											Т			R		
Wake up signal									Т		Т		R R			
Steering angle sensor malfunction signal				R	R							Т		R		
Steering angle sensor signal				R	R	R				R		Т		R		R
Steering angle speed signal				R								Т		R		
Steering calibration signal				R								Т				
Automatic back door request signal									R				Т			
Back door lock status signal									R				Т			
Buzzer request signal											R		Т			
Buzzer output signal											R		Т			
buzzer output signal											R			Т		
Day time running light request signal		R						R					Т			
Dimmer signal											R		Т	R		
Door switch signal		R						R			R		Т		R	
Door unlock signal													Т		R	
Front fog light request signal		R									R		Т			
Front wiper request signal		R				R		R					T	R		
Handle position signal													Т		R	
High beam request signal		R						R			R		Т			
Horn reminder signal		R											Т			
Ignition switch ON signal		R											Т			
- Ignition officer orginal		Т											R			
Ignition switch signal		R											Т		R	
Intelligent Key system warning display signal											R		Т			
Interlock/PNP switch signal		R											Т			
		Т											R			
Key ID signal								R					Т		R	
Low beam request signal		R						R					Т			
Low tire pressure warning lamp signal											R		Т			
Meter TPMS display signal											R R		Т	Т		
Meter ring illumination request signal											R		Т			
Oil pressure switch signal		_									R		T			
		T									R		R			
Position light request signal		R						R			R		Т			

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Signal name	ECM	IPDM-E	TCM	ABS	EPS	AV	CGW	HVAC	PWBD	4WD	M&A	STRG	ВСМ	CC	ADP	AVM
Rear window defogger control sig-		R						R					Т			
nal	R	Т				R										
Sleep wake up signal		R					R		R		R		Т		R	
Starter control relay signal		R											Т			
Starter relay status signal		R									R		Т			
Starter relay status signal		Т											R			
Starting mode signal									R				Т		R	
Theft warning horn request signal		R											Т			
Back door switch signal											R		Т			R
Turn indicator signal						R		R			R		Т	R		
Brake fluid pressure control signal				R										Т		
FEB warning lamp signal											R			Т		
View change signal						R										Т

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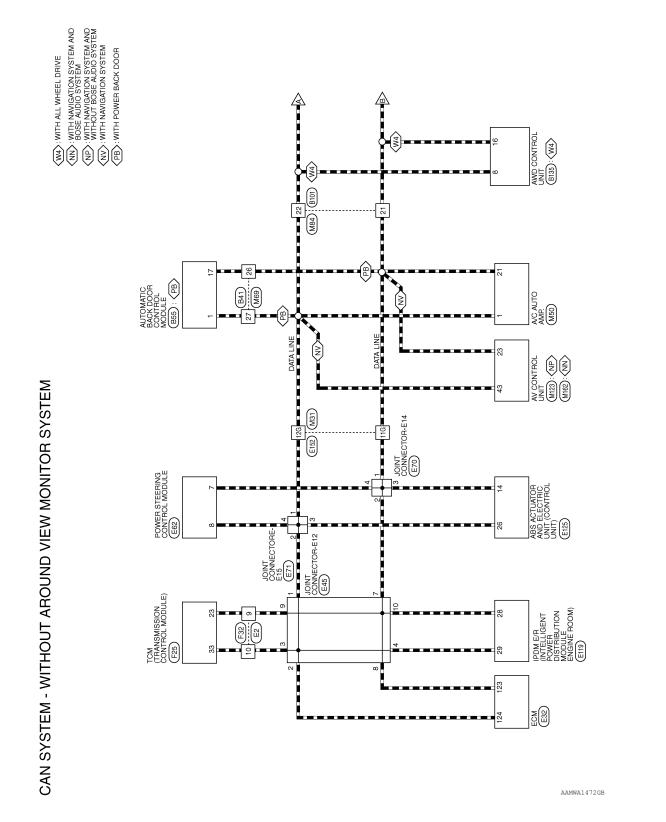
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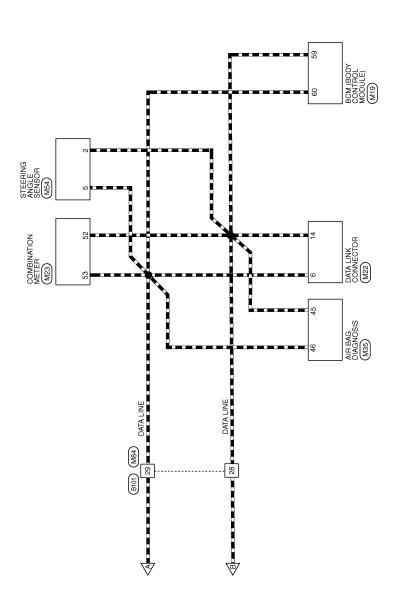
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WIRING DIAGRAM

CAN SYSTEM (WITHOUT AROUND VIEW MONITOR SYSTEM)

Wiring Diagram





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Connector No. M23 Connector Name COMBINATION METER Connector Color WHITE	41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	Terminal No. Wire Signal Name 52 P CAN-L	53 L CAN-H		Connector Name AIH BAG DIAGNOSIS SENSOR UNI	Connector Color YELLOW	Terminal No. Wire Signal Name 45
ORS - WITHOUT AROUND VIEW MONITOR SYSTEM Connector No. M22 Connector Name DATA LINK CONNECTOR Connector Color WHITE	H.S. (1 2 3 4 5 6 7 8	Terminal No. Wire Signal Name 6 L –	- P	Terminal No. Color of Signal Name		12G L –	
CAN SYSTEM CONNECTORS - WITHOUT Connector No. M19 Connector Name BCM (BODY CONTROL MODULE) Connector Color BLACK	→ 4 4	Terminal No. Wire Signal Name 59 P CAN-L	60 L CAN-H	Connector No. M31	Connector Name WIKE IO WIKE Connector Color WHITE		116 26 36 46 56 66 76 86 96 106

CAN SYSTEM (WITHOUT AROUND VIEW MONITOR SYSTEM)

< WIRING DIAGRAM > [CAN]

	Connector No. M50 Connector Name A/C AUTO AMP. Connector Color WHITE	Connector No. M54 Connector Name STEERI Connector Color WHITE	M54 STEERING ANGLE SENSOR WHITE	Connector No. M69 Connector Name WIRI Connector Color WHI	M69 WIRE TO WIRE	
	H.S. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 22 22 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	H.S.	8 L	H.S. 16 15 14 13 12 11 10 9 32 31 30 29 28 27 28 25	8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17	
	Terminal No. Color of Signal Name 1 L CAN-H 21 P CAN-L	Color of Wire 2 P 5 L	Signal Name - -	Terminal No. Wire 26 P 27 L	Signal Name –	
	3E TO WIRE	Connector No. M123 AV CON Connector Name WITHOU SYSTEE Connector Color WHITE H.S.	M123 AV CONTROL UNIT (WITH NAVIGATION SYSTEM SYSTEM) SYSTEM) WHITE	Connector No. M1 Connector Name NA Connector Color WH	AV CONTROL UNIT (WITH NAVIGATION SYSTEM) WHITE	1
AAT	Terminal No. Wire Signa Signa 22	2 24 25 28 27 28 27 28 27 28 24 45 46 47 48 28 27 28 28 27 28 28 27 28 28 27 28 28 27 28 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28	29 30 31 32 33 34 35 38 37 38 39 40 49 30 51 52 53 54 55 56 57 58 59 50 Signal Name CAN-L CAN-H	21 22 23 24 25 26 27 28	#4 49 50 51 52 53 54 55 56 57 58 59 40 r of Signal Name CAN-L CAN-H	
	L LAN N N N N N N N N N N N N N N N N N	J	F	D	A B C	

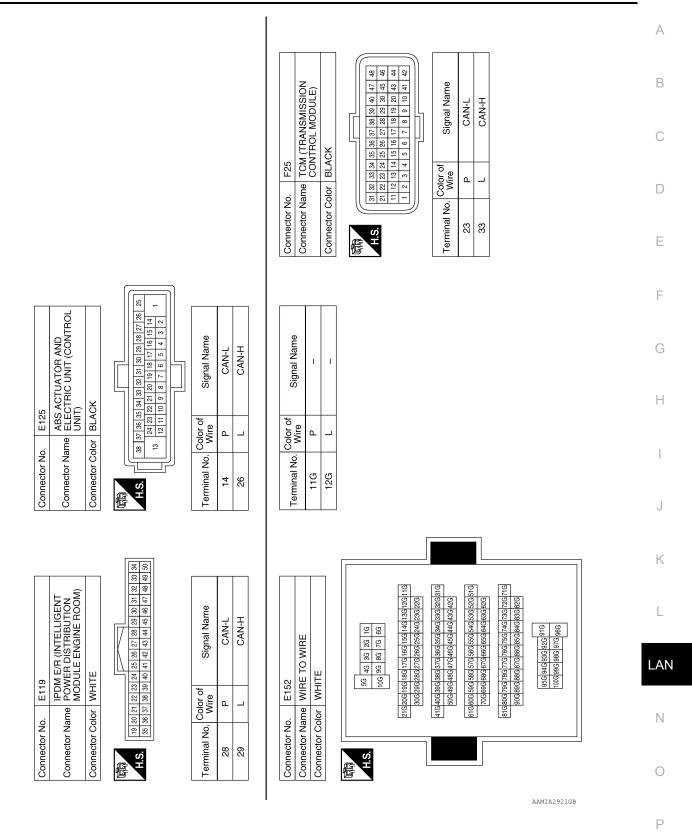
Revision: October 2014 LAN-45 2015 Murano

Connector No. E45 Connector Name JOINT CONNECTOR-E12 Connector Color BLUE	Terminal No. Color of Wire Signal Name 1	Connector No. E71 Connector Name JOINT CONNECTOR-E15 Connector Color BLACK	Terminal No. Color of Signal Name 1
Connector No. E32	Terminal No. Color of Signal Name 123 P CAN-L 124 L CAN-H	Connector No. E70 Connector Name JOINT CONNECTOR-E14 Connector Color BLACK A.S.	Terminal No. Color of Wire Signal Name 1 P - 2 P - 3 P - 4 P -
No. E2 Name WIRE TO WIRE Color WHITE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Color of Signal Name Wire P	No. E62 Name POWER STEERING CONTROL MODULE Color BLACK	Color of Signal Name Wire Signal Name P CAN-L L CAN-H

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CAN SYSTEM (WITHOUT AROUND VIEW MONITOR SYSTEM)

< WIRING DIAGRAM > [CAN]

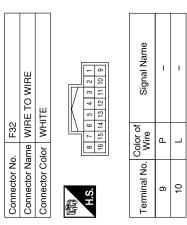


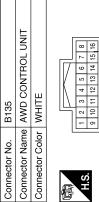
Revision: October 2014 LAN-47 2015 Murano

			ı	15 16	31 32			
2	AUTOMATIC BACK DOOR CONTROL MODULE	WHITE		5 6 7 8 9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	Signal Name	CAN-H	CAN-I
. B55	me AU			2 3 4	18 19 20	Color of Wire	٦	Д
Connector No.	Connector Name	Connector Color		-		Terminal No.	1	17

							_
					16	17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	
			1		15	8	
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					13	೪	
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	111				8 9 10 11 12 13 14 15	56	
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B41	≥	≥			4	20	
	Э	Ž			3	19	
o.	an	응			2	8	
z	Z	5			_	17	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE			3	ρ̈́Ε	_

Signal Name	1	_
Color of Wire	Ь	٦
Terminal No.	26	27





	ПЕ	2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Nar	CAN-H	CAN-L
	lor WH	9 1 10	Color of Wire	Т	Ь
1000	Connector Color WHITE	语 E.S.	Terminal No.	8	16

Connector Name		M	WIRE TO WIRE	
Connector Color		WHITE	믵	
崎南 H.S.				
	9 8	8 2	10 11 12 13	
2		5	20 00 07	
Terminal No.	Color of Wire	r of	Signal Name	
21		_	ı	
22	1		ı	
28		_	1	
59	1		_	

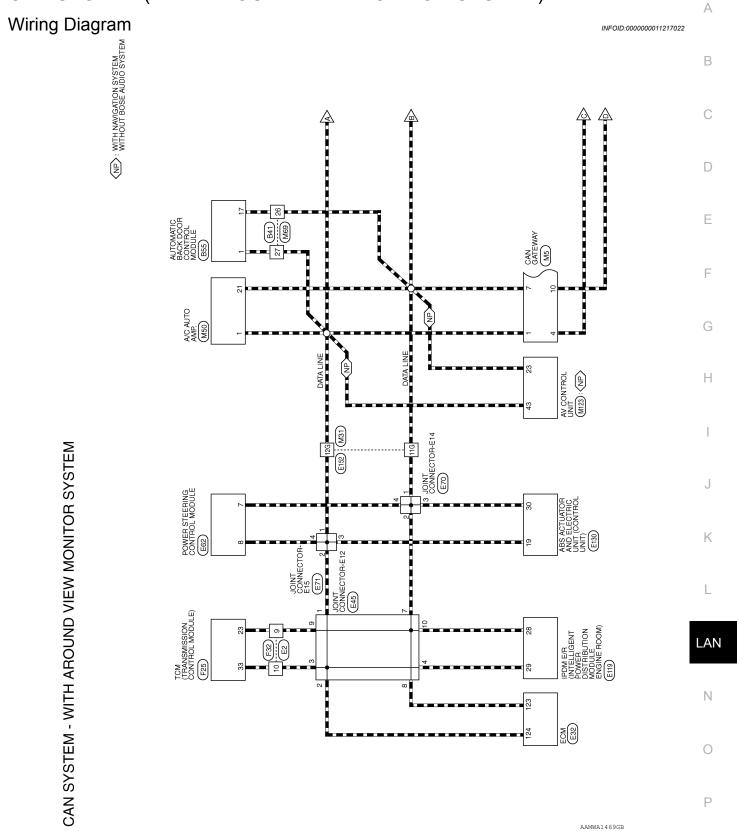
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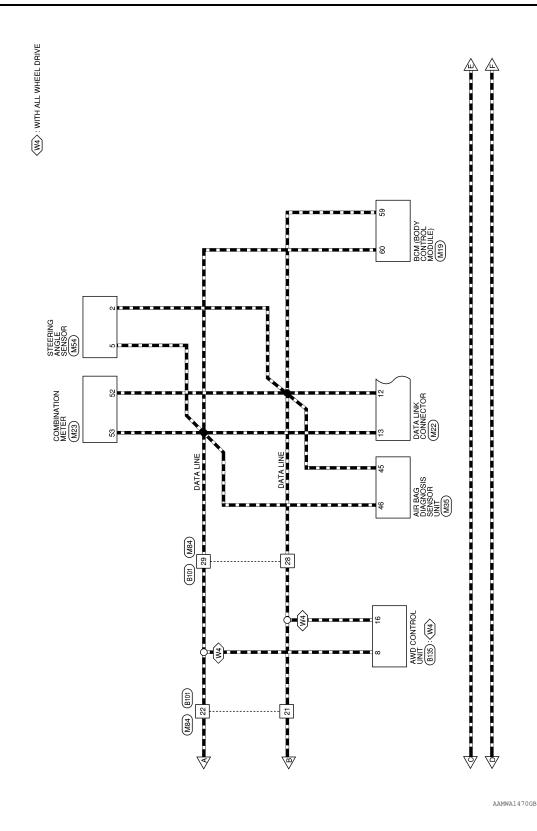
B101

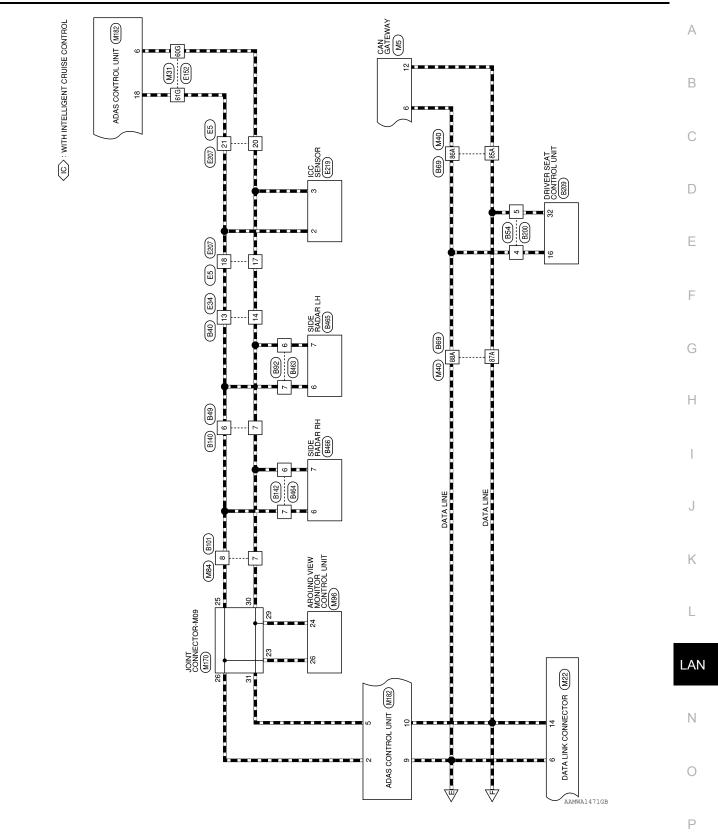
Connector No.

< WIRING DIAGRAM > [CAN]

CAN SYSTEM (WITH AROUND VIEW MONITOR SYSTEM)







Connector Name DATA LINK CONNECTOR

M22

Connector No.

Connector Color WHITE

CAN SYSTEM CONNECTORS - WITH AROUND VIEW MONITOR SYSTEM

Connector No. M	M5
Connector Name CAN GATEWAY	AN GATEWAY
Connector Color WHITE	/HITE

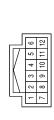


Connector Name | BCM (BODY CONTROL | MODULE) BLACK

Connector Color

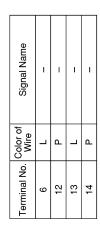
M19

Connector No.





Signal Name	CAN-H	CAN-H	CAN-H	CAN-L
Color of Wire	Γ	٦	٦	Ь
Terminal No. Wire	Į.	7	9	2



Signal Name	CAN-L	CAN-H	
Color of Wire	Ь	٦	
Terminal No.	59	09	

CAN-L	CAN-L		
۵	۵		. M23
10	12		Connector No.



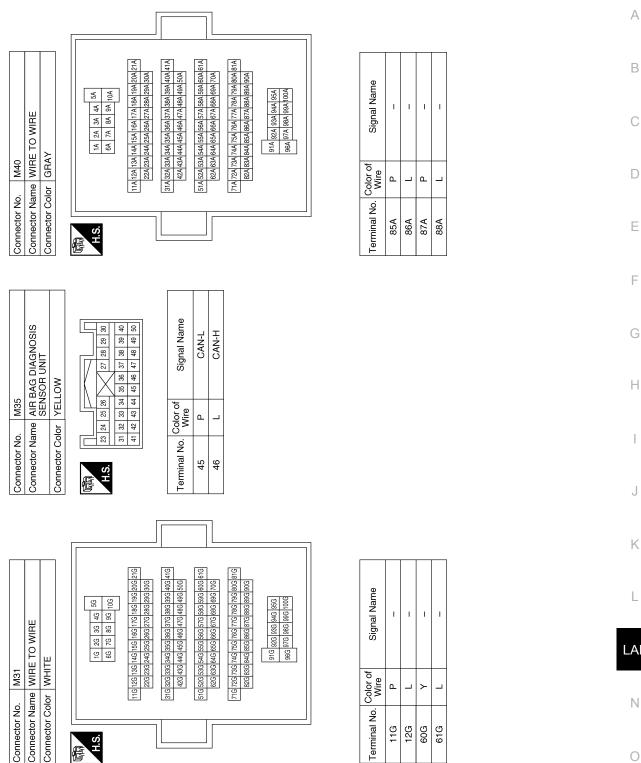


Signal Name	CAN-L	CAN-H	
Color of Wire	Ь	_	
Terminal No.	52	54	

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CAN SYSTEM (WITH AROUND VIEW MONITOR SYSTEM)

[CAN] < WIRING DIAGRAM >



Color of Wire ݐ > \neg _ Terminal No.

11G 12G 60G 61G

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LAN-53 Revision: October 2014 2015 Murano

Connector Color WHITE

H.S.

M31

Connector No.

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Connector No. M69 Connector Name WIRE TO WIRE Connector Color WHITE H.S. IE 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 1 SE 31 30 29 28 27 26 25 24 28 22 21 20 19 18 17	Terminal No. Color of Signal Name 26 P	Connector No. M162 Connector Name AV CONTROL UNIT
o. M54 ame STEERING ANGLE SENSOR olor WHITE	Color of Signal Name Wire P – L	M96 AROUND VIEW MONITOR
Connector No. Connector Name Connector Color In 19 20 38 40	Terminal No.	Connector No. Connector Name Connector Color 1
TO AMP.	Signal Name CAN-H CAN-L	WHITE WHITE WHITE WHITE Of the state of th
ctor No. ctor Color ctor Color 3 4 5 6 7 28 22 26 22 26 22	Terminal No. Color of Wire 1 L 21 P	ctor No. ctor Name ctor Color I I I I I I I I I I I I I I I I I I I
Conne Conne Conne Conne	Tern	Conne Conne

[CAN] < WIRING DIAGRAM >

Connector No. E2	Connector Name WIRE TO WIRE	Connector Color WHITE	1. S. 4 5 6 7 8 10 11 12 13 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Terminal No. Color of Wire Signal Name	- В
Connec	Connec	Connec	赋利 H.S.	Termina	6

Connector Name ADAS CONTROL UNIT Connector Color WHITE THE TO THE THE TO THE	Connector No.	ž	. ا	_	₹	M182								
Connector Color WHITE	Connector	ž	ਵੁੱ	-	9	AS	ő	Ó	与	Ď		Ž	⊨	
H.S. 12 11 10 9 8 7 6 5 4 3 2 1	Connector	ပိ	jo	_	₹	¥	ш							
H.S. 12 11 10 9 8 7 6 5 4 3 2 1 1 24 23 22 21 20 19 18 17 16 15 14 13					ᅜ	- 11\	- IN	IV.	- 117					
24 23 22 21 20 19 18 17 16 15 14 13	O II	12	Ξ	9	6	8	7	9	2	4	3	2	-	
	5	24	23	22	21	20	19	18	17	16	15	4	13	

Signal Name	ITS CAN-H	ITS CAN-L	3RD CAN-L	CAN-H	CAN-L	3RD CAN-H
Color of Wire	_	>	Υ	٦	۵	Γ
Terminal No. Color of Wire	2	5	9	6	10	18

			1
0/18	Connector Name JOINT CONNECTOR-M09	WHITE	11 10 9 8 7 6 5 4 3 2 1 1 2 2 2 1 2 0 1 9 1 8 1 7 16 15 14 13 12 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
COLLINECTOR INC.	Connector Name	Connector Color WHITE	H.S. (11 10 9) H.S. (22 21 20) 33 32 31

Signal Name	_	-	ı	_	ı	ı
Color of Wire	Τ	٦	_	У	Υ	>
Terminal No. Wire	23	25	26	29	30	31

Connector No.	2	١.	⊢	E2									
Connector Name WIRE TO WIRE	. Na	lξ	_	I≅	쁘	Ĕ	6	₹					
Connector Color WHITE	ပိ	흐	-	∣₹		ш							
					- 113	l N	- 1/4	- 17	_				
2	E	2	3	4	5	9	7	œ	6	10	1	12	
Ċ	5	14	15	16	17	8	14 15 16 17 18 19 20 21 22 23	20	21	22	23	24	
•													
	ľ	l	l	l	ŀ	l	l	l	l	l	l	l	

Connector Name WIRE TO WIRE	me WIF	RE TO WIRE
Connector Color WHITE	lor WH	ITE
H.S.	2 3 4 15 16	4 5 6 7 8 9 10 11 12 16 17 18 19 20 21 22 23 24
Terminal No.	Color of Wire	Signal Name
17	>	ı
18	7	ı
20	Υ	-
21	٦	ı

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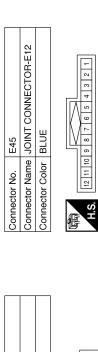
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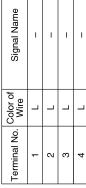
Signal Name	ı	1	I	ı	I	1	1	1
Color of Wire	٦	Г	Г	٦	۵	Ь	Ь	Ь
Terminal No. Wire	-	2	3	4	7	8	6	10

6 5 6 4 8 3 2 2 1	
H.S.	

Connector Name JOINT CONNECTOR-E15

Connector No.

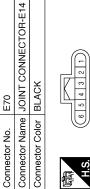
Connector Color | BLACK



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	≝		2 10
	>		8 7 6 5 4 3 2 6 15 14 13 12 11 10
	۲	ш	4 4 12
_	끭	⊑	5 13
E34	₩	₹	6 41
3	_	_	7 15
	E E	힏	8 16
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	原 H.S.



Signal Name	ı	ı
Color of Wire	_	٨
Terminal No.	13	14



Signal Name	I	-	1	ı
Color of Wire	Ь	Ь	Ъ	Ь
Terminal No. Wire	1	7	3	4

Connector No.	E32
Connector Name ECM	ECM
Connector Color BLACK	BLACK



SH	121125129	121 125 129 133 137 141 145 149
	122126130	122126130134138142 146150
	123127131	123127131135139143 147151
	124128132	124128132136140144148152
IJ		
Terminal No.	Color of Wire	Signal Name
123	۵	CAN-L
124	-	H-NAC

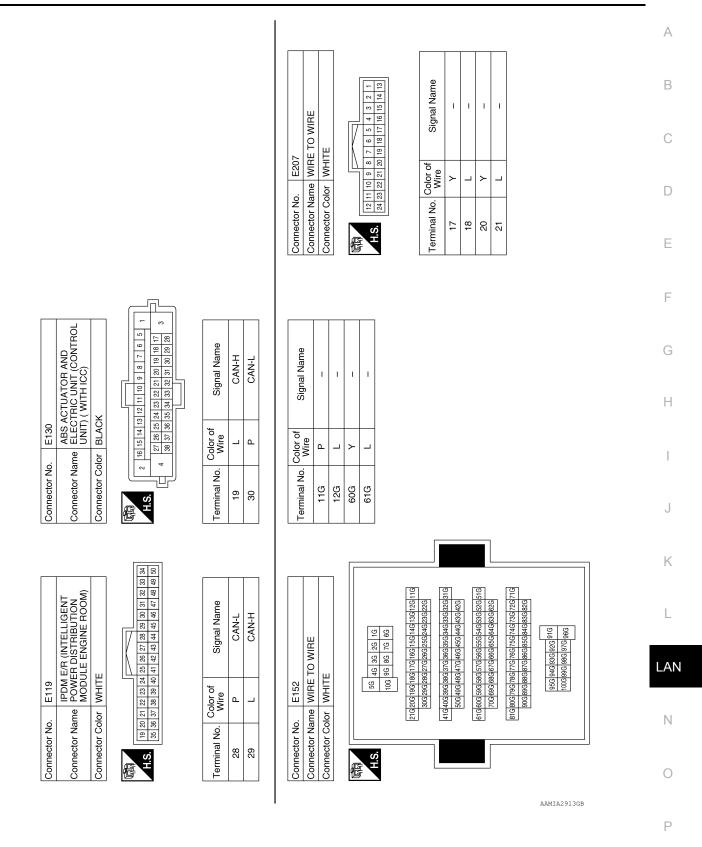
Connector No.	E62
Connector Name	Connector Name POWER STEERING CONTROL MODULE
Connector Color BLACK	BLACK
H.S.	4 5 6 7 8

5 6 7 8	Signal Name	CAN-L	CAN-H
	Color of Wire	۵	٦
明S.	Ferminal No. Wire	7	8

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CAN SYSTEM (WITH AROUND VIEW MONITOR SYSTEM)

< WIRING DIAGRAM > [CAN]



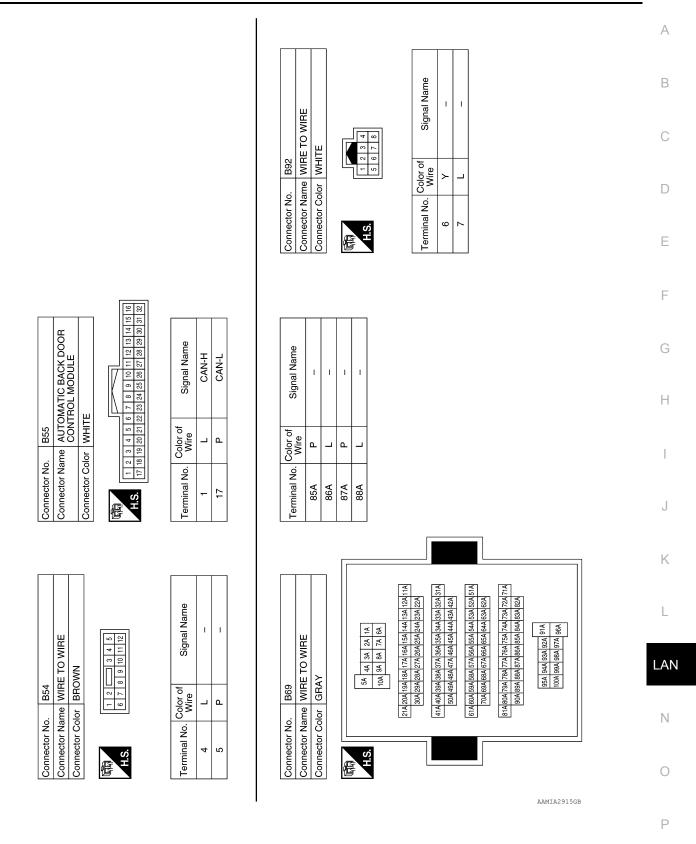
Revision: October 2014 LAN-57 2015 Murano

Connector No. F32 Connector Name WIRE TO WIRE Connector Color WHITE ##S.	Terminal No. Color of Signal Name 9 P	Connector No. B49 Connector Name WIRE TO WIRE Connector Color WHITE To the state of the state	Terminal No. Color of Wire Signal Name 6 L - 7 Y -
Connector No. F25 Connector Name TCM (TRANSMISSION CONTROL MODULE) Connector Color BLACK State 2	Terminal No. Color of Wire Signal Name 23 P CAN-L 33 L CAN-H	Connector No. B41 Connector Color WHITE Connector Color WHITE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 16 12 12 12 12 12 12	Color of Signal Name
Connector No. E219 Connector Name ICC SENSOR Connector Color BLACK 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Terminal No. Color of Wire Signal Name 2 L CAN-H 3 L/R CAN-L	Connector No. B40 Connector Name WIRE TO WIRE Connector Color WHITE WH 12 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Terminal No. Color of Wire Signal Name 13 L – 14 Y –

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CAN SYSTEM (WITH AROUND VIEW MONITOR SYSTEM)

< WIRING DIAGRAM > [CAN]

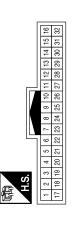


Revision: October 2014 LAN-59 2015 Murano

	:		COLLIGATION INC.		
onnector Na	ame AWD	Connector Name AWD CONTROL UNIT	Connector Name WIRE TO WIRE	me WIRE	TO WIRE
Connector Color WHITE	olor WHI	TE .	Connector Color WHITE	lor WHIT	Ē
H.S.	8 7 6 5 4 16 15 14 13 12	4 51 3 2 1 1 0 2 1 0 9 9	顾 H.S.	1 2 3 8 9 10 11	3
I					
Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Color of Wire	Color of Wire	Signal Name
8	_	CAN-H	9	_	ı
16	۵	CAN-L	7	>	1

	Connector Name DRIVER SEAT CONTROL			10 9 8 7 6 5 4 3 2 1 28 25 24 23 22 21 20 19 18 17	Signal Name	1	ı
B209	e DRIVER	INO	r WHITE	15 14 13 12 11 1 1 31 30 29 28 27 2	Solor of Wire	×	_
Connector No. B209	Connector Nam		Connector Color WHITE	斯 H.S. (16 15 32 31 32 31 32 31 31 31 32 31 31 31 31 31 31 31 31 31 31 31 31 31	Terminal No. Wire	16	32
B200	Connector Name WIRE TO WIRE	Connector Color BROWN		5 4 3	Ferminal No. Color of Signal Name	ı	ı

Connector No.	B101
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE



Signal Name	ı	ı	ı	ı	ı	ı
Color of Wire	Y	_	۵	٦	Ь	_
Terminal No. Wire	7	80	21	22	28	29





Signal Name	-	ı
Color of Wire	Y	L
Terminal No.	9	7

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CAN SYSTEM (WITH AROUND VIEW MONITOR SYSTEM)

[CAN] < WIRING DIAGRAM >

		Α
AR LH Signal Name		В
CK CK		С
Connector No. B46 Connector Name SID Connector Color BLA H.S. (1 2 3 H.S. (20lor of 6 L 7 Y Y		D
Conne Conne Termir		Е
		F
WIRE Signal Name		G H
100 of Wire Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y		1
Connector No. B464 Connector Name WIRE TO WIRE Connector Color WHITE H.S. R 7 E 3 2 1 R 7 E 3 2 1 R 7 E 5 Terminal No. Wire 6 Y 7 L		J
		K
Signal Name	Signal Name	L
		LAN
Connector No. B463 Connector Name WIRE T Connector Color WHITE H.S. 8 7 6 6 7 7 L	Connector No. B466 Connector Name SIDE R. Connector Color BLACK I 2 3 4 H.S. (1 2 3 4 R.S. 7 Y	Ν
Connector No. Connector Cold	Connector No. Connector Colo Connector Colo Terminal No. 6 6 7	0

4 5 6 7	Signal	ı	1	
2 3	Color of Wire	_	>	
H.S.	Terminal No.	9	7	

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [CAN]

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Interview Sheet

NOTE:

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

[CAN]

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DTC/CIRCUIT DIAGNOSIS

MALFUNCTION AREA CHART

CAN Communication Circuit

INFOID:0000000011217025

MAIN LINE

Malfunction area	Reference
Main line between IPDM E/R and ABS actuator and electric unit (control unit)	LAN-65, "Diagnosis Procedure"
Main line between ABS actuator and electric unit (control unit) and A/C auto amp.	LAN-66, "Diagnosis Procedure"
Main line between A/C auto amp. and AWD control unit	LAN-67, "Diagnosis Procedure"
Main line between A/C auto amp. and data link connector	LAN-68. "Diagnosis Procedure"
Main line between AWD control unit and data link connector	LAN-70. "Diagnosis Procedure"
Main line between data link connector and driver seat control unit	LAN-71, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
ECM branch line circuit	LAN-75, "Diagnosis Procedure"
IPDM E/R branch line circuit	LAN-76, "Diagnosis Procedure"
TCM branch line circuit	LAN-77, "Diagnosis Procedure"
ABS actuator and electric unit (control unit) branch line circuit	LAN-78, "Diagnosis Procedure"
Power steering control module branch line circuit	LAN-79, "Diagnosis Procedure"
AV control unit branch line circuit	LAN-80, "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 1)	LAN-81, "Diagnosis Procedure"
CAN gateway branch line circuit (CAN communication circuit 2)	LAN-82, "Diagnosis Procedure"
A/C auto amp. branch line circuit	LAN-83, "Diagnosis Procedure"
Automatic back door control module branch line circuit	LAN-84, "Diagnosis Procedure"
AWD control unit branch line circuit	LAN-85, "Diagnosis Procedure"
Air bag diagnosis sensor unit branch line circuit	LAN-86, "Diagnosis Procedure"
Data link connector branch line circuit	LAN-87, "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 1)	LAN-88, "Diagnosis Procedure"
Data link connector branch line circuit (CAN communication circuit 2)	LAN-89, "Diagnosis Procedure"
Combination meter branch line circuit	LAN-90, "Diagnosis Procedure"
Steering angle sensor branch line circuit	LAN-91, "Diagnosis Procedure"
BCM branch line circuit	LAN-92, "Diagnosis Procedure"
ADAS control unit branch line circuit	LAN-93, "Diagnosis Procedure"
Driver seat control unit branch line circuit	LAN-94, "Diagnosis Procedure"
CHORT CIRCUIT	

SHORT CIRCUIT

Malfunction area	Reference	
CAN communication circuit	LAN-99. "Diagnosis Procedure"	
CAN communication circuit 1	LAN-101, "Diagnosis Procedure"	
CAN communication circuit 2	LAN-103, "Diagnosis Procedure"	

MALFUNCTION AREA CHART

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

ITS Communication Circuit

INFOID:0000000011217026

MAIN LINE

Malfunction area	Reference
Main line between around view monitor and side radar RH	LAN-72, "Diagnosis Procedure"
Main line between side radar RH and side radar LH	LAN-73, "Diagnosis Procedure"
Main line between side radar LH and ICC sensor	LAN-74, "Diagnosis Procedure"

BRANCH LINE

Malfunction area	Reference
Around view monitor control unit branch line circuit	LAN-95, "Diagnosis Procedure"
Side radar RH branch line circuit	LAN-96, "Diagnosis Procedure"
Side radar LH branch line circuit	LAN-97, "Diagnosis Procedure"
ICC sensor branch line circuit	LAN-98. "Diagnosis Procedure"

SHORT CIRCUIT OR OPEN CIRCUIT

Malfunction area	Reference	
ITS communication circuit	LAN-105, "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:0000000011217027

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.
- Without around view monitor system

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	26	Existed
LII9	28	E125	14	Existed

With around view monitor system

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	E130	19	Existed
E119	28		30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011217028

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.
- Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	26	E152	12G	Existed
E125	14	L 102	11G	Existed

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	19	E152	12G	Existed
	30	E152	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	12G	M50	1	Existed
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011217029

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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. h	arness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M50	1	M84	22	Existed
IVISO	21	10104	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

Harness connector			Continuity
Connector No.	Terminal No.		Continuity
B101	22	29	Existed
	21	28	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 A/C auto amp. and the AWD control unit.

NO >> Repair the main line between the harness connector B101 and the AWD control unit.

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INFOID:0000000011217030

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. h	arness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M50	1	M84	22	Existed
IVIOU	21		21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Harness connector			
Connector No.	Termi	Continuity		
B101	22	29	Existed	
	21	28	Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector B101.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness	connector	Data link connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M84 29	29	M22	6	Existed	
IVIO 4	28	IVIZZ	14	Existed	

· With around view monitor

Harness	connector Data link		connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

M84	29	M22	13	Existed
IVIO	28	M22	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 A/C auto amp. and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

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MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011217031

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 M84
- Harness connector B101

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 M84 and B101.
- Check the continuity between the harness connector terminals.

	Harness connector				
Connector No.	Termi	Continuity			
B101	22	29	Existed		
21 28		28	Existed		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the AWD control unit and the harness connector B101.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
WO 4	28	IVIZZ	14	Existed

With around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M84	29	M22	13	Existed
IVIO 4	28	IVIZZ	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 AWD control unit and the data link con-

NO >> Repair the main line between the harness connector M84 and the data link connector.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011217032

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

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	nnector No. Terminal No.	
M22	6	M40	88A	Existed
IVIZZ	14	10140	87A	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)

Check the continuity between the harness connector terminals.

	Harness connector			
Connector No.	Termir	Continuity		
B69	88A	86A	Existed	
D09	87A	85A	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 drive seat control

NO >> Repair the main line between the harness connector B69 and the drive seat control unit.

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LAN-71 Revision: October 2014 2015 Murano LAN

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011217037

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 (connector side and harness side).
- Harness connector M84
- Harness connector B101

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.
- Around view monitor control unit
- Harness connectors M84 and B101
- Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M96	26	M84	8	Existed
IVI9O	24	IVIO4	7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the around view monitor control unit and the harness connector M84.

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

- 1. Disconnect the harness connectors B464 and B142.
- Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B101 8	8	B142	7	Existed	
БЮТ	7	D142	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 side radar RH.

NO >> Repair the main line between the harness connector B101 and B142.

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

INFOID:0000000011217034

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 B140
- Harness connector B49

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 B464 and B142
- Harness connectors B140 and B49
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
B142	7	B140	6	Existed
D142	6	D140	7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B142 and B140.

3.check harness continuity (open circuit)

- Disconnect the harness connectors B92 and B463.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
B49	6	B92 -	7	Existed
	7		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 RH and the side radar LH.

NO >> Repair the main line between the harness connector B49 and B92.

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Revision: October 2014 LAN-73 2015 Murano

MAIN LINE BETWEEN RDR-L AND LASER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

INFOID:0000000011217035

MAIN LINE BETWEEN RDR-L AND LASER CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.

- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector B40
- Harness connector E34
- Harness connector E5
- Harness connector E207

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 B92 and B463
- Harness connectors B40 and E34
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B92	7	B40	13	Existed
D9Z	6	540	14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B92 and B40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the harness connector E5 and E207.
- Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
E34	13	E5 -	18	Existed
E3 4	14		17	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector E34 and E5.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Termi	Continuity	
E207	18	21	Existed
E207	17	20	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 ICC sensor.

NO >> Repair the main line between the harness connector E207 and the ICC sensor.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217039

1. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

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

	ECM harness connector		
Connector No.	Termi	Resistance (Ω)	
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>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the ECM. Refer to EC-579, "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: October 2014 LAN-75 2015 Murano

IPDM-E BRANCH LINE CIRCUIT

[CAN] < DTC/CIRCUIT DIAGNOSIS >

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217040

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

- 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 PCS-36, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217041

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

TCM harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
F25	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 TM-178, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "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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[CAN]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217042

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Nesistance (22)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
E130	19 30		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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "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.

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217043

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	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 STC-23, "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-79 Revision: October 2014 2015 Murano

[CAN]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217045

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 navigation system and without BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M123	43	23	Approx. 54 – 66

With navigation system and BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M162	43	23	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 AV-166, "AV CONTROL UNIT: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "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.

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011217053

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.		1103/3/4/100 (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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "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: October 2014 LAN-81 2015 Murano

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011217054

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.
- 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 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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "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.

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217049

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 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-73, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "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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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217056

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
- Harness connector B41
- Harness connector M69

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 automatic back door control module.
- 2. 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	1 17		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3.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-171</u>, <u>"AUTOMATIC BACK DOOR CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to <u>DLK-311, "Removal and</u> Installation".

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

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217055

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

A	AWD control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B135	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-46</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-58</u>, "Removal and Installation".

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

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

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

INFOID:0000000011217044

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

WARNING:

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

1. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to SRC-40, "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]

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DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217046

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]

INFOID:0000000011217047

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

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.	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 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:0000000011217048

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\csistance (\(\frac{1}{2}\)
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 (CAN communication circuit 2 side).

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

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M&A BRANCH LINE CIRCUIT

[CAN] < DTC/CIRCUIT DIAGNOSIS >

INFOID:0000000011217050

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

- Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- 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.
- Check the resistance between the combination meter harness connector terminals.

Combination meter harness connector			Resistance (Ω)
Connector No.	Terminal No.		inconstance (22)
M23	53 52		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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "Removal and Installation".

YES (Past error)>>Error was detected in the combination meter 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:0000000011217051

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 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	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-52, "Wiring Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "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]

INFOID:0000000011217057

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

BCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (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-75, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-82, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

ICC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217062

1. CHECK CONNECTOR

DID:00000000011217062

- 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

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

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		incesistance (52)
B182	9 10		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to <u>DAS-84, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to <u>DAS-85, "Removal and Installation"</u>.

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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Revision: October 2014 LAN-93 2015 Murano

[CAN]

INFOID:0000000011217060

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

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

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 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
IVIO	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

- Disconnect the connector of driver seat control unit.
- Check the resistance between the driver seat control unit harness connector terminals.

Driv	Driver seat control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
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-71, "DRIVER SEAT CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-132, "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. NO

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217058

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).
- 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
M182	2	18	Existed
IVI 102	5	6	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\csistance (\sum_22)
M96	26 24		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the around view monitor control unit branch line.

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-271</u>, <u>"AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-274, "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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RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217063

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).
- Side radar RH
- Harness connector B142
- Harness connector B464
- 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
M182	2	18	Existed
IVI 102	5	6	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.		i (22)
B466	6	7	Approx. 54 – 66

Is the measurement value within the specification?

YFS >> 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 DAS-170, "SIDE RADAR RH: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-188, "Removal and Installation".

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

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

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011217064

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 LH
- Harness connector B463
- Harness connector B92
- 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
M182	2	18	Existed
IVI 102	5	6	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.		resistance (52)
B465	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-170, "SIDE RADAR LH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-188, "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]

INFOID:0000000011217067

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

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).
- ICC sensor
- 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.

А	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
M182	2	18	Existed
IVI 102	5	6	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 ICC sensor.
- Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\esistance (\(\frac{1}{2}\)
E219	2	3	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ICC sensor branch line.

f 4 .CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to CCS-126, "ICC SENSOR: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to CCS-148, "Removal and Installation".

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

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

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011217068

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 lini	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
M22	13		Not existed
IVIZZ	12		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.

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

Check the resistance between the BCM terminals.

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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

Revision: October 2014 LAN-99 2015 Murano

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< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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.

< DTC/CIRCUIT DIAGNOSIS >

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Diagnosis Procedure

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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		
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 lini	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
M22	13		Not existed
IVIZZ	12		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.

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	

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

Revision: October 2014 LAN-101 2015 Murano

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< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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.

- 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 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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011217070

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 2.
- 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		Ground	Continuity
Connector No.	Terminal No.		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.

f 4.CHECK CAN GATEWAY TERMINATION CIRCUIT

- Remove the CAN gateway.
- 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.

LAN-103 Revision: October 2014 2015 Murano LAN

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< DTC/CIRCUIT DIAGNOSIS >

[CAN]

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.

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]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011217071

1. CHECK CAN DIAGNOSIS

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Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and 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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- 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.

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

Disconnect the ADAS control unit harness connector.

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

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		
M182	2	18	Existed
	5	6	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.
- Around view monitor control unit
- Side radar RH
- Side radar LH
- ICC sensor
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
M182	2	5	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
M182	2		Not existed
	5		Not existed

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ITS COMMUNICATION CIRCUIT

[CAN]

< DTC/CIRCUIT DIAGNOSIS >

<u>Is the inspection result normal?</u> 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 (12)	
2	5	- Approx. 108 – 132	
18	6		

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 and ICC sensor 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.

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.

PRECAUTIONS

[CAN GATEWAY] < PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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LAN-107 Revision: October 2014 2015 Murano

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INFOID:0000000011217073

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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

SYSTEM

System Description

INFOID:0000000011217074

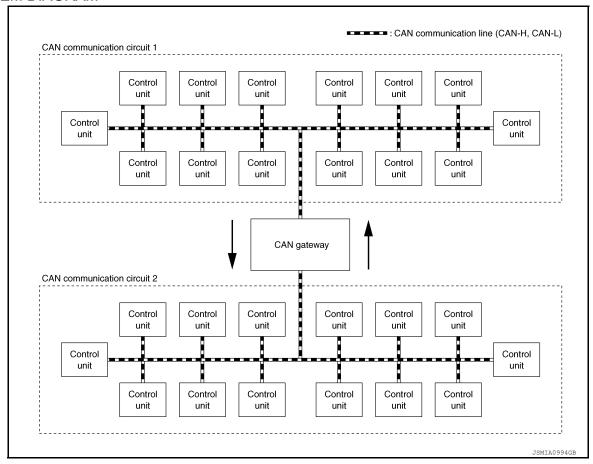
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SYSTEM DIAGRAM



SYSTEM DESCRIPTION

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

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DIAGNOSIS SYSTEM (CAN GATEWAY)

< SYSTEM DESCRIPTION >

[CAN GATEWAY]

DIAGNOSIS SYSTEM (CAN GATEWAY)

CONSULT Function

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-112, "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	1	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.
- Never perform "Read / Write Configuration" or "Manual Configuration" except for new CAN gateway.

ECU DIAGNOSIS INFORMATION

CAN GATEWAY

Reference Value

INFOID:0000000011217076

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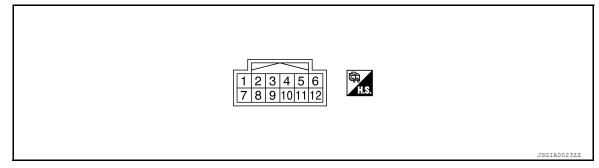
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INFOID:0000000011217077

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal 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 communication 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 - 16 V	Battery voltage
10 (P)	_	CAN-L (CAN communication 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

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 CIRCUIT		<u>LAN-117</u>
U1010: CONTROL UNIT(CAN)		<u>LAN-118</u>
B2600: CONFIG ERROR	WRONG DATA	LAN-119
	NOT CONFIGURED	<u>LAIN-119</u>

WIRING DIAGRAM

CAN GATEWAY SYSTEM

Wiring Diagram

DATA LINE

CAN GATEWAY SYSTEM

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Connector Name CAN GATEWAY

Connector No.

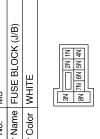
CAN GATEWAY SYSTEM CONNECTORS

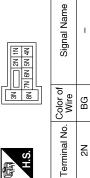
Connector No.	M3
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE

Connector Name FUSE BLOCK (J/B)

<u>Α</u>

Connector No.





connector Color	NOT WHILE	
所 H.S.		3 10 4 4 1 12 6 6 12 2 12 2 12 12 12 12 12 12 12 12 12 12
Ferminal No.	Color of Wire	Signal Name
-	_	CAN-H
2	1	ı
3	BG	BATTERY
4	٦	CAN-H
5	В	GND
9	٦	CAN-H
7	۵	CAN-L
8	-	ı
6	BG	IGNITION
10	۵	CAN-L
11	В	GND
12	Ь	CAN-L

Connector Color WHITE

1667	inal No.
6P 5P	Color of
4P 13P 12P 11P	S
3P 2P 10P 9P	Signal Name
-	Vame

₽	8Р	
2P	9b	
35	10P	
	12P 11P	
4P	13P	
5P	14P	
99	15P	
7P	16P	
		_
		s.

7P 6P 5P 16P 15P 14P Color of		-	H.S.	Torium T
		3P 15P		응
	6P 5P 4P	13P		
139 4	Ш	12		

Color of Wire	BG	
Terminal No.	8P	

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ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

< BASIC INSPECTION > [CAN GATEWAY]

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

Description

BEFORE REPLACEMENT

When replacing CAN gateway, save or print current vehicle specification with CONSULT configuration before replacement. Refer to <u>LAN-115</u>, "Work <u>Procedure"</u>.

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

(P)CONSULT Configuration

Perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to <u>LAN-115</u>, "<u>Description"</u>.

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-122, "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-116, "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. $\bf 2.$ 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".
- 2. Touch "Next".
- 3. Touch "OK".
- 4. 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.
- 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

[CAN GATEWAY]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000011786836

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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 independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, 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-37</u>, "CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart".

DTC DETECTION LOGIC

DTC	CONSULT screen terms (Trouble diagnosis contents)	DTC detection condition		
		Diagnosis condition	Ignition switch ON	
	CAN COMM CIDCUIT	Signal (terminal)	CAN communication signal	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Threshold	CAN gateway is not transmitting or receiving CAN communication signal	
		Diagnosis delay time	Continuously for 2 seconds or more	

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

Only the CAN signal transmission of control unit which cannot communicate cannot be transmitted

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

(P)With CONSULT

- 1. Turn ignition switch ON and wait at least 2 seconds or more.
- 2. Select "Self Diagnostic Result" mode of "CAN GATEWAY" using CONSULT.
- Check DTC.

Is DTC U1000 detected?

- YES >> Proceed to LAN-117, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: GI-42, "Intermittent Incident".
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000011786837

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

- Turn ignition switch ON.
- Erase DTC.
- 3. Perform DTC confirmation procedure again. Refer to LAN-117, "DTC Description".
- Check DTC.

Is DTC U1000 detected again?

YES >> Perform trouble diagnosis procedure for CAN communication system. Refer to <u>LAN-21</u>, "<u>Trouble Diagnosis Flow Chart</u>".

NO >> INSPECTION END

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Revision: October 2014 LAN-117 2015 Murano

[CAN GATEWAY]

U1010 CONTROL UNIT (CAN)

DTC Description

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 independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, 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-37</u>, "CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart".

DTC DETECTION LOGIC

DTC	CONSULT screen terms (Trouble diagnosis contents)	DTC detection condition		
		Diagnosis condition	Ignition switch ON	
	CONTROL LINIT (CAN)	Signal (terminal)	_	
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Threshold	CAN controller initial diagnosis abnormality of CAN gateway	
		Diagnosis delay time	Continuously for 2 seconds or more	

POSSIBLE CAUSE

CAN gateway

FAIL-SAFE

Transmission and reception of the signal between CAN communication circuit 1 and CAN communication circuit 2 are stopped

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

- Turn ignition switch ON and wait at least 2 seconds or more.
- Select "Self Diagnostic Result" mode of "CAN GATEWAY" using CONSULT.
- Check DTC.

Is DTC U1010 detected?

YES >> Proceed to LAN-118, "Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: GI-42, "Intermittent Incident".

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000011786839

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

- 1. Turn ignition switch ON.
- Erase DTC.
- Perform DTC confirmation procedure again. Refer to LAN-118, "DTC Description".
- 4. Check DTC.

Is DTC U1010 detected again?

YES >> Replace CAN gateway. Refer to <u>LAN-122</u>, "Removal and Installation".

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

B2600 CONFIG ERROR

DTC Description

INFOID:0000000011786840

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DTC DETECTION LOGIC

DTC	CONSULT screen terms (Trouble diagnosis contents)		DTC detection condition		(
			Diagnosis condition	Ignition switch ON		
	WRONG DATA		Signal (terminal)	_		
	(Wrong data) CONFIG ERROR	Threshold	Configuration data abnormality of CAN gateway			
B2600			Diagnosis delay time	Continuously for 2 seconds or more		
B2000	(Configuration error)	(Configuration error)	(Configuration error)	Diagnosis condition	Ignition switch ON	F
	NOT CONFIGURED (Not configured)		Signal (terminal)	_		
			Threshold	No data are stored in the CAN gateway		
			Diagnosis delay time	Continuously for 2 seconds or more	F	

POSSIBLE CAUSE

- Configuration is incomplete
- CAN gateway

FAIL-SAFE

Transmission and reception of the signal between CAN communication circuit 1 and CAN communication circuit 2 are stopped

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

- Turn ignition switch ON and wait at least 2 seconds or more.
- Select "Self Diagnostic Result" mode of "CAN GATEWAY" using CONSULT.
- Check DTC.

Is DTC B2600 detected?

YES-1 ("CONFIG ERROR WRONG DATA" is detected.)>>Proceed to LAN-119, "WRONG DATA: Diagnosis Procedure".

YES-2 ("CONFIG ERROR NOT CONFIGURED" is detected.)>>Proceed to LAN-119, "NOT CONFIGURED: Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: GI-42, "Intermittent Incident".

NO-2 >> Confirmation after repair: INSPECTION END

WRONG DATA

WRONG DATA: Diagnosis Procedure

1.perform dtc confirmation procedure again

- 1. Turn ignition switch ON.
- 2. Erase DTC.
- Perform DTC confirmation procedure again. Refer to <u>LAN-119</u>. "<u>DTC Description</u>".
- Check DTC.

Is DTC B2600 detected again?

YES >> Replace CAN gateway. Refer to LAN-122, "Removal and Installation".

>> INSPECTION END NO

NOT CONFIGURED

NOT CONFIGURED: Diagnosis Procedure

 ${f 1}$.PERFORM CONFIGURATION OF CAN GATEWAY

LAN-119 Revision: October 2014 2015 Murano LAN

INFOID:0000000011786841

INFOID:0000000011786842

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B2600 CONFIG ERROR

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

Perform CAN gateway configuration. Refer to LAN-116, "Work Procedure".

>> GO TO 2.

2.perform dtc confirmation procedure again

- 1. Turn ignition switch ON.
- Perform DTC confirmation procedure again. Refer to <u>LAN-119</u>, "<u>DTC Description</u>".
- 3. Check DTC.

Is DTC B2600 detected again?

YES >> Replace CAN gateway. Refer to <u>LAN-122</u>, "Removal and Installation".

NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN GATEWAY]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000011217092

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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

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

	Terminals				_	
(-	(+)		Condition	Standard voltage	Reference voltage	
CAN gateway			Ignition		(Approx.)	
Connector	Terminal	Ground	s	switch		
M5	3		OFF	6 - 16 V	Battery voltage	
IVIS	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	ateway		Continuity	
Connector	Connector Terminal		Continuity	
M5	5	Ground	Existed	
WIS	11		LAISted	

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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REMOVAL AND INSTALLATION

CAN GATEWAY

Removal and Installation

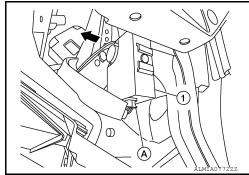
INFOID:0000000011217093

CAUTION:

Before replacing CAN gateway, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to <u>LAN-115</u>, "<u>Description</u>".

REMOVAL

- 1. Remove the glove box assembly and housing. Refer to IP-25, "Removal and Installation".
- 2. Remove the CAN gateway ① from the bracket by sliding it as shown.
- 3. Disconnect the harness connector (A) 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 LAN-116, "Work Procedure".

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

INFOID:0000000011730853

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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.
- Without around view monitor system

IPDM E/R han	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	26	Existed
LII9	28	L 125	14	Existed

With around view monitor system

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	E130	19	Existed
E119	28	E 130	30	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: October 2014 LAN-123 2015 Murano

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730854

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.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	26	E152	12G	Existed
L125	14	L 132	11G	Existed

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	19	E152	12G	Existed
	30	L 132	11G	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 A/C auto amp harness connector.

Harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M21	12G	M50	1	Existed
M31	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730856

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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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Connector No. Terminal No.		Terminal No.	Continuity
M50	1	M84	22	Existed
MSU	21	IVIO4	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.check harness continuity (open circuit)

Check the continuity between the harness connector terminals.

Harness connector			Continuity
Connector No.	Termiı	Continuity	
B101	22	29	Existed
B101	21	28	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector B101.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Without around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
IVIO 4	28	IVIZZ	14	Existed

· With around view monitor

Harness	Harness connector		Data link connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity

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MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

M84	29	M22	13	Existed
IVIO+	28	M22	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 A/C auto amp. and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730865

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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 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.

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\esistance (\frac{1}{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 EC-188, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-579, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

INFOID:0000000011730866

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

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.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-36, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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 1)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730867

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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).
- 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.

TCM harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
F25	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 TM-178, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "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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Revision: October 2014 LAN-129 2015 Murano

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730868

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
E130	19	30	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "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/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730869

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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-23</u>, "<u>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: October 2014 LAN-131 2015 Murano

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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730873

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.		inconstance (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-73, "A/C AUTO AMP. :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "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.

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730876

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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-40, "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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Revision: October 2014 LAN-133 2015 Murano

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

INFOID:0000000011730877

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.

	Resistance (Ω)		
Connector No.	Termi	resistance (22)	
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.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

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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	Resistance (Ω)		
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
M23	53 52		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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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: October 2014 LAN-135 2015 Murano

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 1)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730881

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	Resistance (Ω)		
Connector No.	Termi	inconstance (22)	
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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "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 1)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730882

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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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

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

BCM harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
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-75, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-82, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-137 Revision: October 2014 2015 Murano LAN

INFOID:0000000011730894

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	13	Giodila	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 ECM AND BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.

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

Check the resistance between the BCM terminals.

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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

CAN COMMUNICATION CIRCUIT [CAN SYSTEM (TYPE 1)] < DTC/CIRCUIT DIAGNOSIS > Inspection result Α Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is 6.CHECK UNIT REPRODUCTION В 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. D 4. Connect the battery cable to the negative terminal. Check if the symptoms described in the "Symptom (Results from interview with customer)" are reproduced. NOTE: Е Although unit-related error symptoms occur, do not confuse them with other symptoms. Inspection result Reproduced>>Connect the connector. Check other units as per the above procedure. F Non-reproduced>>Replace the unit whose connector was disconnected.

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MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011730900

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.
- Without around view monitor system

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	26	Existed	
E119 28	28	E125	14	Existed	

With around view monitor system

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E110	29	F120	19	Existed
E119	E119 28	E130	30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730901

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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.
- Without around view monitor system

	unit (control unit) harness nector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	26	E152	12G	Existed
E125	14	L 132	11G	Existed

With around view monitor system

	unit (control unit) harness nector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	19	E152	12G	Existed
	30	L 132	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	12G	M50	1	Existed
IVIST	11G	IVIOU	21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

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Revision: October 2014 LAN-141 2015 Murano

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730903

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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness	Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M50	1	M84	22	Existed
IVISO	21	10104	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Termi	Continuity	
B101	22	29	Existed
	21	28	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector B101.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness	connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
IVIO 4	28	IVIZZ	14	Existed

· With around view monitor

Harness	connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

M84	29	M22	13	Existed
	28	IVIZZ	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 A/C auto amp. and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

INFOID:0000000011730912

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

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

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

	Resistance (Ω)		
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
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>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the ECM. Refer to EC-579, "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 2)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730913

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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.
- 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-36, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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 2)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730914

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).
- 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.

	TCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
F25	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 <u>TM-178</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "Removal and Installation".

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730915

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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 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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313141100 (32)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313(81100 (52)
E130	19	30	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "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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Revision: October 2014 LAN-147 2015 Murano

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730916

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.	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-23, "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.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730917

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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 navigation system and without BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M123	43	23	Approx. 54 – 66

With navigation system and BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M162	43	23	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 <u>AV-166, "AV CONTROL UNIT :</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "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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Revision: October 2014 LAN-149 2015 Murano

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

INFOID:0000000011730920

HVAC 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 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-73, "A/C AUTO AMP.</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "Removal and Installation".

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730923

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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-40, "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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Revision: October 2014 LAN-151 2015 Murano

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

INFOID:0000000011730924

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.	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.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730927

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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)
M23	53	52	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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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: October 2014 LAN-153 2015 Murano

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STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

INFOID:0000000011730928

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "Removal and Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 2)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730929

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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

- 1. Disconnect the connector of BCM.
- 2. Check the resistance between the BCM harness connector terminals.

	BCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "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: October 2014 LAN-155 2015 Murano

INFOID:0000000011730941

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	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 ECM AND BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.

EG	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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

CAN COMMUNICATION CIRCUIT

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< DTC/CIRCUIT DIAGNOSIS > [CAN SYSTEM (TYPE 2)	/]
Inspection result	_
Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error detected.	is
6.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. 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 described in the "Symptor (Results from interview with customer)" are reproduced.	m
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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LAN-157 Revision: October 2014 2015 Murano

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:0000000011730947

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.
- Without around view monitor system

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E125	26	Existed	
28	28	E125	14	Existed	

With around view monitor system

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	E120	19	Existed	
E119	28	E130	30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730948

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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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	26	E152	12G	Existed
E125	14	L 132	11G	Existed

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	19	E152	12G	Existed
	30	L 132	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	12G	M50	1	Existed
IVIOI	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

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Revision: October 2014 LAN-159 2015 Murano

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730950

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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. h	arness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M50	1	M84	22	Existed
IVISO	21		21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Termi	Continuity	
B101	22	29	Existed
	21	28	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector B101.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Without around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
IVIO 4	28	IVIZZ	14	Existed

· With around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

M84	29	M22	13	Existed
	28	IVIZZ	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 A/C auto amp. and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

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ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

INFOID:0000000011730959

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

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

	ECM harness connector			
Connector No.	Termi	Resistance (Ω)		
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>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the ECM. Refer to EC-579, "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 3)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730960

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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		
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 PCS-36, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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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LAN-163 Revision: October 2014 2015 Murano

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TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

INFOID:0000000011730961

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

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

	TCM harness connector			
Connector No.	Termi	Resistance (Ω)		
F25	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 <u>TM-178</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "Removal and Installation".

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730962

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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.
- Without around view monitor system

ABS actuator	Resistance (Ω)		
Connector No.	Termi	rvesistance (52)	
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E130	19	30	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "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-165 Revision: October 2014 2015 Murano

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EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730963

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	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 STC-23, "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.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730964

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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.
- Check the resistance between the AV control unit harness connector terminals.
- With navigation system and without BOSE audio system

	Resistance (Ω)		
Connector No.	Termi	resistance (sz)	
M123	43 23		Approx. 54 – 66

With navigation system and BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Termi	110313(41100 (52)	
M162	43 23		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 <u>AV-166, "AV CONTROL UNIT :</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "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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Revision: October 2014 LAN-167 2015 Murano

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

INFOID:0000000011730967

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

1. CHECK CONNECTOR

- 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.

	Resistance (Ω)		
Connector No.	Termi	inconstance (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-73, "A/C AUTO AMP.</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "Removal and Installation".

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

PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730968

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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).
- Automatic back door control module
- Harness connector B41
- Harness connector M69

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 automatic back door control module.
- 2. Check the resistance between the automatic back door control module harness connector terminals.

Automatic	Resistance (Ω)		
Connector No.	Termi	1\c3\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
B55	1 17		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3. 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-171</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 <u>DLK-311, "Removal and</u> Installation".

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

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

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Revision: October 2014 LAN-169 2015 Murano

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

INFOID:0000000011730970

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

WARNING:

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

1. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the main harness.

2.CHECK AIR BAG DIAGNOSIS SENSOR UNIT

Check the air bag diagnosis sensor unit. Refer to SRC-40, "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 3)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730971

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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.	Termi	110313(41100 (52)	
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.

NO >> Repair the data link connector branch line.

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Revision: October 2014 LAN-171 2015 Murano

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730974

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.

Combination meter harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
M23	53 52		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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "Removal and Installation".

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730975

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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

- 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.

${f 3}$.check power supply and ground circuit

Check the power supply and the ground circuit of the steering angle sensor. Refer to <u>BRC-52, "Wiring Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "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: October 2014 LAN-173 2015 Murano

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011730976

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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of BCM.
- 2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Termi	resistance (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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "Removal and Installation".

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

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011730988

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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			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	13		Not existed	
	12		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.

ECM Terminal No.		Resistance (Ω)	

3. Check the resistance between the BCM terminals.

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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 3)]

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 4)]

INFOID:0000000011730994

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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.
- Without around view monitor system

IPDM E/R han	IPDM E/R harness connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E125	26	Existed
LII9	28	L 125	14	Existed

With around view monitor system

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E130	19	Existed	
E119	28	E 130	30	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: October 2014 LAN-177 2015 Murano

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730995

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.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- Without around view monitor system

	unit (control unit) harness nector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	26	E152	12G	Existed	
E120	14	L 132	11G	Existed	

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E130	19	E152	12G	Existed	
	30		11G	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 A/C auto amp harness connector.

Harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	12G	M50	1	Existed
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011730997

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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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M50	1	M84	22	Existed	
	21		21	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Termiı	Continuity	
B101	22	29	Existed
	21	28	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector B101.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Without around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
	28		14	Existed

· With around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity

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MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

M84	29	M22	13	Existed
	28	IVIZZ	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 A/C auto amp. and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011730999

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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 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 harness connector.

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	88A	Existed
IVIZZ	14	10140	87A	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)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Termir	Continuity	
B69	88A 86A		Existed
D09	87A	85A	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 drive seat control unit.

NO >> Repair the main line between the harness connector B69 and the drive seat control unit.

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Revision: October 2014 LAN-181 2015 Murano

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011731000

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 (connector side and harness side).
- Harness connector M84
- Harness connector B101

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.
- Around view monitor control unit
- Harness connectors M84 and B101
- Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor con	trol unit harness connector	or Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M96	26	M84	8	Existed
MISO	24	IVIO4	7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the around view monitor control unit and the harness connector M84.

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

- 1. Disconnect the harness connectors B464 and B142.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B101	8	B142	7	Existed
БІОТ	7		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 side radar RH.

NO >> Repair the main line between the harness connector B101 and B142.

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

INFOID:0000000011731001

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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 B140
- Harness connector B49

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 B464 and B142
- Harness connectors B140 and B49
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B142	7	B140	6	Existed
D142	6		7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B142 and B140.

3.check harness continuity (open circuit)

- Disconnect the harness connectors B92 and B463.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B49	6	B92	7	Existed	
D49	7		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 RH and the side radar LH.

NO >> Repair the main line between the harness connector B49 and B92.

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Revision: October 2014 LAN-183 2015 Murano

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731006

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.

	ECM harness connector			
Connector No.	Termi	Resistance (Ω)		
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>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the ECM. Refer to EC-579, "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:0000000011731007

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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.

	Resistance (Ω)	
Connector No.	Termi	1\esistance (22)
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-36, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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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Revision: October 2014 LAN-185 2015 Murano

TCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731008

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

	TCM harness connector			
Connector No.	Termi	Resistance (Ω)		
F25	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 <u>TM-178</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "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

INFOID:0000000011731009

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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.
- Without around view monitor system

ABS actuator	Resistance (Ω)		
Connector No.	Termi	1103/314/100 (22)	
E125	26	14	Approx. 54 – 66

With around view monitor system

ABS actuator	Resistance (Ω)		
Connector No.	Termi	110313(41100 (52)	
E130	19 30		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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "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/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731010

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.

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

Check the power supply and the ground circuit of the power steering control module. Refer to STC-23, "Diagnosis Procedure".

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.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731011

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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 navigation system and without BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		110313141100 (32)
M123	43	23	Approx. 54 – 66

With navigation system and BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (\$2)
M162	43	23	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 <u>AV-166, "AV CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "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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Revision: October 2014 LAN-189 2015 Murano

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:0000000011731012

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.

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

- 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.	Termi	resistance (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).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "Removal and Installation".

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

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:0000000011731013

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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- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. 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.	Termin	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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "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.

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Revision: October 2014 LAN-191 2015 Murano

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731014

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-73, "A/C AUTO AMP. :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "Removal and Installation".

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

PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731015

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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).
- Automatic back door control module
- Harness connector B41
- Harness connector M69

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 automatic back door control module.
- 2. 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.		1\c3\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
B55	1 17		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3.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-171</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 <u>DLK-311, "Removal and</u> Installation".

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

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

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Revision: October 2014 LAN-193 2015 Murano

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A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731017

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.
- 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-40, "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 (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011731019

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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.		ixesistance (12)
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 1 side).

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

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Revision: October 2014 LAN-195 2015 Murano

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:0000000011731020

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 2 side).

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731021

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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)
M23	53	52	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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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: October 2014 LAN-197 2015 Murano

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731022

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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "Removal and Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731023

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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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

- Disconnect the connector of BCM.
- 2. 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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "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: October 2014 LAN-199 2015 Murano

INFOID:0000000011731025

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

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

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 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

- Connect the connector of CAN gateway.
- 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)
B182	9	10	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to <u>DAS-84, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-85, "Removal and Installation".

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

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731026

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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

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 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

- 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.	Terminal No.		resistance (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.

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-71, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-132, "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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AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731027

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).
- 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.

А	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
M192	2	18	Existed
M182	5	6	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 around view monitor control unit.
- Check the resistance between the around view monitor control unit harness connector terminals.

Around v	Around view monitor control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M96	26	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the around view monitor control unit branch line.

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-271</u>, <u>"AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-274, "Removal and Installation"</u>.

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731030

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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).
- Side radar RH
- Harness connector B142
- Harness connector B464
- 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
M182	2	18	Existed
	5	6	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			Resistance (Ω)
Connector No.	Terminal No.		i Nesistance (12)
B466	6 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar RH branch line.

f 4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the side radar RH. Refer to <u>DAS-170, "SIDE RADAR RH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-188, "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)]

INFOID:0000000011731031

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Side radar LH
- Harness connector B463
- Harness connector B92
- 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
M192	2	18	Existed
M182	5	6	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 (\(\frac{1}{2}\)
B465	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-170, "SIDE RADAR LH :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-188, "Removal and Installation".

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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011731036

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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.
- 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 lini	Data link connector		Continuity
Connector No.	Terminal No.	Ground	Continuity
M22	13		Not existed
IVIZZ	12		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.

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

Check the resistance between the BCM terminals.

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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

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 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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011731037

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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.
- 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	Giouna	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 CAN GATEWAY TERMINATION CIRCUIT

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

CAN g	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.

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

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.

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 4)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011731038

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and 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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- 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.

CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the ADAS control unit harness connector.

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

A	ADAS control unit harness connector			
Connector No.	Termin	Continuity		
M182	2	18	Existed	
M182	5	6	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.
- Around view monitor control unit
- Side radar RH
- Side radar LH
- ICC sensor
- Check the continuity between the ADAS control unit harness connector terminals.

A	Continuity	
Connector No.	Termi	Continuity
M182	2	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	
M182	2	Giodila	Not existed	
	5		Not existed	

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ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 4)]

Is the inspection result normal?

YES >> GO TO 6.

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

6. CHECK TERMINATION CIRCUIT

- 1. Remove the ADAS control unit.
- Check the resistance between the ADAS control unit terminals.

ADAS co	Resistance (Ω)		
Terminal No.			
2	5	Approx 109 122	
18	6	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.

- 1. 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 and ICC sensor 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.

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 5)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011731041

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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.
- Without around view monitor system

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	26	Existed	
E119	28		14	Existed	

With around view monitor system

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E110	29	E130	19	Existed
E119	28	£130	30	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: October 2014 LAN-211 2015 Murano

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731042

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.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	26	E152	12G	Existed	
E125	14	L 102	11G	Existed	

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E130	19	E152	12G	Existed	
E130	30	L 132	11G	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 A/C auto amp harness connector.

Harness	onnector A/C auto amp. harness connector		Continuity		
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M31	12G	M50	1	Existed	
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731044

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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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M50	1	M84	22	Existed
WISO	21	10104	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.check harness continuity (open circuit)

Check the continuity between the harness connector terminals.

	Harness connector				
Connector No.	Termin	Continuity			
B101	22	29	Existed		
	21	28	Existed		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector B101.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

Without around view monitor

Harness	Harness connector Data link connector		Continuity		
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M84	29	M22	6	Existed	
IVIO 4	28	IVIZZ	14	Existed	

· With around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity

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MAIN LINE BETWEEN HVAC AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

M84	29	M22	13	Existed
IVIO+	28	IVIZZ	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 A/C auto amp. and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011731046

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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 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.

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

Data link	Data link connector Harness connector		Continuity		
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M22	6	M40	88A	Existed	
IVIZZ	14	10140	87A	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)

Check the continuity between the harness connector terminals.

	Harness connector				
Connector No.	Terminal No.		Continuity		
B69	88A	86A	Existed		
D09	87A	85A	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 drive seat control

NO >> Repair the main line between the harness connector B69 and the drive seat control unit. LAN

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MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011731047

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 M84
- Harness connector B101

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.
- Around view monitor control unit
- Harness connectors M84 and B101
- Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
M96	26	M84	8	Existed	
MISO	24	IVIO4	7	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the around view monitor control unit and the harness connector M84.

3. Check harness continuity (open circuit)

- 1. Disconnect the harness connectors B464 and B142.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B101	8	B142	7	Existed	
БЮТ	7	D142	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 side radar RH.

NO >> Repair the main line between the harness connector B101 and B142.

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

INFOID:0000000011731048

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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 B140
- Harness connector B49

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 B464 and B142
- Harness connectors B140 and B49
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B142	7	B140	6	Existed
D142	6	140	7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B142 and B140.

3.check harness continuity (open circuit)

- Disconnect the harness connectors B92 and B463.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
B49	6	B92	7	Existed
D49	7	D92	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 RH and the side radar LH.

NO >> Repair the main line between the harness connector B49 and B92.

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MAIN LINE BETWEEN RDR-L AND LASER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

MAIN LINE BETWEEN RDR-L AND LASER CIRCUIT

Diagnosis Procedure

INFOID:0000000011731050

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 B40
- Harness connector E34
- Harness connector E5
- Harness connector E207

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.
- Harness connectors B92 and B463
- Harness connectors B40 and E34
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity	
B92	7	B40	13	Existed	
D92	6	B40	14	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B92 and B40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- Disconnect the harness connector E5 and E207.
- Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
E34	E34 13 E5	18	Existed	
E3 4	14	ES	17	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector E34 and E5.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Terminal No.		Continuity
E207	18	21	Existed
E207	17	20	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 ICC sensor.

NO >> Repair the main line between the harness connector E207 and the ICC sensor.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731053

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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 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.

	ECM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
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 EC-188, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-579, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731054

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.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-36, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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:0000000011731055

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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).
- 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.

TCM harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
F25	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 TM-178, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "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:0000000011731056

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		i Nesistance (12)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator	Resistance (Ω)		
Connector No.	Terminal No.		resistance (22)
E130	19	30	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "Removal and Installation".

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

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731057

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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-23, "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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AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731058

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 navigation system and without BOSE audio system

AV control unit harness connector			Resistance (Ω)	
Connector No.	Terminal No.		110013141100 (22)	
M123	43	23	Approx. 54 – 66	

With navigation system and BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Termi	11033841100 (22)	
M162	M162 43 23		

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 <u>AV-166, "AV CONTROL UNIT :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "Removal and Installation".

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

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011731059

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.		110313(41100 (52)
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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "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 5)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011731060

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.	Terminal No.		Continuity
M5	4	6	Existed
IVIO	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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "Removal and Installation".

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

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731061

1. CHECK CONNECTOR

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

- 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 HAC-73, "A/C AUTO AMP. : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "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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LAN-227 Revision: October 2014 2015 Murano

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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731062

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
- Harness connector B41
- Harness connector M69

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 automatic back door control module.
- 2. 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	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3.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-171</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 <u>DLK-311, "Removal and</u> Installation".

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731064

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-40, "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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LAN-229 Revision: October 2014 2015 Murano

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011731066

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 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 5)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011731067

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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 2 side).

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

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M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731068

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)
M23	53	52	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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "Removal and Installation".

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731069

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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

- 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-52, "Wiring Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "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 5)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731070

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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect the connector of BCM.
- 2. 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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "Removal and Installation".

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

ICC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731072

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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).
- ADAS control unit
- CAN gateway

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

ADAS control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
B182	9 10		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to <u>DAS-84, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-85, "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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ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731073

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).
- Driver seat control unit
- Harness connector B200
- Harness connector B54
- CAN gateway

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 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

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

Driver seat control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (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.

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-71, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-132, "Removal and Installation".

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

AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731074

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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).
- 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
M182	2	18	Existed
IVITOZ	5	6	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 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.		1.0313141100 (32)
M96	26 24		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the around view monitor control unit branch line.

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-271</u>, <u>"AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-274, "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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RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

INFOID:0000000011731077

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.

- 2. Disconnect the battery cable from the negative terminal.
- 3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).
- Side radar RH
- Harness connector B142
- Harness connector B464
- 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
M182	2	18	Existed
IVI 102	5	6	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			Resistance (Ω)
Connector No.	Terminal No.		i (22)
B466	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-170, "SIDE RADAR RH :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-188, "Removal and Installation".

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

RDR-L BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731078

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 LH
- Harness connector B463
- Harness connector B92
- 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
M182	2	18	Existed
IVI IOZ	5	6	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})
B465	6 7		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the side radar LH branch line.

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

Check the power supply and the ground circuit of the side radar LH. Refer to <u>DAS-170, "SIDE RADAR LH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-188, "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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LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731081

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).
- ICC sensor
- 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
M182	2	18	Existed
IVI I O Z	5	6	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 ICC sensor.
- Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (22)
E219	2 3		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ICC sensor branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to CCS-126, "ICC SENSOR: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to CCS-148, "Removal and Installation".

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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011731083

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1. CONNECTOR INSPECTION

- 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.	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		Not existed
IVIZZ	12		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.

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	

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.

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

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 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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011731084

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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 2.
- 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.

f 4.CHECK CAN GATEWAY TERMINATION CIRCUIT

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

CAN gateway Terminal No.		Resistance (Ω)	
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.

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

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.

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 5)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011731085

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and 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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- 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.

CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the ADAS control unit harness connector.

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

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
M182	2	18	Existed
	5	6	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.

- Around view monitor control unit
- Side radar RH
- Side radar LH
- ICC sensor
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Termi	Continuity	
M182	2	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.	Connector No. Terminal No.		Continuity	
M182	2	- Ground	Not existed	
	5		Not existed	

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 5)]

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.			
2	5	Approx 109 122	
18	6	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.
- Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor 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.

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:0000000011731088

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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.
- Without around view monitor system

IPDM E/R han	IPDM E/R harness connector		ectric unit (control unit) connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E125	26	Existed	
LII9	28	L 125	14	Existed	

With around view monitor system

IPDM E/R hai	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E110	29	E130	19	Existed
E119	28		30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731089

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.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Connector No. Terminal No.	
E125	26	E152	12G	Existed
E125	14		11G	Existed

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	19	E152	12G	Existed
	30	L 132	11G	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 A/C auto amp harness connector.

Harness connector		A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	12G	M50	1	Existed
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011731090

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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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M50	1	MOA	22	Existed
IVISO	21	M84	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Terminal No.		Continuity
B101	22	29	Existed
БІОТ	21	28	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 A/C auto amp. and the AWD control unit.

NO >> Repair the main line between the harness connector B101 and the AWD control unit.

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MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731092

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 (connector side and harness side).
- Harness connector M84
- Harness connector B101

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 M84 and B101.
- 2. Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Termi	Continuity	
B101	22	29	Existed
БЮТ	21	28	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the AWD control unit and the harness connector B101.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M84	29	M22	6	Existed
WO4	28	IVIZZ	14	Existed

· With around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M84	29	M22	13	Existed
IVIO 4	28	IVIZZ	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 AWD control unit and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731100

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.

	Resistance (Ω)		
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
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>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the ECM. Refer to EC-579, "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 6)]

INFOID:0000000011731101

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

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.

	Resistance (Ω)		
Connector No.	Termi	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-36, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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 6)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731102

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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).
- 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.

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1\esistance (22)
F25	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 TM-178, "Diagnosis Procedure"

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "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 6)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731103

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		- Resistance (12)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (22)
E130	19 30		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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "Removal and Installation".

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

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731104

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 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.	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 <u>STC-23</u>, "<u>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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HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

INFOID:0000000011731108

HVAC 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 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-73, "A/C AUTO AMP.</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "Removal and Installation".

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731110

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

A	AWD control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B135	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-46</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-58</u>, "Removal and Installation".

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

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

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Revision: October 2014 LAN-257 2015 Murano

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731111

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.
- 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-40, "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 6)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731112

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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.		110313141100 (22)
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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M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

INFOID:0000000011731115

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.	Terminal No.		Resistance (Ω)
M23	53	52	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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "Removal and Installation".

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

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731116

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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-52, "Wiring Diagram"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "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 6)]

INFOID:0000000011731117

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect the connector of BCM.
- 2. 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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "Removal and Installation".

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

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011731129

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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			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	13		Not existed
IVIZZ	12		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.

ECM		Resistance (Ω)
Terminal No.		incoloratioe (52)
124 123		Approx. 108 – 132

Check the resistance between the BCM terminals.

B	CM	Posistance (O)
Terminal No.		Resistance (Ω)
60 59		Approx. 108 – 132

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.

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CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 6)]

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 7)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011731135

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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.
- Without around view monitor system

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	26	Existed
L119	28		14	Existed

With around view monitor system

IPDM E/R hai	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E130	19	Existed
E119	28	E 130	30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731136

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.
- Without around view monitor system

	actuator and electric unit (control unit) harness connector Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	26	E152	12G	Existed
E125	14	L 132	11G	Existed

With around view monitor system

	ric unit (control unit) harness nnector		ntrol unit) harness Harness connector	
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	E130 19 E152		12G	Existed
	30	L 132	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	12G	MEO	1	Existed
IVIST	11G	M50	21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011731137

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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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M50	1	M84	22	Existed
IVISO	21	10104	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Termi	Continuity	
B101	22 29		Existed
БЮТ	21	28	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 A/C auto amp. and the AWD control unit. >> Repair the main line between the harness connector B101 and the AWD control unit.

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LAN-267 Revision: October 2014 2015 Murano

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731139

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 M84
- Harness connector B101

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 M84 and B101.
- 2. Check the continuity between the harness connector terminals.

	Harness connector			
Connector No.	Termi	Continuity		
B101	22	Existed		
БЮТ	21	Existed		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the AWD control unit and the harness connector B101.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
WO4	28	IVIZZ	14	Existed

· With around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	13	Existed
IVIO 4	28	IVIZZ	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 AWD control unit and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731147

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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 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.

	ECM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
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 EC-188, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-579, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-269 Revision: October 2014 2015 Murano LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731148

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.

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

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-36, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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:0000000011731149

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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.

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		i Nesisiance (12)
F25	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 TM-178, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "Removal and Installation".

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

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

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LAN-271 Revision: October 2014 2015 Murano LAN

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731150

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (12)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E130	19	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "Removal and Installation".

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

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731151

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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.	Termi	i Nesisiance (12)	
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-23</u>, "<u>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: October 2014 LAN-273 2015 Murano

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AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731152

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 navigation system and without BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		Tresistance (22)
M123	43 23		Approx. 54 – 66

With navigation system and BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M162	43	23	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 <u>AV-166, "AV CONTROL UNIT :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "Removal and Installation".

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

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731155

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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-73, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "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: October 2014 LAN-275 2015 Murano

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731157

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

- A	AWD control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B135	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-46</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-58</u>, "Removal and Installation".

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731158

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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-40, "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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Revision: October 2014 LAN-277 2015 Murano

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

DLC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731159

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.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731162

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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)
M23	53 52		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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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: October 2014 LAN-279 2015 Murano

STRG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731163

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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "Removal and Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 7)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731164

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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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

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

BCM harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "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: October 2014 LAN-281 2015 Murano

INFOID:0000000011731176

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			Continuity
Connector No.	Termin	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	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 ECM AND BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.

ECM		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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >	[CAN SYSTEM (TYPE 7)]
Inspection result	
Reproduced>>GO TO 6.	
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnodetected.	osis procedure when past error is
6.CHECK UNIT REPRODUCTION	
Perform the reproduction test as per the following procedure for each unit.	
1. 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 sym	ptoms 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	e 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 8)]

DTC/CIRCUIT DIAGNOSIS

MAIN LINE BETWEEN IPDM-E AND ABS CIRCUIT

Diagnosis Procedure

INFOID:0000000011731182

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.
- Without around view monitor system

IPDM E/R har	ness connector	ABS actuator and electric unit (control unit) harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E110	29	E125	26	Existed	
EII9	E119 28		14	Existed	

With around view monitor system

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	E130	19	Existed
LII9	28		30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731183

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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 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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E125	26	E152	12G	Existed	
E125	14	L 102	11G	Existed	

With around view monitor system

	unit (control unit) harness nector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E130	19	E152	12G	Existed	
	30	L 132	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	12G	M50	1	Existed
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

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Revision: October 2014 LAN-285 2015 Murano

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011731184

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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M50	1	M84	22	Existed
IVISO	21		21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Terminal No.		Continuity
B101	22	29	Existed
	21	28	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 A/C auto amp. and the AWD control unit.

NO >> Repair the main line between the harness connector B101 and the AWD control unit.

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731186

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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 M84
- Harness connector B101

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 M84 and B101.
- 2. Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Terminal No.		Continuity
B101	22	29	Existed
DIVI	21	28	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the AWD control unit and the harness connector B101.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.	Terminal No.	Continuity
M84	29	M22	6	Existed
IVIO 4	28		14	Existed

· With around view monitor

Harness connector		Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	13	Existed
1004	28		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 AWD control unit and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

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Revision: October 2014 LAN-287 2015 Murano

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731194

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

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

ECM harness connector			Resistance (Ω)
Connector No.	Terminal No.		
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>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the ECM. Refer to EC-579, "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 8)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731195

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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.		1\esistance (\(\frac{1}{2}\)
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 PCS-36, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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 8)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731196

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

	TCM harness connector		
Connector No.	Terminal No.		Resistance (Ω)
F25	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 <u>TM-178</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "Removal and Installation".

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

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731197

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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 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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Resistance (12)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (\$2)
E130	19	30	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "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/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731198

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.

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.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the power steering control module. Refer to STC-23, "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.

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731199

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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 navigation system and without BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M123	43	23	Approx. 54 – 66

With navigation system and BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		resistance (\$2)
M162	43 23		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 <u>AV-166, "AV CONTROL UNIT :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179, "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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Revision: October 2014 LAN-293 2015 Murano

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731202

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.

${f 3}$.check power supply and ground circuit

Check the power supply and the ground circuit of the A/C auto amp. Refer to <u>HAC-73, "A/C AUTO AMP.</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "Removal and Installation".

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

PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731203

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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).
- Automatic back door control module
- Harness connector B41
- Harness connector M69

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 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.	Termi	1\c3\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
B55	1 17		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3. 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-171</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 <u>DLK-311, "Removal and</u> Installation".

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

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

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Revision: October 2014 LAN-295 2015 Murano

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4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731204

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

AWD control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		i Nesistance (22)
B135	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-46</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-58</u>, "Removal and Installation".

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

A-BAG BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731205

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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-40, "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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Revision: October 2014 LAN-297 2015 Murano

DLC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

INFOID:0000000011731206

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.	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.

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731209

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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)
M23	53 52		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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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 8)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731210

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	Resistance (Ω)		
Connector No.	Termi	inconstance (22)	
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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "Removal and Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 8)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731211

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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

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

BCM harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "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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< DTC/CIRCUIT DIAGNOSIS > CAN COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011731223

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	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 ECM AND BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.

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

3. Check the resistance between the BCM terminals.

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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

CAN COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > [CAN SYSTEM (TYPE)	PE 8)]
Inspection result	
Reproduced>>GO TO 6.	A
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past e detected.	rror is
6.CHECK UNIT REPRODUCTION	Е
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. 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 "Syr (Results from interview with customer)" are reproduced.	nptom
NOTE: Although unit-related error symptoms occur, do not confuse them with other symptoms.	I
Inspection result	
Reproduced>>Connect the connector. Check other units as per the above procedure. Non-reproduced>>Replace the unit whose connector was disconnected.	I
Non-reproduced>>Neplace 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:0000000011731229

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.
- Without around view monitor system

IPDM E/R harness connector		ABS actuator and electric unit (control uni harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	1	
E119	29	E125	26	Existed	
E119	28	E125	14	Existed	

With around view monitor system

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.		
E119	29	E130	19	Existed	
EII9	28	E130	30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731230

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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 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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	1	
E125	26	E152	12G	Existed	
E125	14	L 102	11G	Existed	

With around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	onnector No. Terminal No.	
E130	19	E152	12G	Existed
E130	30	L 132	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. h	arness connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M31	12G	M50	1	Existed
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

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Revision: October 2014 LAN-305 2015 Murano

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011731231

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 (connector side and harness side).
- Harness connector M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. h	arness connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M50	1	M84	22	Existed
IVIOU	21	10104	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Termi	Continuity	
B101	22	Existed	
	21	28	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 A/C auto amp. and the AWD control unit.

NO >> Repair the main line between the harness connector B101 and the AWD control unit.

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731233

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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 M84
- Harness connector B101

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 M84 and B101.
- 2. Check the continuity between the harness connector terminals.

	Harness connector			
Connector No.	Termi	Continuity		
B101	22	Existed		
DIVI	21	28	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the AWD control unit and the harness connector B101.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
M84	29	M22	6	Existed
WO4	28	IVIZZ	14	Existed

· With around view monitor

Harness	connector	Data link connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
M84	29	M22	13	Existed	
IVIO+	28	IVIZZ	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 AWD control unit and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

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Revision: October 2014 LAN-307 2015 Murano

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011731234

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 (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 harness connector.

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No		Continuity
M22	6	M40	88A	Existed
IVIZZ	14	10140	87A	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)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Termi	Continuity	
B69	88A	86A	Existed
D09	87A	85A	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 drive seat control unit.

NO >> Repair the main line between the harness connector B69 and the drive seat control unit.

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011731235

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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 M84
- Harness connector B101

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.
- Around view monitor control unit
- Harness connectors M84 and B101
- 2. Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M96	26	M84	8	Existed
IVISO	24	IVIO4	7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the around view monitor control unit and the harness connector M84.

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

- 1. Disconnect the harness connectors B464 and B142.
- Check the continuity between the harness connectors.

Harness	ness connector Harness connector		Continuity	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B101	8	B142	7	Existed
БПОТ	7	D142	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 side radar RH.

NO >> Repair the main line between the harness connector B101 and B142. LAN

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LAN-309 Revision: October 2014 2015 Murano

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:0000000011731236

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 (connector side and harness side).
- Harness connector B140
- Harness connector B49

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 B464 and B142
- Harness connectors B140 and B49
- 2. Check the continuity between the harness connectors.

Harness	Harness connector		connector	Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
B142	7	B140	6	Existed	
D142	6	B140	7	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B142 and B140.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the harness connectors B92 and B463.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
B49	6	B92	7	Existed	
D49	7	D92	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 RH and the side radar LH.

NO >> Repair the main line between the harness connector B49 and B92.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731241

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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 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.

	Resistance (Ω)	
Connector No.	Termi	1\esistance (\frac{1}{2})
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 EC-188, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-579, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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LAN-311 Revision: October 2014 2015 Murano LAN

IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731242

1. CHECK CONNECTOR

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect the connector of IPDM E/R.
- 2. Check the resistance between the IPDM E/R harness connector terminals.

	IPDM E/R harness connector		
Connector No.	Terminal No.		Resistance (Ω)
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-36, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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:0000000011731243

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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.

TCM harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (esistance (sz)
F25	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 TM-178, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "Removal and Installation".

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

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

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LAN-313 Revision: October 2014 2015 Murano LAN

ABS BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731244

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		- inconstance (12)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Termi	resistance (22)	
E130	19	30	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "Removal and Installation".

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

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731245

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 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-23</u>, "<u>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: October 2014 LAN-315 2015 Murano

AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731246

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 navigation system and without BOSE audio system

AV control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		ixesistance (52)
M123	43	23	Approx. 54 – 66

With navigation system and BOSE audio system

	AV control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
M162	43	23	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 <u>AV-166, "AV CONTROL UNIT :</u> Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179. "Removal and Installation".

YES (Past error)>>Error was detected in the AV control unit 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:0000000011731247

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.		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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "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: October 2014 LAN-317 2015 Murano

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:0000000011731248

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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "Removal and Installation".

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

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731249

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 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-73, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "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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PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731250

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).
- Automatic back door control module
- Harness connector B41
- Harness connector M69

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 automatic back door control module.
- 2. 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	1	17	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3.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-171</u>, <u>"AUTOMATIC BACK DOOR CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to <u>DLK-311</u>, "Removal and Installation".

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731251

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

A	AWD control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B135	8	16	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to <u>DLN-46</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-58</u>, "Removal and Installation".

YES (Past error)>>Error was detected in the AWD control unit 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 9)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731252

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.
- 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-40, "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 (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011731254

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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.

	Resistance (Ω)		
Connector No.	Terminal No.		(\$2)
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 1 side).

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

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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:0000000011731255

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.

	Resistance (Ω)		
Connector No.	Terminal No.		resistance (\$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 (CAN communication circuit 2 side).

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731256

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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.	Termi	Resistance (Ω)	
M23	53	52	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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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 9)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731257

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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "Removal and Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731258

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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

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

	BCM harness connector		
Connector No.	Termi	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 <u>BCS-75, "Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES (Present error)>>Replace the BCM. Refer to BCS-82, "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 9)]

ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731260

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

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 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

- Connect the connector of CAN gateway.
- 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.	Termi	Resistance (Ω)	
B182	9	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to <u>DAS-84, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-85, "Removal and Installation".

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

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731261

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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

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 CAN gateway.

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

Drive	Posistanas (O)	
Connector No.	Termiı	Resistance (Ω)
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.

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

Check the power supply and the ground circuit of the driver seat control unit. Refer to <u>ADP-71, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-132, "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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AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731262

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).
- 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.

А	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
M182	2	18	Existed
IVI I O Z	5	6	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 around view monitor control unit.
- Check the resistance between the around view monitor control unit harness connector terminals.

Around v	Around view monitor control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
M96	26	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the around view monitor control unit branch line.

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-271</u>, <u>"AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-274, "Removal and Installation"</u>.

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731265

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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
- Harness connector B142
- Harness connector B464
- 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.	Termi	Continuity	
M192	2	18	Existed
M182	5	6	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.
- Disconnect the connector of side radar RH.
- 3. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Termi	110313(81100 (52)	
B466	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-170, "SIDE RADAR RH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-188, "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 9)]

INFOID:0000000011731266

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

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 B463
- Harness connector B92
- 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	
M182	2	18	Existed
IVI I OZ	5	6	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 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 (\(\frac{1}{2}\)
B465	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-170, "SIDE RADAR LH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-188, "Removal and Installation".

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

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011731271

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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.	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	Giouna	Not existed
IVIZZ	12		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.

ECM Terminal No.		Resistance (Ω)	

3. Check the resistance between the BCM terminals.

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

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

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 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.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.

Non-reproduced>>Replace the unit whose connector was disconnected.

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011731272

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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	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 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.

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

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.

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 9)]

ITS COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000011731273

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and 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.

CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the ADAS control unit harness connector.

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

A	ADAS control unit harness connector		
Connector No.	Terminal No.		Continuity
M182	2	18	Existed
IVI TOZ	5	6	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.
- Around view monitor control unit
- Side radar RH
- Side radar LH
- ICC sensor
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
M182	2	5	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
M182	2		Not existed
IVI 102	5		Not existed

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 9)]

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.			
2	5	Approx 109 122	
18	6	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.

- 1. Turn the ignition switch OFF.
- Disconnect the battery cable from the negative terminal.
- Disconnect one of the unit connectors of ITS communication circuit.

NOTE:

ADAS control unit and ICC sensor 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.

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 10)]

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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.
- Without around view monitor system

IPDM E/R han	IPDIVLE/R narness connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
E119	29	E125	26	Existed
LII9	28	L 125	14	Existed

With around view monitor system

IPDM E/R har	ness connector		ectric unit (control unit) connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E119	29	E130	19	Existed
E119	28	E 130	30	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 HVAC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN ABS AND HVAC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731277

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.
- 2. Check the continuity between the ABS actuator and electric unit (control unit) harness connector and the harness connector.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector		Harness connector		Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E125	26	E152	12G	Existed
L125	14	L 102	11G	Existed

With around view monitor system

	unit (control unit) harness nector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		
E130	19	E152	12G	Existed
	30	L 132	11G	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 A/C auto amp harness connector.

Harness	connector	A/C auto amp. h	arness connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M31	12G	M50	1	Existed
IVIST	11G		21	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 A/C auto amp.

NO >> Repair the main line between the harness connector M31 and the A/C auto amp.

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN HVAC AND 4WD CIRCUIT

Diagnosis Procedure

INFOID:0000000011731278

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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 M84
- Harness connector B101

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.
- A/C auto amp.
- Harness connectors M84 and B101
- 2. Check the continuity between the A/C auto amp. harness connector and the harness connector.

A/C auto amp. h	arness connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M50	1	M84	22	Existed
IVIOU	21	10104	21	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the A/C auto amp. and the harness connector M84.

3.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Terminal No.		Continuity
B101	22 29		Existed
БЮТ	21	28	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 A/C auto amp. and the AWD control unit.

NO >> Repair the main line between the harness connector B101 and the AWD control unit.

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Revision: October 2014 LAN-341 2015 Murano

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN 4WD AND DLC CIRCUIT

Diagnosis Procedure

INFOID:0000000011731280

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 M84
- Harness connector B101

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 M84 and B101.
- 2. Check the continuity between the harness connector terminals.

	Harness connector			
Connector No.	Termi	Continuity		
B101	22	29	Existed	
БЮТ	21 28		Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the AWD control unit and the harness connector B101.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

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

· Without around view monitor

Harness	connector	Data link connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	6	Existed
WIO 4	28	IVIZZ	14	Existed

With around view monitor

Harness	connector	Data link	connector	Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M84	29	M22	13	Existed
IVIO 4	28	IVIZZ	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 AWD control unit and the data link connector.

NO >> Repair the main line between the harness connector M84 and the data link connector.

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN DLC AND ADP CIRCUIT

Diagnosis Procedure

INFOID:0000000011731281

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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 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 harness connector.

Data link	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
M22	6	M40	88A	Existed
IVIZZ	14	10140	87A	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)

Check the continuity between the harness connector terminals.

	Harness connector		
Connector No.	Terminal No.		Continuity
B69	88A 86A		Existed
D09	87A	85A	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 drive seat control unit.

NO >> Repair the main line between the harness connector B69 and the drive seat control unit.

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Revision: October 2014 LAN-343 2015 Murano

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN AVM AND RDR-R CIRCUIT

Diagnosis Procedure

INFOID:0000000011731282

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 (connector side and harness side).
- Harness connector M84
- Harness connector B101

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.
- Around view monitor control unit
- Harness connectors M84 and B101
- Check the continuity between the around view monitor control unit harness connector and the harness connector.

Around view monitor control unit harness connector		Harness connector		Continuity	
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity	
M96	26	M84	8	Existed	
Med	24	IVIO4	7	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the around view monitor control unit and the harness connector M84.

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

- 1. Disconnect the harness connectors B464 and B142.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
B101	8	B142	7	Existed
БЮТ	7	D142	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 side radar RH.

NO >> Repair the main line between the harness connector B101 and B142.

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

MAIN LINE BETWEEN RDR-R AND RDR-L CIRCUIT

Diagnosis Procedure

INFOID:0000000011731283

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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 B140
- Harness connector B49

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 B464 and B142
- Harness connectors B140 and B49
- 2. Check the continuity between the harness connectors.

Harness	Harness connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B142	7	B140	6	Existed
D142	6	D140	7	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B142 and B140.

3.check harness continuity (open circuit)

- Disconnect the harness connectors B92 and B463.
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
B49	6	DOO	7	Existed
D49	7	- B92	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 RH and the side radar LH.

NO >> Repair the main line between the harness connector B49 and B92.

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Revision: October 2014 LAN-345 2015 Murano

MAIN LINE BETWEEN RDR-L AND LASER CIRCUIT

[CAN SYSTEM (TYPE 10)]

< DTC/CIRCUIT DIAGNOSIS >

MAIN LINE BETWEEN RDR-L AND LASER CIRCUIT

Diagnosis Procedure

INFOID:0000000011731285

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 B40
- Harness connector E34
- Harness connector E5
- Harness connector E207

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 B92 and B463
- Harness connectors B40 and E34
- 2. Check the continuity between the harness connectors.

Harness	connector	Harness	connector	Continuity
Connector No.	Terminal No.	Connector No. Terminal No.		Continuity
B92	7	B40	13	Existed
D92	6	D40	14	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the main line between the harness connector B92 and B40.

3. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

- 1. Disconnect the harness connector E5 and E207.
- 2. Check the continuity between the harness connectors.

Harness	Harness connector		Harness connector	
Connector No.	Terminal No.	Connector No.	Terminal No.	Continuity
E34	13	E5	18	Existed
E3 4	14	E3	17	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the main line between the harness connector E34 and E5.

4. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

Check the continuity between the harness connector terminals.

	Continuity		
Connector No.	Termi	Continuity	
E207	18 21		Existed
E207	17	20	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 ICC sensor.

NO >> Repair the main line between the harness connector E207 and the ICC sensor.

ECM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ECM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731288

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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 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.

	Resistance (Ω)		
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
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 EC-188, "Diagnosis Procedure". Is the inspection result normal?

YES (Present error)>>Replace the ECM. Refer to EC-579, "Removal and Installation".

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

>> Repair the power supply and the ground circuit.

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IPDM-E BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

IPDM-E BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731289

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.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the IPDM E/R. Refer to <u>PCS-36, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the IPDM E/R. Refer to PCS-37, "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 10)]

TCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731290

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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).
- 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.

	Resistance (Ω)	
Connector No.	Termi	i Nesisiance (12)
F25	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 TM-178, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCM. Refer to TM-198, "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 10)]

ABS BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731291

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.
- Without around view monitor system

ABS actuator and electric unit (control unit) harness connector			Resistance (Ω)
Connector No.	Terminal No.		Tresistance (\$2)
E125	26 14		Approx. 54 – 66

With around view monitor system

ABS actuator	Resistance (Ω)	
Connector No.	Termi	resistance (22)
E130	19	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-77, "Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ABS actuator and electric unit (control unit). Refer to BRC-142, "Removal and Installation".

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

EPS/DAST 3 BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

EPS/DAST 3 BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731292

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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-23, "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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AV BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731293

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 navigation system and without BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M123	43 23		Approx. 54 – 66

With navigation system and BOSE audio system

	AV control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
M162	43 23		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 <u>AV-166, "AV CONTROL UNIT :</u> <u>Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the AV control unit. Refer to AV-179. "Removal and Installation".

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

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011731294

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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.

Check the resistance between the CAN gateway harness connector terminals.

CAN gateway harness connector			Resistance (Ω)
Connector No.	Terminal No.		1 (CSIStarice (S2)
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).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the CAN gateway. Refer to <u>LAN-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "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 10)]

CGW BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011731295

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)

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 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-121</u>, "<u>Diagnosis Procedure</u>".

Is the inspection result normal?

YES (Present error)>>Replace the CAN gateway. Refer to LAN-122, "Removal and Installation".

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

HVAC BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

HVAC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731296

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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.		1\esistance (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-73, "A/C AUTO AMP. : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the A/C auto amp. Refer to HAC-95, "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: October 2014 LAN-355 2015 Murano

PWBD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

PWBD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731297

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).
- Automatic back door control module
- Harness connector B41
- Harness connector M69

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 automatic back door control module.
- 2. 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	1 17		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the automatic back door control module branch line.

3.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-171</u>, <u>"AUTOMATIC BACK DOOR CONTROL UNIT : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the automatic back door control module. Refer to <u>DLK-311, "Removal and</u> Installation".

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

4WD BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

4WD BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731298

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

A	AWD control unit harness connector		
Connector No.	Terminal No.		Resistance (Ω)
B135	8 16		Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> Repair the AWD control unit branch line.

3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the AWD control unit. Refer to DLN-46, "Diagnosis Proce-

Is the inspection result normal?

YES (Present error)>>Replace the AWD control unit. Refer to <u>DLN-58</u>, "Removal and Installation".

YES (Past error)>>Error was detected in the AWD control unit 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 10)]

A-BAG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731299

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.
- 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-40, "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 (CAN COMMUNICATION CIRCUIT 1)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 1)

Diagnosis Procedure

INFOID:0000000011731301

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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 1 side).

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

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DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

DLC BRANCH LINE CIRCUIT (CAN COMMUNICATION CIRCUIT 2)

Diagnosis Procedure

INFOID:0000000011731302

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 (CAN communication circuit 2 side).

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

M&A BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

M&A BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731303

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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.

Combination meter harness connector			Resistance (Ω)
Connector No.	Termi	1 (esistance (sz)	
M23	53	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-59, "COMBINATION METER: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the combination meter. Refer to MWI-78, "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 10)]

STRG BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731304

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-52</u>, "Wiring Diagram".

Is the inspection result normal?

YES (Present error)>>Replace the steering angle sensor. Refer to BRC-145, "Removal and Installation".

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

BCM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

BCM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731305

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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 BCM for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2.check harness for open circuit

- 1. Disconnect the connector of BCM.
- 2. Check the resistance between the BCM harness connector terminals.

BCM harness connector			Resistance (Ω)
Connector No.	Termi	1\esistance (\(\frac{1}{2}\)	
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 <u>BCS-75, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES (Present error)>>Replace the BCM. Refer to BCS-82, "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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ICC BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731307

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).
- ADAS control unit
- CAN gateway

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 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

- Connect the connector of CAN gateway.
- 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.	Termi	Resistance (Ω)	
B182	9	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ADAS control unit branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ADAS control unit. Refer to <u>DAS-84, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the ADAS control unit. Refer to DAS-85, "Removal and Installation".

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

ADP BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

ADP BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731308

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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

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 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

- 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	ixesistance (52)	
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.

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-71, "DRIVER SEAT CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the driver seat control unit. Refer to ADP-132, "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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AVM BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731309

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).
- 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.

А	ADAS control unit harness connector		
Connector No.	Termi	Continuity	
M182	2	18	Existed
IVI I O Z	5	6	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 around view monitor control unit.
- Check the resistance between the around view monitor control unit harness connector terminals.

Around v	Around view monitor control unit harness connector		
Connector No.	Termi	Resistance (Ω)	
M96	26	Approx. 54 – 66	

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the around view monitor control unit branch line.

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-271</u>, <u>"AROUND VIEW MONITOR CONTROL UNIT: Diagnosis Procedure"</u>.

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to <u>AV-274, "Removal and Installation"</u>.

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

RDR-R BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

RDR-R BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731312

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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).
- Side radar RH
- Harness connector B142
- Harness connector B464
- 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.	Termi	Continuity	
M182	2	18	Existed
IVITOZ	5	6	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.
- Disconnect the connector of side radar RH.
- 3. Check the resistance between the side radar RH harness connector terminals.

Side radar RH harness connector			Resistance (Ω)
Connector No.	Termi	110313(81100 (52)	
B466	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-170, "SIDE RADAR RH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar RH. Refer to DAS-188, "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 10)]

RDR-L BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731313

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 B463
- Harness connector B92
- 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	
M182	2	18	Existed
IVI I OZ	5	6	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.		resistance (52)
B465	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-170, "SIDE RADAR LH</u>: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the side radar LH. Refer to DAS-188, "Removal and Installation".

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

LASER BRANCH LINE CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

LASER BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000011731316

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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).
- ICC sensor
- 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			Continuity
Connector No.	Terminal No.		Continuity
M182	2	18	Existed
	5	6	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 ICC sensor.
- Check the resistance between the ICC sensor harness connector terminals.

ICC sensor harness connector			Resistance (Ω)
Connector No.	Terminal No.		
E219	2 3		Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> Repair the ICC sensor branch line.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the ICC sensor. Refer to CCS-126, "ICC SENSOR: Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the ICC sensor. Refer to CCS-148, "Removal and Installation".

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

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

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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CAN COMMUNICATION CIRCUIT 1

Diagnosis Procedure

INFOID:0000000011731318

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		
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.	Ground	Continuity
M22	13		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 ECM AND BCM TERMINATION CIRCUIT

- Remove the ECM and the BCM.
- Check the resistance between the ECM terminals.

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	

Is the measurement value within the specification?

YES >> GO TO 5.

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

CHECK SYMPTOM

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

< DTC/CIRCUIT DIAGNOSIS >	[CAN SYSTEM (TYPE 10)]
Inspection result	
Reproduced>>GO TO 6. Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis detected.	nosis procedure when past error is
6.CHECK UNIT REPRODUCTION	
Perform the reproduction test as per the following procedure for each unit	t.
 Turn the ignition switch OFF. Disconnect the battery cable from the negative terminal. 	
 Disconnect the battery cable from the negative terminal. Disconnect one of the unit connectors of CAN communication circuit NOTE: 	1.
 ECM and BCM have a termination circuit. Check other units first. 4. Connect the battery cable to the negative terminal. Check if the sy (Results from interview with customer)" are reproduced. NOTE: 	mptoms described in the "Symptom
Although unit-related error symptoms occur, do not confuse them with	h other symptoms.
Inspection result	
Reproduced>>Connect the connector. Check other units as per the abor Non-reproduced>>Replace the unit whose connector was disconnected	
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< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

CAN COMMUNICATION CIRCUIT 2

Diagnosis Procedure

INFOID:0000000011731319

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		
Connector No.	Terminal No.		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		Ground	Continuity
Connector No.	Terminal No.		Continuity
M22	6		Not existed
IVIZZ	14		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.
- 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.

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

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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

Diagnosis Procedure

INFOID:0000000011731320

1. CHECK CAN DIAGNOSIS

Check the CAN diagnosis results from CONSULT to see that the CAN communication circuit 1 and 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.
- 2. Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
M182	2	18	Existed
	5	6	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.
- Around view monitor control unit
- Side radar RH
- Side radar LH
- ICC sensor
- Check the continuity between the ADAS control unit harness connector terminals.

ADAS control unit harness connector			Continuity
Connector No.	Terminal No.		Continuity
M182	2	5	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.		Continuity
M182	2		Not existed
	5		Not existed

ITS COMMUNICATION CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[CAN SYSTEM (TYPE 10)]

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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		Decistance (O)	
Terminal No.		Resistance (Ω)	
2	5	Approx 109 122	
18	6	– 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 and ICC sensor 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.

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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