# SECTION DAS DRIVER ASSISTANCE SYSTEM

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# CONTENTS

### BSW

PRECAUTION4
PRECAUTIONS       4         Precaution for Supplemental Restraint System       (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"         SIONER"       4         Precautions for Removing Battery Terminal       4         Precaution for BSW System Service       4
SYSTEM DESCRIPTION6
COMPONENT PARTS6Component Parts Location6BSW Control Module7Side Radar LH/RH7BSW Indicator LH/RH8BSW Switch8Combination Meter8ABS Actuator and Electric Unit (Control Unit)8BCM8TCM8ECM8
SYSTEM9System Description9Circuit Diagram13Fail-safe (BSW Control Module)13Fail-safe (Side Radar)14
OPERATION
HANDLING PRECAUTION       17         Precautions for Blind Spot Warning       17
DIAGNOSIS SYSTEM (BSW CONTROL

MODULE)		18
CONSULT	Function (BSW)	

DIAGNOSIS SYSTEM (SIDE RADAR LH)20 CONSULT Function (SIDE RADAR LEFT)20	F
DIAGNOSIS SYSTEM (SIDE RADAR RH)21 CONSULT Function (SIDE RADAR RIGHT)21	G
ECU DIAGNOSIS INFORMATION22	
BSW CONTROL MODULE22Reference Value	Η
SIDE RADAR LH25	J
Reference Value25Fail-safe26DTC Inspection Priority Chart26DTC Index26	K
SIDE RADAR RH27	
Reference Value27Fail-safe28DTC Inspection Priority Chart28DTC Index28	L
WIRING DIAGRAM29	
BLIND SPOT WARNING	Ν
BASIC INSPECTION	DAS
DIAGNOSIS AND REPAIR WORK FLOW	
PRE-INSPECTION FOR DIAGNOSIS40 Inspection Procedure40	Ρ
ACTION TEST41	
Description41 Work Procedure41	

DTC/CIRCUIT DIAGNOSIS	43
C1A00 CONTROL UNIT	
DTC Logic Diagnosis Procedure	43 43
•	-0
C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2	44
DTC Logic	
Diagnosis Procedure	
C1A03 VEHICLE SPEED SENSOR	15
DTC Logic	
Diagnosis Procedure	
-	
C1B50 SIDE RADAR MALFUNCTION DTC LOGIC	
Diagnosis Procedure	
C C	
C1B51 BSW/BSI INDICATOR SHORT CIR- CUIT	47
DTC Logic	
Diagnosis Procedure	
C1B52 BSW/BSI INDICATOR OPEN CIR- CUIT	10
DTC Logic	
Diagnosis Procedure	
C1B53 SIDE RADAR RIGHT MALFUNCTION	EO
DTC Logic	
Diagnosis Procedure	
C1B54 SIDE RADAR LEFT MALFUNCTION	51
DTC Logic	
Diagnosis Procedure	
C1B55 RADAR BLOCKAGE	52
DTC Logic	
Diagnosis Procedure	
U1000 CAN COMM CIRCUIT	E2
SIDE RADAR LH	
SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic	
SIDE RADAR LH : Diagnosis Procedure	
-	
SIDE RADAR RHSIDE RADAR RH : Description	
SIDE RADAR RH : DTC Logic	
SIDE RADAR RH : Diagnosis Procedure	
BSW CONTROL MODULE	54
BSW CONTROL MODULE : Description	54
BSW CONTROL MODULE : DTC Logic	
BSW CONTROL MODULE : Diagnosis Procedure	
	54
U1010 CONTROL UNIT (CAN)	56
SIDE RADAR LH	56

SIDE RADAR LH : Description	56
SIDE RADAR LH : DTC Logic5 SIDE RADAR LH : Diagnosis Procedure	56 56
Ŭ	
SIDE RADAR RH	
SIDE RADAR RH : Description	56
SIDE RADAR RH : DTC Logic	56
SIDE RADAR RH : Diagnosis Procedure5	56
BSW CONTROL MODULE5	56
BSW CONTROL MODULE : Description5	
BSW CONTROL MODULE : DTC Logic5	57
BSW CONTROL MODULE : Diagnosis Procedure	
5	57
U0104 ADAS CAN 1 5	58
DTC Logic5	
Diagnosis Procedure5	
U0121 VDC CAN 2	50
DTC Logic	
Diagnosis Procedure	
-	
U0401 ECM CAN 1 6	
DTC Logic6	30
Diagnosis Procedure6	30
U0402 TCM CAN 16	51
DTC Logic6	51
Diagnosis Procedure6	51
U0405 ADAS CAN 2	
U0405 ADAS CAN 26	62
DTC Logic6	<b>52</b> 52
DTC Logic6 Diagnosis Procedure6	<b>52</b> 52 52
DTC Logic6 Diagnosis Procedure6 U0415 VDC CAN 16	52 52 52 53
DTC Logic	52 52 52 53
DTC Logic6 Diagnosis Procedure	52 52 52 53 53 53
DTC Logic	52 52 53 53 53 53
DTC Logic	52 52 52 53 53 53 53 54
DTC Logic	52 52 52 53 53 53 53 54
DTC Logic	52 52 53 53 53 53 53 54 54
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         DTC Logic       6         U150B ECM CAN 3       6         DTC Logic       6	<b>52</b> 52 53 53 53 53 53 54 54 55
DTC Logic	<b>52</b> 52 53 53 53 53 54 54 55 55
DTC Logic	<b>52</b> 52 53 <b>53</b> 53 53 54 54 55 55 55
DTC Logic	<b>52</b> 52 53 53 53 53 54 54 55 55 55 55 56 66
DTC Logic	<b>52</b> 52 53 53 53 53 54 55 55 56 66
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6 <td< td=""><td><b>52</b> 532 533 533 54 54 55 55 56 66 66 66 66 66 66 66</td></td<>	<b>52</b> 532 533 533 54 54 55 55 56 66 66 66 66 66 66 66
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         U150D TCM CAN 3       6         DTC Logic       6	<b>52</b> 532 533 533 54 555 56 66 66 57
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         DTSOE BCM CAN 3       6         DTC Logic       6	<b>52</b> 532 533 533 54 55 55 56 66 66 57 57 57
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         U150D TCM CAN 3       6         DTC Logic       6	<b>52</b> 532 533 533 54 55 55 56 66 66 57 57
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         DTSOE BCM CAN 3       6         DTC Logic       6	<b>52</b> 552 553 553 553 555 566 566 577 577
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150D TCM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150E BCM CAN 3       6         DTC Logic       6         DTC Logic <td><b>52</b> 532 533 54 55 56 56 56 57 57 58 86 86 86 86 86 86 86 86 86 8</td>	<b>52</b> 532 533 54 55 56 56 56 57 57 58 86 86 86 86 86 86 86 86 86 8
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150D TCM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150E BCM CAN 3       6         DTC Logic       6         DTC Logic <td><b>52</b> 532 533 54 55 56 56 56 57 57 58 86 86 86 86 86 86 86 86 86 8</td>	<b>52</b> 532 533 54 55 56 56 56 57 57 58 86 86 86 86 86 86 86 86 86 8
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150D TCM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150E BCM CAN 3       6         DTC Logic       6         DTC Logic <td><b>52</b> 532 533 54 55 56 56 56 57 57 58 88 88 88 88 88 88 88 88 88</td>	<b>52</b> 532 533 54 55 56 56 56 57 57 58 88 88 88 88 88 88 88 88 88
DTC Logic       6         Diagnosis Procedure       6         U0415 VDC CAN 1       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150B ECM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150C VDC CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150D TCM CAN 3       6         DTC Logic       6         Diagnosis Procedure       6         U150E BCM CAN 3       6         DTC Logic       6         DTC Logic <td><b>52</b> 532 533 533 54 555 56 66 66 57 57 58 88 88 59 59 50 50 50 50 50 50 50 50 50 50</td>	<b>52</b> 532 533 533 54 555 56 66 66 57 57 58 88 88 59 59 50 50 50 50 50 50 50 50 50 50

U1505 SIDE RDR R CAN 270 DTC Logic70
Diagnosis Procedure
U1506 SIDE RDR R CAN 171 DTC Logic71 Diagnosis Procedure
U1507 LOST COMM(SIDE RDR R)
U1508 LOST COMM(SIDE RDR L)73 DTC Logic
U1518 SIDE RDR L CAN 3
U1519 SIDE RDR R CAN 3
POWER SUPPLY AND GROUND CIRCUIT76
BSW CONTROL MODULE
SIDE RADAR LH

SIDE RADAR RH	A
BSW SWITCH CIRCUIT	E
BSW ON INDICATOR CIRCUIT	(
SYMPTOM DIAGNOSIS83	[
BSW SYSTEM SYMPTOMS83 Symptom Table83	[
NORMAL OPERATING CONDITION84 Description84	
REMOVAL AND INSTALLATION85	I
BSW CONTROL MODULE85 Removal and Installation85	(
SIDE RADAR	ŀ
BSW INDICATOR	
BSW SWITCH	
	,

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# PRECAUTION PRECAUTIONS

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

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

### WARNING:

Always observe the following items for preventing accidental activation.

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

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

### WARNING:

Always observe the following items for preventing accidental activation.

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

# Precautions for Removing Battery Terminal

 When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
 NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

• For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch. **NOTE:** 

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
 NOTE:

The removal of 12V battery may cause a DTC detection error.

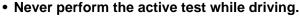
### Precaution for BSW System Service

INFOID:000000011325560

INFOID:000000011325559

### WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test. CAUTION:



BATTERY BEF289H

# PRECAUTIONS

- Never change BSW initial state ON $\Rightarrow$ OFF without the consent of the customer.	
TO KEEP THE BSW SYSTEM OPERATING PROPERLY, BE SURE TO OBSERVE THE FOLLOW-ING ITEMS:	A
System Maintenance The two side radar for the BSW system are located near the rear bumper.	В
<ul> <li>Always keep the area near the side radar clean.</li> <li>Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radar.</li> <li>Do not strike or domage the grap around the side radar.</li> </ul>	С
<ul> <li>Do not strike or damage the area around the side radar.</li> </ul>	
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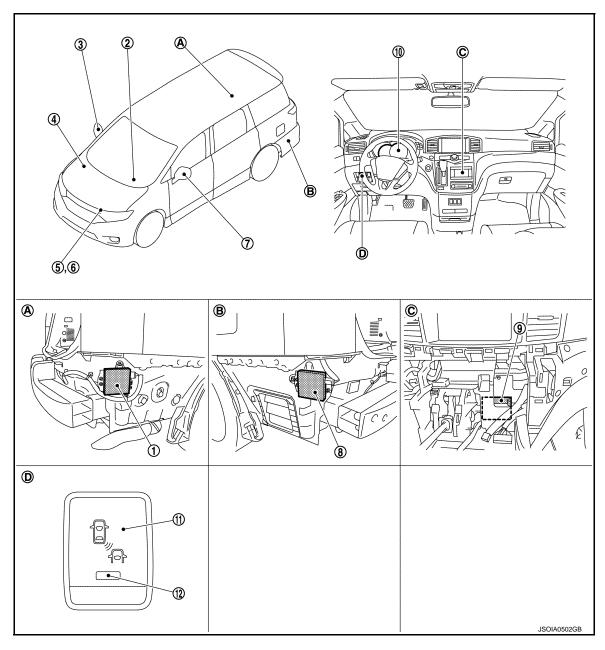
### < SYSTEM DESCRIPTION >

[BSW]

# SYSTEM DESCRIPTION COMPONENT PARTS

**Component Parts Location** 

INFOID:000000011325561



- A. Rear bumper removed condition (RH)
- B. Rear bumper removed condition (LH)
- C. Center of the instrument panel

D. Instrument lower panel (LH)

No.	Component	Function
1	Side radar RH	Refer to DAS-7, "Side Radar LH/RH"
2	BCM	Refer to <u>DAS-8, "BCM"</u> Refer to <u>BCS-4, "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed instal- lation location
3	BSW indicator RH	Refer to DAS-8, "BSW Indicator LH/RH"

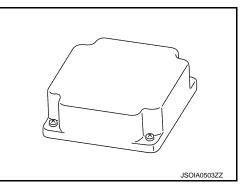
# **COMPONENT PARTS**

### < SYSTEM DESCRIPTION >

No.	Component	Function		
4	ABS actuator and electric unit (control unit)	Refer to DAS-8, "ABS Actuator and Electric Unit (Control Unit)"           Refer to BRC-9, "Component Parts Location" for detailed installation location		
5	ТСМ	Refer to DAS-8, "TCM"           Refer to TM-11, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location		
6	ECM	Refer to <u>DAS-8, "ECM"</u> Refer to <u>EC-16, "ENGINE CONTROL SYSTEM : Component Parts Location"</u> for detailed in- stallation location		
7	BSW indicator LH	Refer to DAS-8, "BSW Indicator LH/RH"		
8	Side radar LH	Refer to DAS-7, "Side Radar LH/RH"		
9	BSW control module	Refer to DAS-7, "BSW Control Module"		
10	Combination meter	Description: Refer to <u>DAS-8. "Combination Meter"</u> System display and warning: <u>DAS-15. "System Display and Warning"</u> Refer to <u>MWI-6. "METER SYSTEM : Component Parts Location"</u> for detailed installation location		
11	BSW switch	<ul> <li>Description: Refer to <u>DAS-8. "BSW Switch"</u></li> <li>System display and warning: <u>DAS-15. "Switch Name and Function"</u></li> </ul>		
12	BSW ON indicator (On the BSW switch)	Refer to DAS-15, "System Display and Warning"		

# **BSW Control Module**

INFOID:000000011325562



[BSW]

- Controls the BSW system, based on received signals.
- Communicates with each control unit via CAN communication.
- Connected with the side radar (LH and RH) via BSW communication, BSW control module receives a vehicle detection signal and transmits a BSW indicator signal and a BSW indicator dimmer signal to the side radar.
- Receives a BSW switch signal from the BSW switch.
- Transmits a buzzer output signal to the combination meter via CAN communication.

# Side Radar LH/RH

INFOID:000000011325563 0 DAS JSOIA0504ZZ

- Installed near the rear bumper, the side radar detects vehicles in the adjacent lane.
- Connected with the BSW control module via BSW communication, the side radar transmits a vehicle detection signal.
- Receives a BSW indicator signal and a BSW indicator dimmer signal from the BSW control module and transmits an indicator operation signal to the BSW indicator LH/RH.

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# **COMPONENT PARTS**

# < SYSTEM DESCRIPTION >

# BSW Indicator LH/RH

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JSOIA0505ZZ

- Installed on the door mirror surface, the BSW indicator warns the driver by lighting/blinking.
- Receives a BSW indicator operation signal from the side radar LH/RH and blinks or turns ON/OFF the BSW indicator lamp.

# **BSW Switch**

- Installed to the instrument lower panel, the BSW switch is used to activate/deactivate the BSW system.
- Transmits a BSW switch signal to the BSW control module.

# **Combination Meter**

INFOID:000000011325566

INFOID:000000011325567

INFOID:000000011325568

INFOID:0000000011325565

- Receives BSW warning lamp signal and buzzer output signal from BSW control module via CAN communication.
- Turns the BSW warning lamp ON/OFF according to the signals from the BSW control module
- Operates the buzzer according to the signal from the BSW control module

# ABS Actuator and Electric Unit (Control Unit)

Transmits vehicle speed signal to BSW control module via CAN communication.

# BCM

- Transmits turn indicator signal to BSW control module via CAN communication.
- Transmits dimmer signal to BSW control module via CAN communication.

# ТСМ

Transmits shift position signal to BSW control module via CAN communication.

ECM

Transmits engine speed signal to BSW control module via CAN communication.

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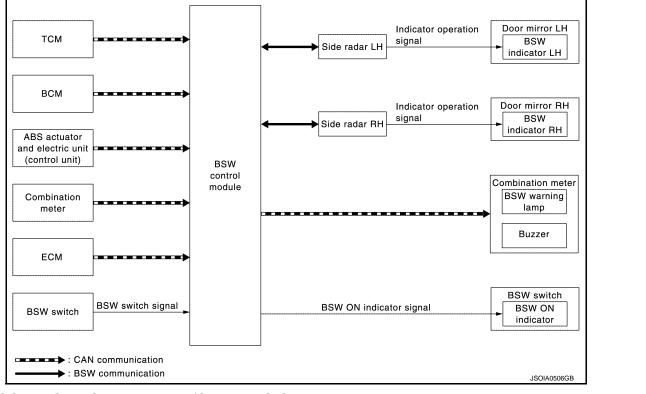
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# < SYSTEM DESCRIPTION >

# SYSTEM

# System Description

# SYSTEM DIAGRAM



# BSW CONTROL MODULE INPUT/OUTPUT SIGNAL ITEM

### Input Signal Item

Transmit unit	Signal name		Description	ŀ
ТСМ	CAN communication	Shift position signal	Receives a selector lever position	
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)	Receives wheel speeds of four wheels	l
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp	N
		Dimmer signal	Receives an ON/OFF state of dimmer signal	
Side radar LH, RH	BSW communication	Vehicle detection signal	Receives vehicle detection condition of detection zone	ľ
ECM	CAN communication	Engine speed signal	Receives an engine speed	
BSW switch	BSW switch signal		Receives an ON/OFF state of the BSW switch	D

### **Output Signal Item**

Reception unit	Signal name		Description
Combination	CAN communication	BSW warning lamp signal	Transmits a BSW warning lamp signal to turn ON the BSW warning lamp
meter		Buzzer output signal	Transmits a buzzer output signal to activate buzzer

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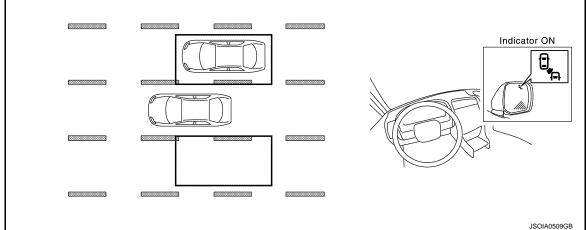
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### < SYSTEM DESCRIPTION >

Reception unit	Signal name		Description
Side radar LH, RH		BSW indicator signal	Transmits a BSW indicator signal to turn ON the BSW indicator
	BSW communication	BSW indicator dimmer signal	Transmits a BSW indicator dimmer signal to dimmer BSW indicator
		Vehicle speed signal	Transmits a vehicle speed calculated by the BSW con- trol module
BSW ON indi- cator	BSW ON indicator signal		Turns ON the BSW ON indicator

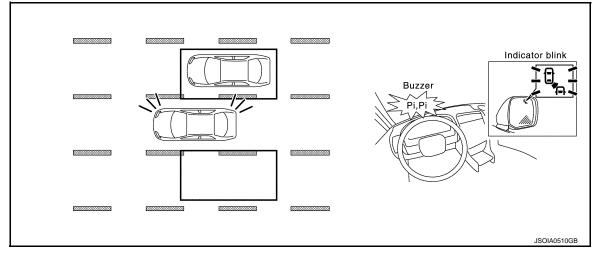
### FUNCTION DESCRIPTION

- The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.
- The BSW system uses side radar installed near the rear bumper to detect vehicles in an adjacent lane.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the outside mirror of vehicle and extends approximately 10 ft (3.0 m) behind the rear bumper, and approximately 10 ft (3.0 m) sideways.
- The BSW system operates above approximately 32 km/h (20 MPH).
- If the side radar detects vehicles in the detection zone, the BSW indicator illuminates.



• If the driver then activates the turn signal, a buzzer will sound twice and the BSW indicator will blink. **NOTE:** 

A buzzer sounds if the side radar have already detected vehicles when the driver activates the turn signal. If a vehicle comes into the detection zone after the driver activates the turn signal, then only the BSW indicator blinks and no buzzer sounds.



# BSW SYSTEM OPERATION DESCRIPTION

• BSW control module enables BSW system.

• The BSW control module turns on the BSW system when the BSW switch is turned ON.

# SYSTEM

### < SYSTEM DESCRIPTION >

- Side radar detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to BSW control
  module via BSW communication.
- BSW control module starts the control as follows, based on a vehicle detection signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
- Buzzer output signal transmission to combination meter via CAN communication.
- BSW indicator signal and BSW indicator dimmer signal transmission to side radar via BSW communication.
- Side radar transmits an indicator operation signal to the BSW indicator according to BSW indicator signal and BSW indicator dimmer signal.

### Operation Condition of BSW System

BSW control module performs the control when the following conditions are satisfied.

- When the BSW switch in turned ON.
- When the vehicle drives at approximately 32 km/h (20 MPH) or more to the forward direction.

### NOTE:

- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 29 km/h (18 MPH)
- The BSW system may not function properly, depending on the situation. Refer to <u>DAS-17, "Precautions for</u> <u>Blind Spot Warning"</u>.

# BULB CHECK ACTION AND FAIL-SAFE INDICATION

Vehicle condition/Driver's operation	BSW indicator	BSW ON indicator	Indication on the combination meter
Ignition switch: OFF $\Rightarrow$ ON	Approx. 2 sec. ON	Approx. 5 sec. ON <sup>*</sup>	OFF → → OFF (Yellow) ON JSOIA0374GB
When DTC is detected	OFF	ON	OFF
When radar blockage is detected	OFF	ON	OFF - (Yellow) Blink JSOIA0255GB

\*: If BSW initial state is ON, BSW ON indicator continues turned ON.

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[BSW]

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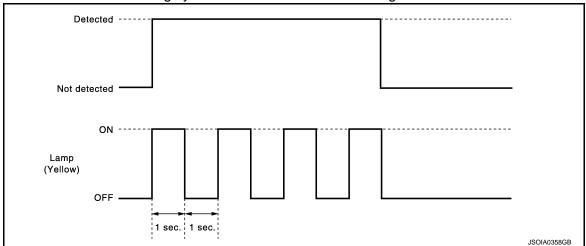
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# SYSTEM

### < SYSTEM DESCRIPTION >

#### Blinking cycle when the side radar blockage condition



### NOTE:

Time shown in the figure is approximate time.

### **BSW INITIAL STATE CHANGE**

### **CAUTION:**

### Never change BSW initial state "ON" $\Rightarrow$ "OFF" without the consent of the customer.

BSW initial state can be changed.

- BSW initial ON\* BSW function is automatically turned ON, when the ignition switch OFF  $\Rightarrow$  ON.
- BSW initial OFF BSW function is still OFF when the ignition switch OFF  $\Rightarrow$  ON.
- \*: Factory setting

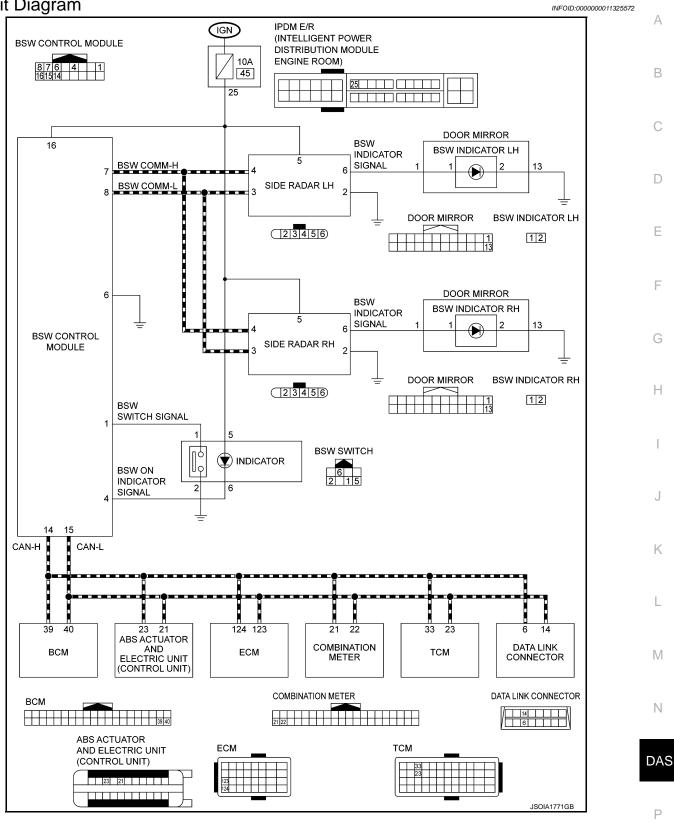
How to change BSW initial state

- 1. Turn ignition switch ON.
- 2. Switch BSW functions to OFF.
- 3. Push and hold BSW switch for more than 4 seconds.
- 4. Buzzer sounds and blinking of the BSW ON indicator informs that the BSW initial state changes completed.

# SYSTEM

# < SYSTEM DESCRIPTION >

# Circuit Diagram



# Fail-safe (BSW Control Module)

INFOID:000000011325573

[BSW]

If a malfunction occurs in the system, BSW control module cancels the control. Then the BSW warning lamp in the combination meter illuminates.

< SYSTEM DESCRIPTION >

### Fail-safe (Side Radar)

INFOID:000000011325574

[BSW]

### FAIL-SAFE CONTROL BY DTC

If a malfunction occurs in the side radar, BSW control module cancels the control. Then the BSW warning lamp in the combination meter illuminates.

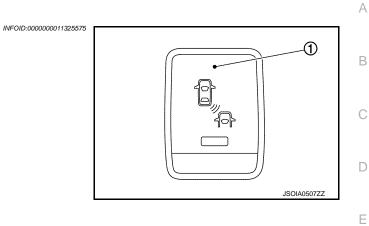
### TEMPORARY DISABLED STATUS AT BLOCKAGE

When the side radar is blocked, the operation is temporarily cancelled. Then BSW warning lamp in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

# < SYSTEM DESCRIPTION >

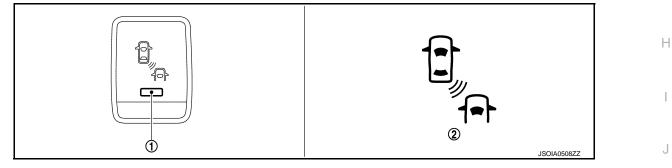
# OPERATION



No.	Name	Function
1	BSW switch	Turns BSW system ON/OFF

# System Display and Warning

### INDICATOR AND WARNING LAMP



No.	Name	Description	
1	BSW ON indicator	Turns ON while BSW system is ON	K
2	BSW warning lamp (In the combination meter)	<ul><li>Turns ON when BSW system is malfunctioning</li><li>Blinks when radar blockage is detected</li></ul>	1

# DISPLAY AND WARNING OPERATION

	Vehicle condition/	Driver's operatio	on	Ac	tion	M
BSW ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of ve- hicle detec- tion within detection area	Indication on the BSW indicator	Buzzer	Ν
OFF	_	—	_	OFF	OFF	DAS

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INFOID:000000011325576

# OPERATION

### < SYSTEM DESCRIPTION >

	Vehicle condition/	Driver's operatio	n	Action		
BSW ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of ve- hicle detec- tion within detection area	Indication on the BSW indicator	Buzzer	
	Less than ap- prox. 29 (18)	_	_	OFF	OFF	
			Vehicle is absent	OFF	OFF	
ON	Approx. 32 (20) or more	OFF	Vehicle is detected	ON	OFF	
		ON (Vehicle de-	Before turn signal oper- ates Vehicle is detected	Blink 200 ms Indicator ON Indicator OFF 200 ms JSOIA0251GB	Short continuous beep 60 ms 60 ms 60 ms 0N Buzzer OFF 570 ms JSOIA0452GB	
			tected direc- tion)	Vehicle is detected af- ter turn sig- nal operates	Blink 200 ms Indicator ON Indicator OFF 200 ms JSOIA0251GB	OFF

### NOTE:

- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.

#### 

HANDLING PRECAUTION	А
Precautions for Blind Spot Warning	A
<ul> <li>SIDE RADAR HANDLING</li> <li>Side radar for BSW system is located inside the rear bumper.</li> <li>Always keep the rear bumper peer the side radar cleap.</li> </ul>	В
<ul> <li>Always keep the rear bumper near the side radar clean.</li> <li>Do not attach a sticker (including transparent material), install an accessory or paintwork near the side radar.</li> <li>Do not strike or damage the areas around the side radar.</li> <li>Do not strike, damage, and scratch the side radar, especially the vent seal (gray circular) area, under repair.</li> </ul>	С
PRECAUTIONS FOR BLIND SPOT WARNING	D
<ul> <li>The BSW system is not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the BSW system.</li> <li>The BSW system may not provide a warning for vehicles that pass through the detection zone quickly.</li> </ul>	Е
<ul> <li>Do not use the BSW system when towing a trailer because the system may not function properly.</li> <li>Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.</li> </ul>	F
<ul> <li>The side radar may not be able to detect and activate BSW when certain objects are present such as:</li> <li>Pedestrians, bicycles, animals.</li> <li>Several types of vehicles such as motorcycles.</li> <li>Oncoming vehicles.</li> </ul>	G
<ul> <li>Vehicles remaining in the detection zone when driver accelerate from a stop.</li> <li>A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.</li> <li>A vehicle approaching rapidly from behind.</li> <li>A vehicle which vehicle overtakes rapidly.</li> </ul>	Н
<ul> <li>Severe weather or road spray conditions may reduce the ability of the side radar to detect other vehicles.</li> <li>The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.</li> </ul>	I
<ul> <li>The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.</li> </ul>	J
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# **DIAGNOSIS SYSTEM (BSW CONTROL MODULE)**

### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (BSW CONTROL MODULE)

# CONSULT Function (BSW)

INFOID:000000011325578

[BSW]

### APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using BSW control module.

Diagnosis mode	Description
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the BSW control module
Data Monitor	Displays BSW control module input/output data in real time
Active Test	Enables an operational check of a load by transmitting a driving signal from the BSW control module to the load
Ecu Identification	Displays BSW control module part number
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and BSW communication

### SELF DIAGNOSTIC RESULT

Refer to DAS-23, "DTC Index".

### DATA MONITOR

### NOTE:

- The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.
- SIGNAL B, SIGNAL C are displayed, but not used.

Monitored item [Unit]	SIGNAL A	BSW MAIN SIGNAL	Description
VHCL SPEED SE [km/h] or [mph]	×	×	Indicates vehicle speed calculated from BSW control module through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication]
BUZZER O/P [On/Off]	×		Indicates [On/Off] status of BSW warning chime output
Shift position [Off, P, R, N, D]		×	Indicates shift position read from BSW control module through CAN communication (TCM trans- mits shift position signal through CAN communication)
Turn signal [OFF/LH/RH/LH&RH]		×	Indicates turn signal operation status read from BSW control module through CAN communica- tion (BCM transmits turn indicator signal through CAN communication)
WARN SYS SW [On/Off]	×	×	Indicates [On/Off] status of BSW switch
BSW/BSI WARN LMP [On/Off]		×	Indicates [On/Off] status of BSW warning lamp output
BSW SYSTEM ON [On/Off]		×	Indicates [On/Off] status of BSW system
		×	Indicates [On/Off] status of BSW system

# ACTIVE TEST

CAUTION:

• Never perform "Active Test" while driving the vehicle.

- The "Active Test" cannot be performed when the BSW warning lamp is illuminated.
- Shift the selector lever to "P" position, and then perform the test.

Test item	Description
ICC BUZZER	Sounds a buzzer used for BSW system by arbitrarily operating ON/OFF
BSW/BSI WARNING LAMP	The BSW warning lamp can be illuminated by ON/OFF operations as necessary

# **DIAGNOSIS SYSTEM (BSW CONTROL MODULE)**

# < SYSTEM DESCRIPTION >

ICC BUZZER

Test item	Operation	Description	BSW warning chime operation sound
ICC BUZZER	MODE1	Transmits the buzzer output signals to the combination meter via CAN communication	Intermittent beep sound
	Test start	Starts the tests of "MODE1"	_
	Reset	Stops transmitting the buzzer output signal below to end the test	—
	End	Returns to the "SELECT TEST ITEM" screen	_

#### **BSW/BSI WARNING LAMP**

Test item	Operation	Description	BSW warning lamp	_
BSW/BSI WARNING	Off	Stops transmitting the BSW warning lamp signal below to end the test	_	E
LAMP	On	Transmits the BSW warning lamp signal to the combina- tion meter via CAN communication	ON	F

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# DIAGNOSIS SYSTEM (SIDE RADAR LH)

# CONSULT Function (SIDE RADAR LEFT)

INFOID:000000011325579

[BSW]

### DESCRIPTION

CONSULT performs the following functions by communicating with the side radar LH.

Select diag mode	Function
Self Diagnostic Result	Displays memorized DTC in the side radar
Data Monitor	Displays real-time data of side radar
Active Test	Enables operation check of electrical loads by sending driving signal to them
Ecu Identification	Displays part number of side radar

### SELF DIAGNOSTIC RESULT

#### Self Diagnostic Result

Displays memorized DTC in side radar LH. Refer to DAS-26, "DTC Index".

FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

Freeze Frame Data item	Description
VHCL SP from ADAS	The vehicle speed (from BSW control module) at the moment a malfunction is detected is dis- played
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

# DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitored item [Unit]	Description
BEAM DISTANCE [—]	NOTE: The item is displayed, but it is not used
BEAM POSITION [—]	NOTE: The item is displayed, but it is not used
SIDE RADAR MALF [On/Off]	Indicates [On/Off] status of side radar malfunction
BLOCKAGE COND [On/Off]	Indicates [On/Off] status of side radar blockage
ACTIVATE OPE [—]	NOTE: The item is displayed, but it is not used
VEHICLE DETECT [On/Off]	Indicates [On/Off] status of vehicle detection

# ACTIVE TEST

### CAUTION:

### Never perform the active test while driving.

• Active test cannot be started while the BSW indicator is illuminated.

Active test item	Operation	Description
BSW/BSI INDICATOR	On	Outputs the voltage to illuminate the BSW indicator
DRIVE	Off	Stops the voltage to illuminate the BSW indicator

# **DIAGNOSIS SYSTEM (SIDE RADAR RH)**

### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (SIDE RADAR RH)

# CONSULT Function (SIDE RADAR RIGHT)

### DESCRIPTION

CONSULT performs the following functions by communicating with the side radar RH.

Select diag mode	Function	С
Self Diagnostic Result	Displays memorized DTC in the side radar	
Data Monitor	Displays real-time data of side radar	
Active Test	Enables operation check of electrical loads by sending driving signal to them	U
Ecu Identification	Displays part number of side radar	

### SELF DIAGNOSTIC RESULT

#### Self Diagnostic Result

Displays memorized DTC in side radar RH. Refer to DAS-28, "DTC Index".

#### FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

Freeze Frame Data item	Description	G
VHCL SP from ADAS	The vehicle speed (from BSW control module) at the moment a malfunction is detected is dis- played	Н
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed	

# DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitored item [Unit]	Description	
BEAM DISTANCE [—]	NOTE: The item is displayed, but it is not used	Κ
BEAM POSITION [—]	NOTE: The item is displayed, but it is not used	L
SIDE RADAR MALF [On/Off]	Indicates [On/Off] status of side radar malfunction	
BLOCKAGE COND [On/Off]	Indicates [On/Off] status of side radar blockage	M
ACTIVATE OPE [—]	NOTE: The item is displayed, but it is not used	N
VEHICLE DETECT [On/Off]	Indicates [On/Off] status of vehicle detection	

#### ACTIVE TEST CAUTION:

Never perform the active test while driving.

Active test cannot be started while the BSW indicator is illuminated.

Active test item	Operation	Description
BSW/BSI INDICATOR	On	Outputs the voltage to illuminate the BSW indicator
DRIVE	Off	Stops the voltage to illuminate the BSW indicator

DAS

[BSW]

INFOID:000000011325580

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# ECU DIAGNOSIS INFORMATION BSW CONTROL MODULE

### **Reference Value**

INFOID:0000000011325581

[BSW]

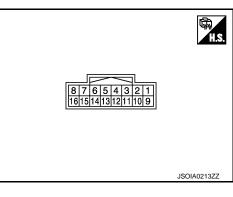
### VALUES ON THE DIAGNOSIS TOOL

### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item		Value/Status	
VHCL SPEED SE	While driving		Displays the ve- hicle speed cal- culated by BSW control module
BUZZER O/P		When the buzzer of the BSW system operates	On
BUZZER U/P	Engine running	When the buzzer of the BSW system not operates	Off
Shift position	Engine running     While driving		Displays the shift position
	Turn signal lamps OFF	Off	
Tuna sina si	Turn signal lamp LH blinking	LH	
Turn signal	Turn signal lamp RH blinking	RH	
	Turn signal lamp LH and RH b	LH&RH	
	Invitien ewitch ON	When BSW switch is pressed	On
WARN SYS SW	Ignition switch ON	When BSW switch is not pressed	Off
BSW/BSI WARN LMP	legitien ewitch ON	BSW warning lamp ON	On
B3W/B3I WARN LIVIP	Ignition switch ON	BSW warning lamp OFF	Off
BSW SYSTEM ON		When the BSW system is ON (BSW ON indicator ON)	On
	Ignition switch ON	When the BSW system is OFF (BSW ON indicator OFF)	Off

# TERMINAL LAYOUT PHYSICAL VALUES



	nal No. color)	Description		Condition		Standard value	Reference value
+	_	Signal name	Input/ Output	Conditio			(Approx.)
1		BSW switch signal	loout	BSW switch	Pressed	0 - 0.1 V	0 V
(R)	6 (B/W)	BSW SWICH Signal	Input	DOW SWICH	Released	9.5 -16 V	12 V
4		BSW ON indicator sig-	Output	BSW ON indicator	Illuminated	0 - 0.1 V	0 V
(P)		nal	Output	BSW ON Indicator	OFF	9.5 - 16 V	12 V

# **BSW CONTROL MODULE**

### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Standard value	Reference value	А	
+	_	Signal name	Input/ Output	Condition	Stanuaru value	(Approx.)		
6 (B)	Ground	Ground	_	Ignition switch ON	0 - 0.1 V	0 V	В	
7 (L)		BSW communication-H	_	_	_	_	С	
8 (Y)		BSW communication-L	_	_	_	_		
14 (L)	6 (B/W)	CAN -H	_	_	_	_	D	
15 (P)		CAN -L		_	_	_	E	
16 (G)		Ignition power supply	Input	Ignition switch ON	9.5 - 16 V	Battery Voltage		

# Fail-safe

INFOID:000000011325582

INFOID:000000011325583

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If a malfunction occurs in the system, BSW control module cancels the control. Then the BSW warning lamp in the combination meter illuminates.

# **DTC Inspection Priority Chart**

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspec-	Н
tion priority chart.	

Priority	Detected items (DTC)	
1	U1508: LOST COMM (SIDE RDR L)	
2	<ul> <li>U1000: CAN COMM CIRCUIT</li> <li>U1010: CONTROL UNIT (CAN)</li> <li>U1507: LOST COMM (SIDE RDR R)</li> </ul>	J
3	C1B53: SIDE RDR R MALF     C1B54: SIDE RDR L MALF	K
4	<ul> <li>C1A01: POWER SUPPLY CIR</li> <li>C1A02: POWER SUPPLY CIR 2</li> <li>U0121: VDC CAN CIR 2</li> <li>U0401: ECM CAN CIR 1</li> <li>U0402: TCM CAN CIR 1</li> <li>U0415: VDC CAN CIR 1</li> <li>U150B: ECM CAN CIRC 3</li> <li>U150C: VDC CAN CIRC 3</li> <li>U150D: TCM CAN CIRC 3</li> <li>U150E: BCM CAN CIRC 3</li> <li>U150E: BCM CAN CIRC 3</li> <li>U150E: BCM CAN CIRC 3</li> <li>U1505: SIDE RDR L CAN CIR 2</li> <li>U1506: SIDE RDR R CAN CIR 2</li> <li>U1506: SIDE RDR R CAN CIR 1</li> <li>U1506: SIDE RDR R CAN CIR 1</li> <li>U1518: SIDE RDR L CAN CIR 3</li> <li>U1519: SIDE RDR R CAN CIRC 3</li> </ul>	L M N DAS
5	C1A03: VHCL SPEED SE CIRC	
6	C1A00: CONTROL UNIT	P

# **DTC** Index

### NOTE:

- The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past

INFOID:000000011325584

# **BSW CONTROL MODULE**

### < ECU DIAGNOSIS INFORMATION >

×: Applicable

- IGN counter is displayed on FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now
- CAN communication system (U1000, U1010)
- 1 39: It increases like  $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 39$  after returning to the normal condition whenever the ignition switch OFF  $\rightarrow$  ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.
- Other than CAN communication system (Other than U1000, U1010)
- 1 49: It increases like 0 → 1 → 2 ··· 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

	DTC		Fail-safe	Reference
C1A00	CONTROL UNIT	ON	×	DAS-43
C1A01	C1A01 POWER SUPPLY CIR		×	<u>DAS-44</u>
C1A02	POWER SUPPLY CIR 2	ON	×	<u>DAS-44</u>
C1A03	VHCL SPEED SE CIRC	ON	×	<u>DAS-45</u>
C1B53	SIDE RDR R MALF	ON	×	<u>DAS-50</u>
C1B54	SIDE RDR L MALF	ON	×	DAS-51
NO DTC IS DETECTED. FURTHER TESTING MAY BE RE- QUIRED	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	_	_	_
U1000	CAN COMM CIRCUIT	ON	×	<u>DAS-54</u>
U1010	CONTROL UNIT (CAN)	ON	×	DAS-57
U0121	VDC CAN CIR 2	ON	×	<u>DAS-59</u>
U0401	ECM CAN CIR 1	ON	×	DAS-60
U0402	TCM CAN CIR 1	ON	×	DAS-61
U0415	VDC CAN CIR 1	ON	×	DAS-63
U150B	ECM CAN CIRC 3	ON	×	DAS-64
U150C	VDC CAN CIRC 3	ON	×	DAS-65
U150D	TCM CAN CIRC 3	ON	×	DAS-66
U150E	BCM CAN CIRC 3	ON	×	DAS-67
U1503	SIDE RDR L CAN CIR 2	ON	×	DAS-68
U1504	SIDE RDR L CAN CIR 1	ON	×	DAS-69
U1505	SIDE RDR R CAN CIR 2	ON	×	DAS-70
U1506	SIDE RDR R CAN CIR 1	ON	×	DAS-71
U1507	LOST COMM (SIDE RDR R)	ON	×	DAS-72
U1508	LOST COMM (SIDE RDR L)	ON	×	DAS-73
U1518	SIDE RDR L CAN CIRC 3	ON	×	<u>DAS-74</u>
U1519	SIDE RDR R CAN CIRC 3	ON	×	DAS-75

< ECU DIAGNOSIS INFORMATION >

# SIDE RADAR LH

# **Reference Value**

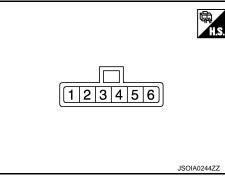
### VALUES ON THE DIAGNOSIS TOOL

### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Condition	Value/Status
BEAM DISTANCE	NOTE: The item is displayed, but it is not used.	_
BEAM POSITION	NOTE: The item is displayed, but it is not used.	_
	Side radar is normal.	Off
SIDE RADAR MALF	Side radar is malfunctioning.	On
	Side radar is not blocked.	Off
BLOCKAGE COND	Side radar is blocked.	On
ACTIVATE OPE	NOTE: The item is displayed, but it is not used.	_
	Side radar does not detect a vehicle.	Off
VEHICLE DETECT	Side radar detects a vehicle.	On

# **TERMINAL LAYOUT**



# PHYSICAL VALUES

	nal No. color)	Description		Condition	Standard value	Reference value	M
+	-	Signal name	Input/ Output	Condition	Standard value	(Approx.)	
2 (B)	Ground	Ground	_	_	0 - 0.1 V	0 V	Ν
3 (Y)		BSW communication-L		_	_	_	DAS
4 (L)	2	BSW communication-H		_		_	
5 (V)	(B)	Ignition power supply	Input	Ignition switch ON	10 - 16 V	Battery voltage	Ρ
6 (W)		BSW indicator	Output	Approx. 2 sec. after ignition switch OFF $\Rightarrow$ ON (bulb check)	5.5 - 16 V	6 V	

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# SIDE RADAR LH

### < ECU DIAGNOSIS INFORMATION >

### Fail-safe

### FAIL-SAFE CONTROL BY DTC

If a malfunction occurs in the side radar, BSW control module cancels the control. Then the BSW warning lamp in the combination meter illuminates.

#### TEMPORARY DISABLED STATUS AT BLOCKAGE

When the side radar is blocked, the operation is temporarily cancelled. Then BSW warning lamp in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

# **DTC Inspection Priority Chart**

INFOID:0000000011325587

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

Priority	Detected items (DTC)	
1	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	
2	U0104: ADAS CAN CIR 1     U0405: ADAS CAN CIR 2	
3	C1B50: SIDE RDR MALFUNCTION	
4	C1B51: BSW/BSI IND SHORT CIR     C1B52: BSW/BSI IND OPEN CIR     C1B55: RADAR BLOCKAGE	

### **DTC** Index

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	Annilantia	
X:	Applicable	

	DTC BSW warning lamp		Fail-safe	Reference page
C1B50	SIDE RDR MALFUNCTION	ON	×	<u>DAS-46</u>
C1B51	BSW/BSI IND SHORT CIR	ON	×	DAS-47
C1B52	BSW/BSI IND OPEN CIR	ON	×	DAS-48
C1B55	RADAR BLOCKAGE	Blink	×	DAS-52
U1000	CAN COMM CIRCUIT	ON	×	DAS-53
U1010	CONTROL UNIT (CAN)	ON	×	DAS-56
U0104	ADAS CAN CIR1	ON	×	<u>DAS-58</u>
U0405	ADAS CAN CIR2	ON	×	DAS-62

< ECU DIAGNOSIS INFORMATION >

# SIDE RADAR RH

# **Reference Value**

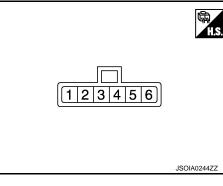
# VALUES ON THE DIAGNOSIS TOOL

### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Condition	Value/Status
BEAM DISTANCE	NOTE: The item is displayed, but it is not used.	_
BEAM POSITION	NOTE: The item is displayed, but it is not used.	_
SIDE RADAR MALF	Side radar is normal.	Off
SIDE RADAR MALF	Side radar is malfunctioning.	On
	Side radar is not blocked.	Off
BLOCKAGE COND	Side radar is blocked.	On
ACTIVATE OPE	NOTE: The item is displayed, but it is not used.	_
	Side radar does not detect a vehicle.	Off
VEHICLE DETECT	Side radar detects a vehicle.	On

# **TERMINAL LAYOUT**



### PHYSICAL VALUES

	nal No. e color)	Description		Condition	Standard value	Reference value	M
+	-	Signal name	Input/ Output	Condition	Standard value	(Approx.)	
2 (B)	Ground	Ground	_	_	0 - 0.1 V	0 V	Ν
3 (Y)		BSW communication-L	_	_	_	_	DAS
4 (L)	2	BSW communication-H		_	_	_	
5 (G)	(B)	Ignition power supply	Input	Ignition switch ON	10 - 16 V	Battery voltage	Ρ
6 (W)		BSW indicator	Output	Approx. 2 sec. after ignition switch OFF $\Rightarrow$ ON (bulb check)	5.5 - 16 V	6 V	

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# SIDE RADAR RH

### < ECU DIAGNOSIS INFORMATION >

### Fail-safe

### FAIL-SAFE CONTROL BY DTC

If a malfunction occurs in the side radar, BSW control module cancels the control. Then the BSW warning lamp in the combination meter illuminates.

#### TEMPORARY DISABLED STATUS AT BLOCKAGE

When the side radar is blocked, the operation is temporarily cancelled. Then BSW warning lamp in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

# **DTC Inspection Priority Chart**

INFOID:000000011325591

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

Priority	Detected items (DTC)		
1	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)		
2	U0104: ADAS CAN CIR 1     U0405: ADAS CAN CIR 2		
3	C1B50: SIDE RDR MALFUNCTION		
4	<ul> <li>C1B51: BSW/BSI IND SHORT CIR</li> <li>C1B52: BSW/BSI IND OPEN CIR</li> <li>C1B55: RADAR BLOCKAGE</li> </ul>		

### **DTC** Index

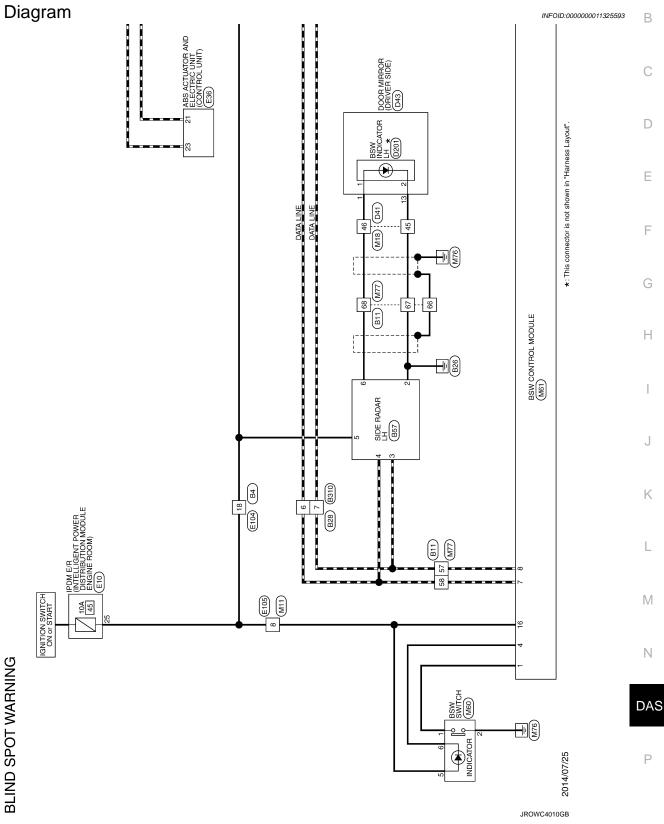
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DTC		DTC BSW warning lamp		Reference page
C1B50	SIDE RDR MALFUNCTION	ON	×	<u>DAS-46</u>
C1B51	BSW/BSI IND SHORT CIR	ON	×	DAS-47
C1B52	BSW/BSI IND OPEN CIR	ON	×	<u>DAS-48</u>
C1B55	RADAR BLOCKAGE	Blink	×	DAS-52
U1000	CAN COMM CIRCUIT	ON	×	<u>DAS-54</u>
U1010	CONTROL UNIT (CAN)	ON	×	DAS-56
U0104	ADAS CAN CIR1	ON	×	DAS-58
U0405	ADAS CAN CIR2	ON	×	DAS-62

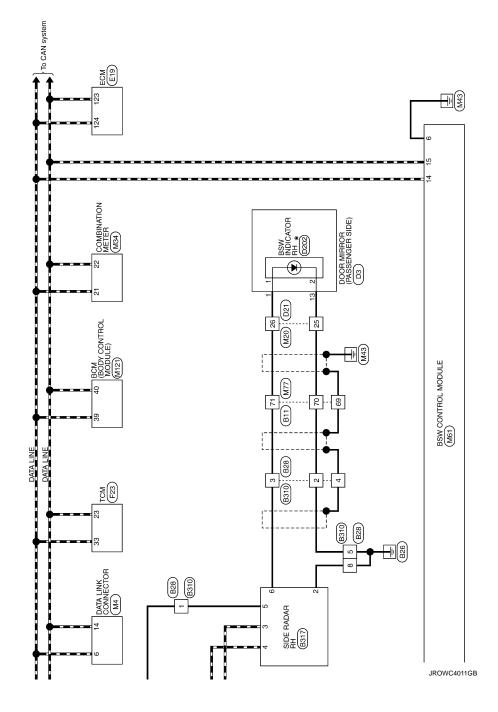
WIRING DIAGRAM **BLIND SPOT WARNING** 

Wiring Diagram



[BSW]

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Revision: 2014 August

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4	8	Ś	Wire	France and a subscription				45	σ	<ul> <li>[Without around view monitor]</li> </ul>
2		-	-	I				45	>	<ul> <li>[With around view monitor]</li> </ul>
9	W BSW INDICATOR	∞	>	-	Termina	Ferminal Color Of	Signal Name [Specification]	46	щ	<ul> <li>[Without around view monitor]</li> </ul>
		6	В	- [With manual A/C]	No.	Wire		46	-	<ul> <li>[With around view monitor]</li> </ul>
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		6	+	T	=	ž	I	55	>	
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- 4		25	╈		15	- 3	- [With BOSF system]	Connector Name	-	DOOR MIRROR (DRIVER SIDE)
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**BLIND SPOT WARNING** 

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7	σ	1	39	^	1	2	Ч	L_RANGE_SW	11 SB	1	
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=	٩	1	43	0	1	2	BR/W	P_RANGE_SW			
12	>	,	45	٩	1	=	W/R	SENSOR GROUND	Connector No. M11		
14	ΓC	1	46	ß	Т	12	>	CVT FLUID TEMPERATURE SENSOR			
15	>	1	47	>	Т	14	3	G SENSOR			
16	M	1	49	_	T	16	W/V	SECONDARY PRESSURE SENSOR	Connector Type TH70FW-CS10-M3	M3	
17	N		51	BR	T	17	9	PRIMARY PRESSURE SENSOR		C	
18	GR	I	52	σ	1	23	٩	CAN-L		ľ	
19	ß	1	53	8	-	24	BR	INPUT SPEED SENSOR	4		
20	>	1	54	0	-	26	L/0	SENSOR POWER	6.1	31 33 33	
			55	Y	-	30	R/Y	LINE PRESSURE SOLENOID VALVE			
			56	SHIELD	-	33	-	CAN-H			
Connector No.		E105	61	٩.	1	34	LG/R	OUTPUT SPEED SENSOR		) 19	
4		HADE TO HADE	62	σ	-	35	g	PRIMARY SPEED SENSOR			
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Connector Type	Ľ	TH70MW-CS10-M3	64	W/R	1	38	V/R	TORQUE CONVERTER CLUTCH SOLENOID VALVE	No. Wire Signal	Name [opecification]	
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Ż		위원 말위: 기지	11	R	1	42	8	GROUND	4 R	I	
			72	-	-	45	ΓC	BATTERY POWER SUPPLY	6 G	1	
			73	GR	-	46	ГG	BATTERY POWER SUPPLY	7 R	-	
		2	74	×	-	47	Y	IGNITION POWER SUPPLY	8 G	-	
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								-	R = [With around view monitor]					GR -		P = [Without automatic drive positioner]	╞	R = [With automatic drive positioner]					GR = [Without automatic drive positioner]	╞				8 -			. M20	Γ	WIRE TO WIRE	TH40MW-CS15		C	[1] ] ] ] ] ] [ ] ] ] ] ] ] ] ] ] ] ] ]		116111161920202232425238 3357333554414245148	/				Color Of Signal Name [Specification]			- [With manual A/C]		GP = [With auto A/C]			-	SB -
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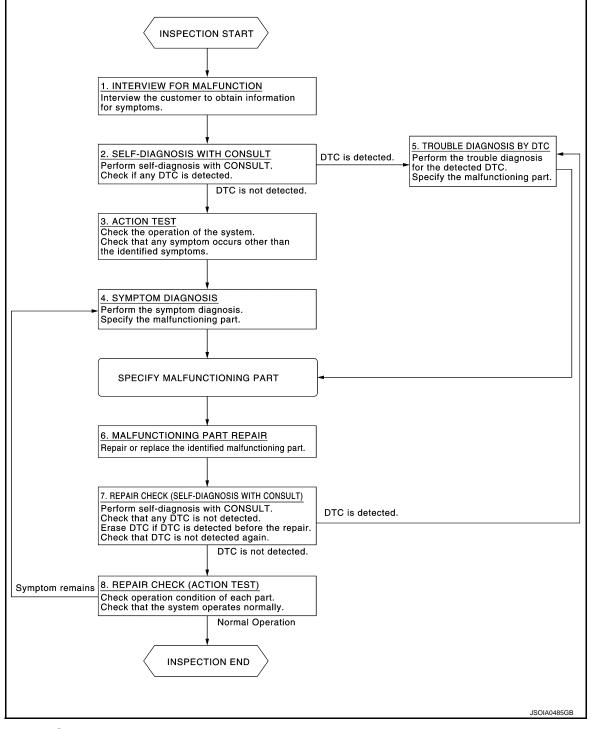
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# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:000000011325594





## DETAILED FLOW

### **1.**INTERVIEW FOR MALFUNCTION

It is also important to clarify the customer concerns before starting the inspection. Interview the customer about the concerns carefully and understand the symptoms fully. **NOTE:** 

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION > [BSW]
The customers are not professionals. Never assume that "maybe the customer means" or "maybe the customer mentioned this symptom".
>> GO TO 2.
2.SELF-DIAGNOSIS WITH CONSULT
<ol> <li>Perform "All DTC Reading" with CONSULT.</li> <li>Check if the DTC is detected on the self-diagnosis results of "SIDE RADAR LEFT/RIGHT" and/or "BSW".</li> <li>Is any DTC detected?</li> </ol>
YES >> GO TO 5.
NO $\rightarrow$ GO TO 3. <b>3.</b> PRE-INSPECTION FOR DIAGNOSIS
Perform pre-inspection for diagnosis. Refer to <u>DAS-40, "Inspection Procedure"</u> .
renom pre-inspection for diagnosis. Refer to <u>DAS-40, Inspection Procedure</u> .
>> GO TO 4.
4.ACTION TEST
Perform BSW system action test to check the operation status. Refer to <u>DAS-41, "Description"</u> . Check if any other malfunctions occur.
>> GO TO 6.
5. TROUBLE DIAGNOSIS BY DTC
<ol> <li>Check the DTC in the self-diagnosis results.</li> <li>Perform trouble diagnosis for the detected DTC. Refer to <u>DAS-26, "DTC Index"</u> (SIDE RADAR LEFT) or <u>DAS-28, "DTC Index"</u> (SIDE RADAR RIGHT) and/or <u>DAS-23, "DTC Index"</u> (BSW).</li> </ol>
<b>NOTE:</b> If "DTC: U1000" is detected, first diagnose the CAN communication system or BSW communication system.
>> GO TO 7.
6.SYMPTOM DIAGNOSIS
Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to <u>DAS-83. "Symptom</u> <u>Table"</u> .
>> GO TO 7.
7.MALFUNCTIONING PART REPAIR
Repair or replace the identified malfunctioning parts.
>> GO TO 8.
8. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)
<ol> <li>Erases self-diagnosis results.</li> <li>Perform "All DTC Reading" again after repairing or replacing the specific items.</li> <li>Check if any DTC is detected in self-diagnosis results of "SIDE RADAR LEFT/RIGHT" and "BSW".</li> </ol>
Is any DTC detected?
YES >> GO TO 5. NO >> GO TO 9.
9.REPAIR CHECK (ACTION TEST)
Perform the BSW system action test. Check that the malfunction symptom is solved or no other symptoms occur.
Is there a malfunction symptom?
YES >> GO TO 4.

Revision: 2014 August

NO >> INSPECTION END

## **PRE-INSPECTION FOR DIAGNOSIS**

< BASIC INSPECTION >

## PRE-INSPECTION FOR DIAGNOSIS

Inspection Procedure

**1.**CHECK REAR BUMPER NEAR THE SIDE RADAR

Are rear bumper near the side radar contaminated with foreign materials?

YES >> Clean the rear bumper.

NO >> GO TO 2.

2. CHECK SIDE RADAR AND THE SIDE RADAR OUTSKIRTS

Are side radar and the side radar outskirts contaminated with foreign materials?

YES >> Clean the side radar or side radar outskirts.

NO >> GO TO 3.

**3.**CHECK SIDE RADAR INSTALLATION CONDITION

Check side radar installation condition (installation position, properly tightened, a bent bracket). <u>Is it properly installed?</u>

YES >> INSPECTION END

NO >> Install side radar properly.

INFOID:0000000011325595

[BSW]

## **ACTION TEST**

## < BASIC INSPECTION >

## **ACTION TEST**

ACTION LECT		Δ
Description	INFOID:000000011325596	7.1
Always perform the BSW system action test to check that the system operates normally a side radar LH/RH, or repairing any BSW system malfunction. <b>WARNING:</b>	fter replacing the	В
Be careful of traffic conditions and safety around the vehicle when performing road te CAUTION:	st.	С
<ul> <li>Fully understand the following items well before the road test;</li> <li>Precautions: Refer to <u>DAS-4, "Precaution for BSW System Service"</u>.</li> <li>System description: Refer to <u>DAS-9, "System Description"</u>.</li> <li>Normal operating condition: Refer to <u>DAS-84, "Description"</u>.</li> </ul>		D
Work Procedure	INFOID:000000011325597	Е
WARNING:		
Be careful of traffic conditions and safety around the vehicle when performing road te CAUTION:	st.	F
<ul> <li>Fully understand the following items well before the road test;</li> <li>Precautions: Refer to <u>DAS-4, "Precaution for BSW System Service"</u>.</li> </ul>		
<ul> <li>System description: Refer to <u>DAS-9, "System Description"</u>.</li> <li>Normal operating condition: Refer to <u>DAS-84, "Description"</u>.</li> </ul>		G

**1.**BSW SYSTEM ACTION TEST

1. Drive the vehicle.

- 2.
- Turn BSW switch ON (BSW ON indicator is ON). Check BSW operation according to the following table. 3.

Vehicle condition/ Driver's operation		Action				
BSW ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of ve- hicle detec- tion within detection area	Indication on the BSW indicator	Buzzer	
OFF	_			OFF	OFF	ŀ
	Less than ap- prox. 29 (18)	_	_	OFF	OFF	l
		—	Vehicle is absent	OFF	OFF	
	Approx. 32 (20) or more ON (Vehicle de- tected direc- tion) Vehi detected direc- tected	OFF	Vehicle is detected	ON	OFF	Ν
ON		(Vehicle de-	Before turn signal oper- ates Vehicle is detected	Blink 200 ms Indicator ON Indicator OFF 200 ms JSOIA0251GB	Short continuous beep 60 ms Buzzer ON Buzzer OFF 570 ms JSOIA0452GB	D
		Vehicle is detected af- ter turn sig- nal operates	Blink 200 ms Indicator ON Indicator OFF 200 ms JSOIA0251GB	OFF	F	

Н

### < BASIC INSPECTION >

### NOTE:

- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.

>> INSPECTION END

## < DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS C1A00 CONTROL UNIT

## DTC Logic

## DTC DETECTION LOGIC

	Trouble diagnosis name	DTC detecting condition	Possible causes
C1A00	CONTROL UNIT	BSW control module internal malfunction	BSW control module
C CONFII	RMATION PROCEDU	JRE	
PERFORM	1 DTC CONFIRMATION	I PROCEDURE	
Check if t	All DTC Reading" with	as the current malfunction in "Self Dia	agnostic Result" of "BSW".
	efer to <u>DAS-43, "Diagn</u> ISPECTION END	osis Procedure".	
agnosis	Procedure		INFOID:000000011325599
CHECK SE	ELF-DIAGNOSIS RESU	ILTS	
-		is detected in "Self Diagnostic Resul	t" of "BSW".
any DTC de			
	erform diagnosis on the AS-23, "DTC Index".	e detected DTC and repair or replace	the malfunctioning parts. Refer to
		I module. Refer to <u>DAS-85, "Removal</u>	and Installation".
IO >> R			

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[BSW]

INFOID:000000011325598

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#### C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2 [BSW] < DTC/CIRCUIT DIAGNOSIS >

## C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

## DTC Logic

INFOID:000000011325600

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
C1A01	POWER SUPPLY CIR	The battery voltage sent to BSW control module remains less than 7.9 V for 5 seconds	Connector, harness, fuse
C1A02	POWER SUPPLY CIR 2	The battery voltage sent to BSW control module remains more than 19.3 V for 5 seconds	BSW control module

### DTC CONFIRMATION PROCEDURE

### 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- Turn the BSW system ON. 2.
- Perform "All DTC Reading" with CONSULT.
   Check if the "C1A01" or "C1A02" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

Is "C1A01" or "C1A02" detected as the current malfunction?

>> Refer to DAS-44, "Diagnosis Procedure". YES

>> Refer to GI-42, "Intermittent Incident". NO

### Diagnosis Procedure

INFOID:000000011325601

## 1.CHECK BSW CONTROL MODULE POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of BSW control module. Refer to DAS-76, "BSW CONTROL MODULE : Diagnosis Procedure".

Is the inspection result normal?

- YES >> Replace the BSW control module. Refer to DAS-85, "Removal and Installation".
- NO >> Repair or replace the malfunctioning parts.

### < DTC/CIRCUIT DIAGNOSIS >

## C1A03 VEHICLE SPEED SENSOR

## DTC Logic

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INFOID:0000000011325602

[BSW]

#### DTC DETECTION LOGIC В Trouble diagnosis DTC DTC detecting condition Possible causes name If the vehicle speed signal (wheel speed) from Wheel speed sensor VHCL SPEED SE ABS actuator and electric unit (control unit) re-· ABS actuator and electric unit (control C1A03 CIRC ceived by the BSW control module via CAN unit) D · BSW control module communication, are inconsistent NOTE: If DTC "C1A03" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to DAS-54, "BSW Е CONTROL MODULE : DTC Logic" DTC CONFIRMATION PROCEDURE **1.**PERFORM DTC CONFIRMATION PROCEDURE F 1. Start the engine. Turn the BSW system ON. 2. 3. Drive the vehicle at 30 km/h (19 MPH) or more. **CAUTION:** Always drive safely. 4. Stop the vehicle. Н 5. Perform "All DTC Reading" with CONSULT. Check if the "C1A03" is detected as the current malfunction in "Self Diagnostic Result" of "BSW". 6 Is "C1A03" detected as the current malfunction? YES >> Refer to DAS-45, "Diagnosis Procedure". >> Refer to GI-42, "Intermittent Incident". NO Diagnosis Procedure INFOID:000000011325603 1.CHECK SELF-DIAGNOSIS RESULTS Κ Check if "U1000" is detected other than "C1A03" in "Self Diagnostic Result" of "BSW". Is "U1000" detected? YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to DAS-54, "BSW CONTROL MODULE : DTC Logic". NO >> GO TO 2. 2.check abs actuator and electric unit (control unit) self-diagnosis results M Check if any DTC is detected in "Self Diagnostic Result" of "ABS". Is any DTC detected? YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to Ν BRC-38, "DTC Index". NO >> Replace the BSW control module. Refer to DAS-85, "Removal and Installation". DAS

## C1B50 SIDE RADAR MALFUNCTION

### < DTC/CIRCUIT DIAGNOSIS >

## C1B50 SIDE RADAR MALFUNCTION

## DTC LOGIC

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
C1B50	SIDE RDR MALFUNC- TION	Side radar malfunction	Side radar

### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

#### 1. Start the engine.

- 2. Perform "All DTC Reading" with CONSULT.
- Check if the "C1B50" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B50" detected as the current malfunction?

- YES >> Refer to <u>DAS-46</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000011325605

**1.**CHECK SELF-DIAGNOSIS RESULT

Check if any DTC other than "C1B50" is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT" Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunction part. Refer to <u>DAS-28, "DTC Index"</u> (SIDE RADAR RIGHT) or <u>DAS-26, "DTC Index"</u> (SIDE RADAR LEFT).
- NO >> Replace the side radar. Refer to <u>DAS-86, "Removal and Installation"</u>.

## C1B51 BSW/BSI INDICATOR SHORT CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

# C1B51 BSW/BSI INDICATOR SHORT CIRCUIT

## DTC Logic

[BSW]

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#### INFOID:0000000011325606

DTC	Trouble diagnosis	name	DTC detecting condition	Possible cause			
C1B51	BSW/BSI IND SHO	RILIRI	Short circuit in BSW indicator circuit is detected. (Over current is detected) • BSW indicator circuit • BSW indicator • Side radar				
тс со	NFIRMATION	PROCED	URE				
.PERF	ORM DTC CON	FIRMATIO	N PROCEDURE				
. Perfo . Cheo RIGH <u>s the "C'</u> YES	HT/LEFT". 1B51" detected a	' is detecte as the curre -47, "Diagr	d as the current malfunction in "Self Diagnos	tic Result" of "SIDE RADA			
-	sis Procedur			INFOID:000000011325			
•				INFOID.000000011325			
.CHEC	CK BSW INDICA	TOR CIRC	UIT FOR SHORT				
	ignition switch C						
. Disco . Cheo	onnect side rada ck continuity bety	r harness o	connector and BSW indicator harness connector and rest connector and ground.	stor.			
. Disco . Cheo	onnect side rada ck continuity betw Side radar	r harness o		tor.			
. Disco . Cheo	Side radar tor Terminal 1) 6	r harness o	adar harness connector and ground.	rtor.			
. Disco . Check Connect B57 (LH B317 (R	Side radar tor Terminal 1) 6	r harness c ween side r Ground	Continuity	rtor.			
. Disco . Check Connect B57 (LH B317 (R Sthe ins YES NO	onnect side rada ck continuity betw Side radar tor Terminal H) 6	r harness of ween side r Ground <u>ormal?</u>	Continuity Not existed	rtor.			
Disco Connect B57 (LH B317 (R Sthe ins YES NO REPL REPL Repl Perfo C Chec	Side radar tor Terminal 1) 6 H) 6 pection result no >> GO TO 2. >> Repair the ha ACE THE SIDE ace the side rada orm "All DTC Reaction of the "C1B51"	r harness of ween side r Ground ormal? arnesses or RADAR ar. ading" with is detected	Continuity Not existed				
. Disco . Check Connect B57 (LF B317 (R B317 (R Sthe ins YES NO . REPL . Repl . Repl . Perfo . Check . Check	Side radar tor Terminal H) 6 pection result no Side radar Terminal ACE THE SIDE ACE THE SIDE ace the side rada orm "All DTC Reacher Side radar C "C1B51" deter	r harness of ween side r Ground ormal? arnesses or RADAR ar. ading" with is detected cted? side radar.	Continuity Not existed CONSULT.				
. Disco . Check Connect B57 (LF B317 (R B317 (R Sthe ins YES NO . REPL . Repl . Repl . Repl . Repl . Check . Check . Check . Check . Check . Connect B57 (LF B317 (R Sthe ins YES	Side radar tor Terminal H) 6 pection result no Solution result	r harness of ween side r Ground ormal? arnesses or RADAR ar. ading" with is detected cted? side radar.	Continuity Not existed Consult. CONSULT. d in "Self Diagnostic Result" of "SIDE RADAR				
. Disco . Check Connect B57 (LF B317 (R B317 (R Sthe ins YES NO . REPL . Repl . Repl . Repl . Repl . Check . Check . Check . Check . Check . Connect B57 (LF B317 (R Sthe ins YES	Side radar tor Terminal H) 6 pection result no Solution result	r harness of ween side r Ground ormal? arnesses or RADAR ar. ading" with is detected cted? side radar.	Continuity Not existed Consult. CONSULT. d in "Self Diagnostic Result" of "SIDE RADAR				

## **C1B52 BSW/BSI INDICATOR OPEN CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

## C1B52 BSW/BSI INDICATOR OPEN CIRCUIT

## **DTC Logic**

INFOID:000000011325608

INFOID:000000011325609

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B52	BSW/BSI IND OPEN CIR	Open circuit in BSW indicator circuit is detected.	<ul><li>BSW indicator circuit</li><li>BSW indicator</li><li>Side radar</li></ul>

### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "C1B52" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

### Is the "C1B52" detected as the current malfunction?

- YES >> Refer to DAS-48, "Diagnosis Procedure".
- NO >> INSPECTION END

## **Diagnosis Procedure**

## 1. CHECK BSW INDICATOR CIRCUIT FOR OPEN 1

- 1. Turn ignition switch OFF.
- 2. Disconnect side radar harness connector and door mirror harness connector.
- 3. Check continuity between side radar harness connector and door mirror harness connector.

_						
	Side radar		Door mirror		Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	
_	B57 (LH)	6	D43 (LH)	1	Existed	
	B317 (RH)	0	D3 (RH)	I	Existed	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

2.CHECK BSW INDICATOR CIRCUIT FOR OPEN 2

1. Disconnect BSW indicator harness connector.

2. Check continuity between door mirror harness connector and BSW indicator harness connector.

Door	Door mirror		ndicator	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D43 (LH)	1	D201 (LH)	1	
D3 (RH)	1	D202 (RH)		Existed
D43 (LH)	40	D201 (LH)	2	Existed
D3 (RH)	13	D202 (RH)	Z	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

**3.**CHECK BSW INDICATOR CIRCUIT FOR OPEN 3

Check continuity between door mirror harness connector and ground.

## **C1B52 BSW/BSI INDICATOR OPEN CIRCUIT**

[BGW]

						[BSW]
Door	mirror					
Connector	Terminal	Ground	Continuit	y		
D43 (LH) D3 (RH)	- 13	Ground	Existed			
	ction result	normal?				
-	GO TO 4.	<u>mormar.</u>				
			or connectors.			
			SE OUTPUT			
		r harness co veen door r	onnector. nirror harness c	onnector and	around	
	enage sen				9.00.00	
Door n	nirror		Condition	Standard	Reference voltage	
Connector	Terminal	Cround	Condition	voltage	(Approx.)	
D43 (LH)	1	Ground	Ignition switch OFF $\Rightarrow$ ON		6 V	
D3 (RH)	1		(Approx. 2 sec.)	5.5 - 16 V	ΟV	
he inspec	ction result	normal?				
	Replace gla					
IO >>	Replace si				المحلجا الجناجية	
	·	ue iauai. R	elei lo <u>DAS-60.</u>	"Removal and	<u>d Installation"</u> .	
	·	ue iauai. N	elel lo <u>DAS-60.</u>	<u>"Removal and</u>	<u>d Installation"</u> .	
		ue iauai. N	elei lo <u>DAS-60.</u>	"Removal and	<u>d Installation"</u> .	
		ue iauai. K	elei to <u>DAS-80.</u>	<u>"Removal an</u>	<u>d Installation"</u> .	
		ue raual. K	elei to <u>DAS-60.</u>	"Removal and	<u>d Installation"</u> .	
		ue laual. K	elei to <u>DAS-80.</u>	"Removal and	<u>d Installation"</u> .	
		ue raual. K	elei to <u>DAS-80.</u>	<u>"Removal an</u>	<u>d Installation"</u> .	
		ue raual. K	elei to <u>DAS-80.</u>	<u>"Removal an</u>	<u>d Installation"</u> .	
		ue raual. K	elei to <u>DAS-80.</u>	"Removal and	<u>d Installation"</u> .	
			elei to <u>DAS-80.</u>	<u>"Removal an</u>	<u>d Installation"</u> .	
			elei to <u>DAS-80.</u>	<u>"Removal an</u>	<u>d Installation"</u> .	
				<u>"Removal an</u>	<u>d Installation"</u> .	
				"Removal and	<u>d Installation"</u> .	
				<u>"Removal an</u>	<u>d Installation"</u> .	

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## C1B53 SIDE RADAR RIGHT MALFUNCTION

### < DTC/CIRCUIT DIAGNOSIS >

## C1B53 SIDE RADAR RIGHT MALFUNCTION

## DTC Logic

INFOID:000000011325610

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B53	SIDE RDR R MALF	BSW control module detects that side radar RH has a malfunction.	Side radar RH

### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "C1B53" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

#### Is "C1B53" detected as the current malfunction?

- YES >> Refer to DAS-50, "Diagnosis Procedure".
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325611

## **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "C1B53" in "Self Diagnostic Result" of "BSW".

### Is "U1000" detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.

NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-28, "DTC Index"</u> (SIDE RADAR RIGHT).
- NO >> Replace the BSW control module. Refer to DAS-85, "Removal and Installation".

## **C1B54 SIDE RADAR LEFT MALFUNCTION**

### < DTC/CIRCUIT DIAGNOSIS >

## **C1B54 SIDE RADAR LEFT MALFUNCTION**

## DTC Logic

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Trouble diagnosis name	DTC detecting condition	Possible cause
SIDE RDR L MALF	BSW control module detects that side radar LH has a malfunction.	Side radar LH
FIRMATION PROCED	URE	
RM DTC CONFIRMATIO	N PROCEDURE	
e BSW system ON.		
	Ū.	ostic Result" of "BSW".
	tent moldont.	
s Procedure		INFOID:000000011325613
SELF-DIAGNOSIS RES	ULTS	
		"DQ\\//"
	Ian CTD34 In Sei Diagnostic Result of	B3W .
	nunication system inspection. Popair or r	palace the malfunctioning parts
		eplace the manufactoring parts.
GO TO 2.		
SELF-DIAGNOSIS RES	ULTS	
v DTC is detected in "Se	f Diagnostic Result" of "SIDE RADAR   E	<b>-T</b> "
•	I Diagnostic Result of SIDE RADAR EL	1.
detected?		
<u>detected?</u> Perform diagnosis on th	ne detected DTC and repair or replace th	e malfunctioning parts. Refer to
	FIRMATION PROCED RM DTC CONFIRMATIO e engine. e BSW system ON. n "All DTC Reading" with if the "C1B54" is detected detected as the current n Refer to <u>DAS-51</u> , " <u>Diagr</u> Refer to <u>GI-42</u> , "Intermit s <b>Procedure</b> SELF-DIAGNOSIS RESI 1000" is detected other the detected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. SELF-DIAGNOSIS RESI	SIDE RDR L MALF       has a malfunction.         FIRMATION PROCEDURE         RM DTC CONFIRMATION PROCEDURE         e engine.         e BSW system ON.         n "All DTC Reading" with CONSULT.         if the "C1B54" is detected as the current malfunction in "Self Diagn         detected as the current malfunction?         • Refer to DAS-51, "Diagnosis Procedure".         • Refer to GI-42, "Intermittent Incident".         s Procedure         SELF-DIAGNOSIS RESULTS         1000" is detected other than "C1B54" in "Self Diagnostic Result" of         detected?         • Perform the CAN communication system inspection. Repair or re         Refer to DAS-54, "BSW CONTROL MODULE : DTC Logic".

NO >> Replace the BSW control module. Refer to DAS-85, "Removal and Installation".

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## C1B55 RADAR BLOCKAGE

### < DTC/CIRCUIT DIAGNOSIS >

## C1B55 RADAR BLOCKAGE

## DTC Logic

[BSW]

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B55	RADAR BLOCKAGE	Side radar is blocked.	Stain or foreign materials is deposited.

#### NOTE:

DTC "C1B55" may be detected under the following conditions except for possible cause. (Explain to the customer about the difference between the contamination detection function and the indication when the malfunction is detected and tell them "This is not malfunction".)

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.
- Due to the nature of radar technology it is possible to get a blockage warning and not actually be blocked.
- This is rare and is known as a false blockage warning. A false blocked condition either self-clears or clears after an ignition cycle.

### Diagnosis Procedure

INFOID:000000011325615

### **1.**CHECK THE REAR BUMPER

Check rear bumper near the side radar contaminated with foreign materials.

### >> GO TO 2.

### 2. CHECK THE SIDE RADAR

Check side radar and the side radar outskirts contaminated with foreign materials.

#### >> GO TO 3.

## **3.**CHECK THE SIDE RADAR INSTALL CONDITION

Check side radar installation condition (installation position, properly tightened, a bent bracket).

#### >> GO TO 4.

## 4.INTERVIEW

- 1. Ask if there is stain or foreign materials.
- 2. Ask if there is any temporary ambient condition such as splashing water, mist or fog.
- 3. Ask if there is any object such as ice, frost or dirt obstructing the side radar.

#### Is any of above conditions seen?

- YES >> Explain to the customer about the difference between the blockage detection function and the indication when the malfunction is detected and tell them "This is not malfunction".
- NO >> INSPECTION END

## **U1000 CAN COMM CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

## U1000 CAN COMM CIRCUIT SIDE RADAR LH

## SIDE RADAR LH : Description

INFOID:0000000011325616

INFOID:000000011325617

INFOID:000000011325618

INFOID:000000011325619

[BSW]

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### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, 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, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only. CAN communication signal chart. Refer to LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

### **BSW COMMUNICATION**

- BSW communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- BSW communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

### SIDE RADAR LH : DTC Logic

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes	Н
U1000	CAN COMM CIRCUIT	If side radar LH is not transmitting or receiving BSW communication signal for 2 seconds or more	BSW communication system	

### SIDE RADAR LH : Diagnosis Procedure

### **1.**PERFORM THE SELF-DIAGNOSIS

- 1. Start the engine.
- 2. Turn the BSW system ON, and then wait for 2 seconds or more.
- 3. Perform "All DTC Reading" with CONSULT.
- Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT".

#### Is "U1000" detected as the current malfunction?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".

#### NO >> Refer to <u>GI-42</u>, "Intermittent Incident".

### SIDE RADAR RH

### SIDE RADAR RH : Description

### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, 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, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only. CAN communication signal chart. Refer to LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

## BSW COMMUNICATION

- BSW communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- BSW communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

## **DAS-53**

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## **U1000 CAN COMM CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

### SIDE RADAR RH : DTC Logic

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1000	CAN COMM CIRCUIT	If Side radar RH is not transmitting or receiving BSW communication signal for 2 seconds or more	BSW communication system

## SIDE RADAR RH : Diagnosis Procedure

**1.**PERFORM THE SELF-DIAGNOSIS

#### 1. Start the engine.

- 2. Turn the BSW system ON, and then wait for 2 seconds or more.
- 3. Perform "All DTC Reading" with CONSULT.
- Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

### Is "U1000" detected as the current malfunction?

- YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
- NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

### BSW CONTROL MODULE

### **BSW CONTROL MODULE : Description**

### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, 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, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to <u>LAN-32</u>, <u>"ĆAN COMMUNICATION SYŚTEM : CAN Communica-</u> tion Signal Chart".

#### **BSW COMMUNICATION**

- BSW communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- BSW communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

## **BSW CONTROL MODULE : DTC Logic**

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1000	CAN COMM CIRCUIT	If BSW control module is not transmitting or re- ceiving CAN communication signal or BSW com- munication signal for 2 seconds or more	<ul><li>CAN communication system</li><li>BSW communication system</li></ul>

### NOTE:

If "U1000" is detected, first diagnose the CAN communication system.

### BSW CONTROL MODULE : Diagnosis Procedure

## **1.**PERFORM THE SELF-DIAGNOSIS

- 1. Turn the ignition switch ON.
- 2. Turn the BSW system ON, and then wait for 2 seconds or more.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

Is "U1000" detected as the current malfunction?

## **DAS-54**

[BSW]

INFOID:000000011325621

INFOID:000000011325622

INFOID:000000011325624

INFOID:000000011325623

U1000 CAN COMM CIRCUI	т
< DTC/CIRCUIT DIAGNOSIS >	[BSW]
YES >> Refer to <u>LAN-17</u> , " <u>Trouble Diagnosis Flow Chart</u> ". NO >> Refer to <u>GI-42</u> , " <u>Intermittent Incident</u> ".	
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## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

## U1010 CONTROL UNIT (CAN) SIDE RADAR LH

## SIDE RADAR LH : Description

CAN controller controls the communication of BSW communication signal and the error detection.

## SIDE RADAR LH : DTC Logic

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
U1010	CONTROL UNIT (CAN)	If side radar LH detects malfunction by CAN controller initial diagnosis.	Side radar LH

## SIDE RADAR LH : Diagnosis Procedure

## 1.CHECK SELF-DIAGNOSIS RESULT

1. Turn the BSW system ON.

- Perform "All DTC Reading" with CONSULT. 2.
- Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR 3 LEFT".

### Is "U1010" detected as the current malfunction?

YES >> Replace the side radar LH. Refer to DAS-86, "Removal and Installation".

#### NO >> INSPECTION END

## SIDE RADAR RH

## SIDE RADAR RH : Description

CAN controller controls the communication of BSW communication signal and the error detection.

## SIDE RADAR RH : DTC Logic

## DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
U1010	CONTROL UNIT (CAN)	If Side radar RH detects malfunction by CAN controller initial diagnosis.	Side radar RH

## SIDE RADAR RH : Diagnosis Procedure

## 1.CHECK SELF-DIAGNOSIS RESULT

- 1. Turn the BSW system ON.
- Perform "All DTC Reading" with CONSULT. 2.
- Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR 3 RIGHT".

Is "U1010" detected as the current malfunction?

- YES >> Replace the side radar RH. Refer to DAS-86, "Removal and Installation".
- NO >> INSPECTION END
- BSW CONTROL MODULE

### **BSW CONTROL MODULE : Description**

CAN controller controls the communication of CAN communication signal and BSW communication signal, and the error detection.

## **DAS-56**

2015 QUEST

INFOID:000000011325625

INFOID:000000011325626

[BSW]

INFOID:000000011325627

INFOID:000000011325628

INFOID:000000011325629

INFOID:000000011325630

INFOID:000000011325631

Revision: 2014 August

# BSW CONTROL MODULE : DTC Logic DTC DETECTION LOGIC

< DTC/CIRCUIT DIAGNOSIS >

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1010	CONTROL UNIT (CAN)	If BSW control module detects malfunction by CAN controller initial diagnosis	BSW control module
SW CON	TROL MODULE :	Diagnosis Procedure	INFOID:0000000113256
PERFORM	DTC CONFIRMATIO	N PROCEDURE	
	3SW system ON.		
	All DTC Reading" with	CONSULT. d as the current malfunction in "Self Dia	apostic Result" of "BSW"
	ected as the current n		
	eplace the BSW contro	ol module. Refer to <u>DAS-85, "Removal</u>	and Installation".
NO >> IN	ISPECTION END		

**DAS-57** 

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INFOID:000000011325632

[BSW]

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## < DTC/CIRCUIT DIAGNOSIS >

## U0104 ADAS CAN 1

## DTC Logic

INFOID:000000011325634

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
U0104	ADAS CAN CIR1	Side radar detected an error of BSW communication signal that was received from BSW control module.	BSW control module

### NOTE:

If DTC "U0104" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-53, "SIDE</u> <u>RADAR LH : DTC Logic"</u> (SIDE RADAR LEFT), <u>DAS-54, "SIDE RADAR RH : DTC Logic"</u> (SIDE RADAR RIGHT).

### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT
- 4. Check if the U0104 is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

### Is the DTC "U0104" detected?

YES >> Refer to <u>DAS-58, "Diagnosis Procedure"</u>.

NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325635

## **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U0104" in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT". Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-53</u>, "<u>SIDE RADAR LH : DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-54</u>, "<u>SIDE RADAR RIGHT</u>).
- NO >> GO TO 2.

**2.**CHECK BSW CONTROL MODULE SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BSW".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-23, "DTC Index"</u>.
- NO >> Replace side radar LH or RH. Refer to DAS-86, "Removal and Installation"

## **U0121 VDC CAN 2**

## < DTC/CIRCUIT DIAGNOSIS >

# U0121 VDC CAN 2

DTC DETECTION LOGIC

## DTC Logic

[BSW]

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INFOID:000000011325636

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0121	VDC CAN CIR2	If BSW control module detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	ABS actuator and electric unit (control unit)
NOTE:			
	1" is detected along wit ODULE : DTC Logic".	h DTC "U1000", first diagnose the DTC	C "U1000". Refer to <u>DAS-54, "BSW</u>
	RMATION PROCED		
4			
I.PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
1. Start the			
	BSW system ON. 'All DTC Reading" with		
		as the current malfunction in "Self Dia	gnostic Result" of "BSW".
<u>Is "U0121" de</u>	tected as the current m	nalfunction?	
	efer to <u>DAS-59, "Diagr</u>		
NO >> R	efer to GI-42, "Intermit	tent Incident".	
Diagnosis	Procedure		INFOID:000000011325637
	ELF-DIAGNOSIS RES	11 TS	
		nan "U0121" in "Self Diagnostic Result"	of "BSW".
<u>Is "U1000" de</u>		Densities and the line of the Density of	
		nunication system inspection. Repair of CONTROL MODULE : DTC Logic".	r replace the mairunctioning parts.
	GO TO 2.	CONTROL MODULE : DTO LOGIO .	
<b>2.</b> CHECK AI	BS ACTUATOR AND E	LECTRIC UNIT (CONTROL UNIT) SE	LF-DIAGNOSIS RESULTS
		f Diagnostic Result" of "ABS".	
Is any DTC de		Elaghoodo Robalt of Abo .	
-		e detected DTC and repair or replace	the malfunctioning parts. Refer to
	RC-38, "DTC Index".		
		n module Refer to DAS-85 "Removal	

NO >> Replace the BSW control module. Refer to DAS-85, "Removal and Installation".

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## **U0401 ECM CAN 1**

## < DTC/CIRCUIT DIAGNOSIS >

## U0401 ECM CAN 1

## DTC Logic

INFOID:0000000011325638

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0401	ECM CAN CIR1	If BSW control module detects an error signal that is received from ECM via CAN communication	ECM

#### NOTE:

If DTC "U0401" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-54, "BSW</u> <u>CONTROL MODULE : DTC Logic"</u>.

### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U0401" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

### Is "U0401" detected as the current malfunction?

- YES >> Refer to <u>DAS-60, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325639

## **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U0401" in "Self Diagnostic Result" of "BSW".

#### Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- NO >> GO TO 2.

### 2. CHECK ECM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>EC-103, "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-85</u>, "Removal and Installation".

## U0402 TCM CAN 1

## < DTC/CIRCUIT DIAGNOSIS >

## U0402 TCM CAN 1

# DTC Logic

[BSW]

### Logic

#### INFOID:0000000011325640

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### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0402	TCM CAN CIRC1	If BSW control module detects an error signal that is received from TCM via CAN communication	тсм
	2" is detected along with DT( <u>IODULE : DTC Logic"</u> .	C "U1000", first diagnose the DTC "U1000".	Refer to <u>DAS-54, "BSW</u>
	RMATION PROCEDURE		
1.PERFORM	M DTC CONFIRMATION PRO	DCEDURE	
3. Perform '	BSW system ON. "All DTC Reading" with CON		
<u>ls "U0402" de</u> YES >> F	the "U0402" is detected as th <u>etected as the current malfun</u> Refer to <u>DAS-61, "Diagnosis F</u> Refer to <u>GI-42, "Intermittent Ir</u>	Procedure".	esult" of "BSW".
Diagnosis	Procedure		INFOID:000000011325641
<b>1.</b> CHECK S	ELF-DIAGNOSIS RESULTS		
		0402" in "Self Diagnostic Result" of "BSW".	
F	Perform the CAN communica	tion system inspection. Repair or replace t TROL MODULE : DTC Logic".	he malfunctioning parts.
2.снеск т	CM SELF-DIAGNOSIS RESU	JLTS	
•	•	nostic Result" of "TRANSMISSION".	
I	Perform diagnosis on the determ of the determination of the determinatio	ected DTC and repair or replace the malfu	
NO >> F	Replace the BSW control mod	dule. Refer to <u>DAS-85, "Removal and Instal</u>	lation".

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## < DTC/CIRCUIT DIAGNOSIS >

## U0405 ADAS CAN 2

## DTC Logic

INFOID:000000011325642

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
U0405	ADAS CAN CIR2	Side radar detected an error of BSW communication sig- nal that was received from BSW control module.	BSW control module

### NOTE:

If DTC "U0405" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-53, "SIDE</u> <u>RADAR LH : DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-53, "SIDE RADAR LH : DTC Logic</u>" (SIDE RADAR RIGHT).

### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the U0405 is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

### Is the DTC "U0405" detected?

YES >> Refer to DAS-62, "Diagnosis Procedure".

NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325643

### **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U0405" in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT". Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-53</u>, "<u>SIDE RADAR LH : DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-54</u>, "<u>SIDE RADAR RIGHT</u>).
- NO >> GO TO 2.

**2.**CHECK BSW CONTROL MODULE SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BSW".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-23, "DTC Index"</u>.
- NO >> Replace side radar LH or RH. Refer to DAS-86, "Removal and Installation".

## U0415 VDC CAN 1

## < DTC/CIRCUIT DIAGNOSIS >

# U0415 VDC CAN 1

## DTC Logic

[BSW]

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INFOID:000000011325644

DTC	DETEC	LOGIC
		LOUIC

	Trouble diagnosis name	DTC detecting condition	Possible causes
U0415	VDC CAN CIR1	If BSW control module detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	ABS actuator and electric unit (control unit)
	15" is detected along wi <u>MODULE : DTC Logic"</u> .	th DTC "U1000", first diagnose the DTC	C "U1000". Refer to <u>DAS-54, "BSW</u>
TC CONF	IRMATION PROCED	URE	
.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
	engine.		
	BSW system ON. "All DTC Reading" with	CONSULT.	
		d as the current malfunction in "Self Dia	ignostic Result" of "BSW".
	<u>etected as the current n</u> Refer to <u>DAS-63, "Diag</u> i		
	Refer to <u>GI-42, "Intermit</u>		
Diagnosis	Procedure		INFOID:000000011325645
.CHECK S	SELF-DIAGNOSIS RES	ULTS	
		ULTS han "U0415" in "Self Diagnostic Result"	of "BSW".
Check if "U1 s "U1000" d	000" is detected other the	han "U0415" in "Self Diagnostic Result"	
Check if "U1 <u>s "U1000" c</u> YES >>	000" is detected other the	han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o	
Check if "U1 <u>s "U1000" c</u> YES >>	000" is detected other the	han "U0415" in "Self Diagnostic Result"	
Check if "U1 <u>s "U1000" d</u> YES >> NO >>	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2.	han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o	r replace the malfunctioning parts.
Check if "U1           s "U1000" c           YES           YES           NO           2.CHECK /           Check if any	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. ABS ACTUATOR AND E DTC is detected in "Se	han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>CONTROL MODULE : DTC Logic</u> ".	r replace the malfunctioning parts.
Check if "U1           s "U1000" d           YES           NO           2.CHECK /           Check if any           s any DTC	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. ABS ACTUATOR AND E DTC is detected in "Se detected?	han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic</u> ". ELECTRIC UNIT (CONTROL UNIT) SE If Diagnostic Result" of "ABS".	r replace the malfunctioning parts. LF-DIAGNOSIS RESULTS
Check if "U1           s "U1000" d           YES           NO           2.CHECK /           Check if any           s any DTC           YES	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. ABS ACTUATOR AND E DTC is detected in "Se detected?	han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>CONTROL MODULE : DTC Logic</u> .	r replace the malfunctioning parts. LF-DIAGNOSIS RESULTS

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## U150B ECM CAN 3

## < DTC/CIRCUIT DIAGNOSIS >

## U150B ECM CAN 3

## DTC Logic

[BSW]

INFOID:000000011325646

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U150B	ECM CAN CIRC 3	BSW control module detects an error signal that is received from ECM via CAN communication	ECM

#### NOTE:

If DTC "U150B" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-54, "BSW</u> <u>CONTROL MODULE : DTC Logic"</u>.

### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U150B" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

### Is "U150B" detected as the current malfunction?

- YES >> Refer to <u>DAS-64, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325647

## **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U150B" in "Self Diagnostic Result" of "BSW".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- NO >> GO TO 2.

**2.**CHECK ECM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>EC-103, "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-85</u>, "Removal and Installation".

## U150C VDC CAN 3

## < DTC/CIRCUIT DIAGNOSIS >

# U150C VDC CAN 3

## DTC Logic

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INFOID:000000011325648

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U150C	VDC CAN CIRC 3	BSW control module detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	ABS actuator and electric unit (control unit)
NOTE:			
	OC" is detected along wi <u>1ODULE : DTC Logic"</u> .	th DTC "U1000", first diagnose the DTC	; "U1000". Refer to <u>DAS-54, "BSW</u>
DTC CONF	IRMATION PROCED	URE	
1.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
1. Start the	engine.		
2. Turn the	BSW system ON.		
	"All DTC Reading" with the "U150C" is detected	CONSULI. d as the current malfunction in "Self Dia	anostic Result" of "BSW".
	etected as the current r		
	Refer to <u>DAS-65, "Diag</u> i		
	Refer to <u>GI-42, "Intermit</u>		
NO >> I			INFOID:000000011325649
NO >> I Diagnosis	Refer to <u>GI-42, "Intermit</u>	ttent Incident".	INFOID:000000011325649
NO >> I Diagnosis 1.снеск s	Refer to <u>GI-42, "Intermit</u> Procedure ELF-DIAGNOSIS RES	ttent Incident".	
NO >> I Diagnosis 1.снеск s	Refer to <u>GI-42, "Intermit</u> Procedure ELF-DIAGNOSIS RES	t <u>tent Incident"</u> . ULTS	
NO >> I Diagnosis 1.CHECK S Check if "U10 Is "U1000" de YES >> I	Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u>	t <u>tent Incident"</u> . ULTS	of "BSW".
NO >> I Diagnosis 1.CHECK S Check if "U10 Is "U1000" du YES >> I YES >> I	Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2.	ttent Incident". ULTS han "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> .	of "BSW".
NO >> I Diagnosis 1.CHECK S Check if "U10 Is "U1000" du YES >> I YES >> I	Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2.	<u>ttent Incident"</u> . ULTS han "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or	of "BSW".
NO         >> I           Diagnosis         1.CHECK S           Check if "U10         1           Is "U1000" de         1           YES         >> I           NO         >> C           2.CHECK if any         2	Refer to <u>GI-42, "Intermit</u> Procedure ELF-DIAGNOSIS RES 000" is detected other th <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se	ttent Incident". ULTS han "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> .	of "BSW".
NO         >> I           Diagnosis         1.CHECK S           Check if "U10         S           Is "U1000" de         S           YES         >> I           NO         >> C           2.CHECK A         Check if any           Is any DTC c         S	Refer to <u>GI-42, "Intermit</u> Procedure ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se letected?	ULTS han "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic</u> . ELECTRIC UNIT (CONTROL UNIT) SEI	of "BSW". replace the malfunctioning parts. _F-DIAGNOSIS RESULTS
NO $>>1$ Diagnosis 1.CHECK S Check if "U10 Is "U1000" du YES $>>1$ NO $>>0$ 2.CHECK A Check if any Is any DTC co YES $>>1$	Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES D00" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se <u>letected?</u> Perform diagnosis on the Perform the Perform diagnosis on the Perform the Perform the Perform the Perform the Perform the Perform the Perform the Performance Perform the Performance Performance Perform the Performance Performance Performance Perform the Performance	ttent Incident". ULTS han "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> .	of "BSW". replace the malfunctioning parts. _F-DIAGNOSIS RESULTS
NO         >> I           Diagnosis         1. CHECK S           Check if "U10         1           Is "U1000" de         1           YES         >> I           NO         >> C           2. CHECK A         1           Check if any         1           Is any DTC c         1           YES         >> I	Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 2000" is detected other the <u>etected?</u> Perform the CAN commodel Refer to <u>DAS-54, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se <u>letected?</u> Perform diagnosis on the <u>BRC-38, "DTC Index"</u> .	ULTS han "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic</u> . ELECTRIC UNIT (CONTROL UNIT) SEI	of "BSW". replace the malfunctioning parts. _F-DIAGNOSIS RESULTS the malfunctioning parts. Refer to

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## U150D TCM CAN 3

## < DTC/CIRCUIT DIAGNOSIS >

## U150D TCM CAN 3

## DTC Logic

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U150D	TCM CAN CIRC 3	BSW control module detects an error signal that is received from TCM via CAN communication	тсм

#### NOTE:

If DTC "U150D" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-54, "BSW</u> <u>CONTROL MODULE : DTC Logic"</u>.

### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U150D" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

#### Is "U150D" detected as the current malfunction?

- YES >> Refer to <u>DAS-66, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:0000000011325651

### **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U150D" in "Self Diagnostic Result" of "BSW".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- NO >> GO TO 2.

2. CHECK TCM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>TM-58, "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-85</u>, "Removal and Installation".

## U150E BCM CAN 3

## < DTC/CIRCUIT DIAGNOSIS >

# U150E BCM CAN 3

# DTC Logic

[BSW]

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#### INFOID:000000011325652

## DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U150E	BCM CAN CIRC 3	BSW control module detects an error signal that is received from BCM via CAN communi- cation	ВСМ
	DE" is detected along wi	th DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-54. "BSW</u>
DTC CONF	IRMATION PROCED	URE	
	M DTC CONFIRMATIO		
1. Start the			
2. Turn the	BSW system ON.		
	"All DTC Reading" with the "L150F" is detected	CONSULT. d as the current malfunction in "Self Dia	anostic Result" of "BSW"
	etected as the current n		
	Refer to <u>DAS-67, "Diagr</u>		
NO >>	Refer to GI-42, "Intermit	tent Incident".	
Diagnosis	Procedure		
Diagnoolo	Tioccure		INFOID:000000011325653
		ULTS	INFOID:000000011325653
<b>1.</b> снеск s	ELF-DIAGNOSIS RES		
<b>1.</b> снеск s	SELF-DIAGNOSIS RES	ULTS nan "U150E" in "Self Diagnostic Result"	
<b>1.</b> CHECK S Check if "U1 Is "U1000" d YES >>	ELF-DIAGNOSIS RES 000" is detected other th etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u>		of "BSW".
<b>1</b> .CHECK S Check if "U1 Is "U1000" d YES >>	ELF-DIAGNOSIS RES 000" is detected other th <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2.	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic</u> ".	of "BSW".
1.CHECK S Check if "U1 Is <u>"U1000" d</u> YES >> NO >> 2.CHECK E	ELF-DIAGNOSIS RES 000" is detected other th <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BCM SELF-DIAGNOSIS	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . RESULTS	of "BSW".
1.CHECK s Check if "U1 Is "U1000" d YES >> NO >> 2.CHECK E Check if any	ELF-DIAGNOSIS RES 000" is detected other th <u>etected?</u> Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BCM SELF-DIAGNOSIS DTC is detected in "Sel	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic</u> ".	of "BSW".
<b>1.</b> CHECK s Check if "U1 Is "U1000" d YES >> NO >> <b>2.</b> CHECK E Check if any Is any DTC o	ELF-DIAGNOSIS RES 000" is detected other th etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BCM SELF-DIAGNOSIS DTC is detected in "Sel detected?	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> . RESULTS If Diagnostic Result" of "BCM".	of "BSW".
1.CHECK S Check if "U1 Is "U1000" d YES >> NO >> 2.CHECK E Check if any Is any DTC o YES >>	ELF-DIAGNOSIS RES 000" is detected other th etected? Perform the CAN comm Refer to <u>DAS-54, "BSW</u> GO TO 2. BCM SELF-DIAGNOSIS DTC is detected in "Sel detected?	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . RESULTS	of "BSW".

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## U1503 SIDE RDR L CAN 2

### < DTC/CIRCUIT DIAGNOSIS >

## U1503 SIDE RDR L CAN 2

## DTC Logic

INFOID:0000000011325654

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1503	SIDE RDR L CAN CIR 2	BSW control module detects an error signal that is received from side radar LH via BSW communication	Side radar LH

#### NOTE:

- If DTC "U1503" is detected along with DTC "U1000", or "U1508", first diagnose the DTC "U1000" or "U1508".
- Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u> for DTC "U1000".
- Refer to DAS-73, "DTC Logic" for DTC "U1508".

### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U1503" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

### Is "U1503" detected as the current malfunction?

- YES >> Refer to <u>DAS-68, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325655

### **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" or "U1508" is detected other than "U1503" in "Self Diagnostic Result" of "BSW".

#### Is "U1000" or "U1508" detected?

- YES-1 >> U1000 detected: Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- YES-2 >> U1508 detected: Refer to DAS-73, "DTC Logic".
- NO >> GO TO 2.

### 2. CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-26. "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-85, "Removal and Installation"</u>.

## U1504 SIDE RDR L CAN 1

### < DTC/CIRCUIT DIAGNOSIS >

## U1504 SIDE RDR L CAN 1

## DTC Logic

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[BSW]

#### INFOID:000000011325656

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1504	SIDE RDR L CAN CIR 1	BSW control module detects an error signal that is received from side radar LH via BSW communication	Side radar LH
Refer to <u>D</u> Refer to <u>D</u>	<u>AS-53, "SIDE RADAR LH :</u> <u>AS-73, "DTC Logic"</u> for DT(		DTC "U1000" or "U1508".
	IRMATION PROCEDUR		
2. Turn the B. Perform	e engine. BSW system ON. "All DTC Reading" with CC		
<u>s "U1504" c</u> YES >>	f the "U1504" is detected as <u>letected as the current malf</u> Refer to <u>DAS-69, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u>	is Procedure".	Result" of "BSW".
-	Procedure	<u>tindent</u> .	INFOID:000000011325657
.CHECK	SELF-DIAGNOSIS RESULT	ſS	
<u>s "U1000" c</u>	or "U1508" detected?	d other than "U1504" in "Self Diagnostic Resu	
		he CAN communication system inspection. F DAS-54, "BSW CONTROL MODULE : DTC L DAS-73, "DTC Logic".	
NO >>	GO TO 2. SIDE RADAR LH SELF-DIA	-	
		iagnostic Result" of "SIDE RADAR LEFT".	
book if any		agnosiic result of SIDE RADAR LEFT.	
Check if any s any DTC	detected?		

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## U1505 SIDE RDR R CAN 2

### < DTC/CIRCUIT DIAGNOSIS >

## U1505 SIDE RDR R CAN 2

## DTC Logic

INFOID:000000011325658

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1505	SIDE RDR R CAN CIR 2	BSW control module detects an error signal that is received from side radar RH via BSW communica- tion	Side radar RH

#### NOTE:

If DTC "U1505" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-54, "BSW</u> <u>CONTROL MODULE : DTC Logic"</u>.

### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U1505" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

### Is "U1505" detected as the current malfunction?

- YES >> Refer to DAS-70, "Diagnosis Procedure".
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000011325659

## **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U1505" in "Self Diagnostic Result" of "BSW".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- NO >> GO TO 2.

**2.**CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to DAS-28, "DTC Index".
- NO >> Replace the BSW control module. Refer to <u>DAS-85</u>, "Removal and Installation".

## U1506 SIDE RDR R CAN 1

### < DTC/CIRCUIT DIAGNOSIS >

## U1506 SIDE RDR R CAN 1

## DTC Logic

[BSW]

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#### INFOID:0000000011325660

#### DTC DETECTION LOGIC В DTC DTC detecting condition Possible causes Trouble diagnosis name BSW control module detects an error signal that is U1506 SIDE RDR R CAN CIR 1 received from side radar RH via BSW communica-Side radar RH tion NOTE: D If DTC "U1506" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to DAS-54, "BSW CONTROL MODULE : DTC Logic". Е DTC CONFIRMATION PROCEDURE 1.PERFORM DTC CONFIRMATION PROCEDURE 1. Start the engine. F Turn the BSW system ON. 2. Perform "All DTC Reading" with CONSULT. 3. 4. Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW". Is "U1506" detected as the current malfunction? YES >> Refer to DAS-71, "Diagnosis Procedure". >> Refer to GI-42, "Intermittent Incident". NO Н Diagnosis Procedure INFOID:000000011325661 1.CHECK SELF-DIAGNOSIS RESULTS Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW". Is "U1000" detected? J YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to DAS-54, "BSW CONTROL MODULE : DTC Logic". NO >> GO TO 2. Κ 2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT". Is any DTC detected? L YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to DAS-28, "DTC Index". NO >> Replace the BSW control module. Refer to DAS-85, "Removal and Installation". Μ

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## U1507 LOST COMM(SIDE RDR R)

### < DTC/CIRCUIT DIAGNOSIS >

## U1507 LOST COMM(SIDE RDR R)

## DTC Logic

INFOID:000000011325662

[BSW]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1507	LOST COMM(SIDE RDR R)	BSW control module cannot receive BSW communication signal from side radar RH for 2 seconds or more	<ul><li>BSW communication system</li><li>Side radar RH</li></ul>

#### NOTE:

If DTC "U1507" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-54, "BSW</u> <u>CONTROL MODULE : DTC Logic"</u>

### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U1507" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

#### Is "U1507" detected as the current malfunction?

YES >> Refer to DAS-72, "Diagnosis Procedure".

NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

INFOID:0000000011325663

### **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U1507" in "Self Diagnostic Result" of "BSW".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- NO >> GO TO 2.

**2.**CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to DAS-28. "DTC Index".
- NO >> Replace the BSW control module. Refer to <u>DAS-85, "Removal and Installation"</u>.

# U1508 LOST COMM(SIDE RDR L)

#### < DTC/CIRCUIT DIAGNOSIS >

# U1508 LOST COMM(SIDE RDR L)

# DTC Logic

[BSW]

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INFOID:000000011325664

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1508	LOST COMM(SIDE RDR L)	BSW control module cannot receive BSW communication signal from side radar LH for 2 seconds or more• Side radar LH harness connector • BSW communication system 	
<b>OTE:</b> TC "U1508"	is detected along with	DTC "U1000", first diagnose the DTC "	U1508".
TC CONFI	RMATION PROCED	URE	
.PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
	engine. BSW system ON. 'All DTC Reading" with		
		as the current malfunction in "Self Diag	gnostic Result" of "BSW".
Check if t <u>"U1508" de</u> YES >> R		d as the current malfunction in "Self Dia <u>gonalfunction?</u> nosis Procedure".	gnostic Result" of "BSW".
Check if t <u>"U1508" de</u> YES >> R NO >> R	the "U1508" is detected <u>stected as the current n</u> tefer to <u>DAS-73, "Diag</u>	d as the current malfunction in "Self Dia <u>gonalfunction?</u> nosis Procedure".	gnostic Result" of "BSW".
Check if t <u>"U1508" de</u> YES >> R NO >> R iagnosis	the "U1508" is detected <u>etected as the current n</u> tefer to <u>DAS-73, "Diag</u> tefer to <u>GI-42, "Intermit</u> <b>Procedure</b>	d as the current malfunction in "Self Dia <u>malfunction?</u> nosis Procedure". ttent Incident".	-
Check if t <u>"U1508" de</u> YES >> R NO >> R iagnosis .CHECK SI	the "U1508" is detected <u>stected as the current n</u> tefer to <u>DAS-73, "Diag</u> tefer to <u>GI-42, "Intermited</u> <b>Procedure</b> DE RADAR HARNES	d as the current malfunction in "Self Dia <u>malfunction?</u> nosis Procedure". ttent Incident".	-
Check if t <u>"U1508" de</u> YES >> R NO >> R iagnosis .CHECK SI Turn the i	the "U1508" is detected tected as the current n tefer to <u>DAS-73, "Diagon</u> tefer to <u>GI-42, "Intermited</u> <b>Procedure</b> DE RADAR HARNESS ignition switch OFF. e terminals and connect	d as the current malfunction in "Self Dia <u>malfunction?</u> nosis Procedure". ttent Incident".	- INFOID:000000011325665
Check if t <u>"U1508" de</u> YES >> R NO >> R iagnosis .CHECK SI Turn the i Check the nector sid	the "U1508" is detected tected as the current n tefer to <u>DAS-73, "Diagon</u> tefer to <u>GI-42, "Intermited</u> <b>Procedure</b> DE RADAR HARNESS ignition switch OFF. e terminals and connect	d as the current malfunction in "Self Dia <u>malfunction?</u> <u>nosis Procedure"</u> . <u>ttent Incident"</u> . S CONNECTOR	- INFOID:000000011325665
Check if t <u>"U1508" de</u> YES >> R NO >> R iagnosis .CHECK SI .CHECK SI .CHECK the nector sid the inspect YES >> P R	the "U1508" is detected tected as the current magnetic tefer to <u>DAS-73. "Diagnation</u> tefer to <u>GI-42. "Intermite</u> <b>Procedure</b> DE RADAR HARNES ignition switch OFF. te terminals and connected te). ion result normal? Perform the CAN comm	d as the current malfunction in "Self Dia <u>nalfunction?</u> <u>hosis Procedure"</u> . <u>ttent Incident"</u> . S CONNECTOR ctors of the side radar LH for damage, I nunication system inspection. Repair or <u>ole Diagnosis Flow Chart"</u> .	INFOID:000000011325665

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## U1518 SIDE RDR L CAN 3

#### < DTC/CIRCUIT DIAGNOSIS >

## U1518 SIDE RDR L CAN 3

## DTC Logic

INFOID:000000011325666

#### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1518	SIDE RDR L CAN CIRC 3	BSW control module detects an error signal that is received from side radar LH via BSW communication	Side radar LH

#### NOTE:

- If DTC "U1518" is detected along with DTC "U1000", or "U1508", first diagnose the DTC "U1000" or "U1508".
- Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u> for DTC "U1000".
- Refer to DAS-73, "DTC Logic" for DTC "U1508".

#### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the BSW system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U1518" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".

#### Is "U1518" detected as the current malfunction?

- YES >> Refer to <u>DAS-74, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

#### Diagnosis Procedure

INFOID:000000011325667

#### **1.**CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" or "U1508" is detected other than "U1518" in "Self Diagnostic Result" of "BSW".

#### Is "U1000" or "U1508" detected?

- YES-1 >> U1000 detected: Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-54, "BSW CONTROL MODULE : DTC Logic"</u>.
- YES-2 >> U1508 detected: Refer to DAS-73, "DTC Logic".
- NO >> GO TO 2.

#### **2.**CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

#### Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-26. "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-85, "Removal and Installation"</u>.

## U1519 SIDE RDR R CAN 3

## < DTC/CIRCUIT DIAGNOSIS >

# U1519 SIDE RDR R CAN 3

# DTC Logic

[BSW]

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INFOID:0000000011325668

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1519	SIDE RDR R CAN CIRC 3	BSW control module detects an error signal that is received from side radar RH via BSW communication	Side radar RH
	19" is detected along with E MODULE : DTC Logic".	DTC "U1000", first diagnose the DTC "U1000	". Refer to <u>DAS-54, "BSW</u>
TC CONF	IRMATION PROCEDUR	E	
1.PERFOR	M DTC CONFIRMATION F	PROCEDURE	
	e engine. e BSW system ON.		
<ol> <li>Perform</li> <li>Check if</li> </ol>	"All DTC Reading" with CC	s the current malfunction in "Self Diagnostic F	Result" of "BSW".
YES >>	Refer to DAS-75, "Diagnos	is Procedure".	
YES >> NO >>		is Procedure".	INFOID:0000000011325666
YES >> NO >> Diagnosis	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u>	<u>is Procedure"</u> . <u>t Incident"</u> .	INFOID:000000011325665
YES >> NO >> Diagnosis 1.check s	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> B <b>Procedure</b> SELF-DIAGNOSIS RESULT	<u>is Procedure"</u> . <u>t Incident"</u> . ΓS	
YES >> NO >> Diagnosis 1.check s	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> S <b>Procedure</b> SELF-DIAGNOSIS RESULT 000" is detected other than	<u>is Procedure"</u> . <u>t Incident"</u> .	
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 (s "U1000" c YES >>	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> <b>Procedure</b> SELF-DIAGNOSIS RESULT 000" is detected other than <u>letected?</u> Perform the CAN commun Refer to <u>DAS-54, "BSW CC</u>	<u>is Procedure"</u> . <u>t Incident"</u> . ΓS	m
YES >> NO >> Diagnosis 1.CHECK (Check if "U1 <u>s "U1000" d</u> YES >> NO >>	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> <b>Procedure</b> SELF-DIAGNOSIS RESULT 000" is detected other than letected? Perform the CAN commun Refer to <u>DAS-54, "BSW CC</u> GO TO 2.	is Procedure". <u>t Incident"</u> . "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace <u>DNTROL MODULE : DTC Logic"</u> .	m
YES >> NO >> Diagnosis I.CHECK S Check if "U1 <u>s "U1000" d</u> YES >> NO >>	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> <b>Procedure</b> SELF-DIAGNOSIS RESULT 000" is detected other than <u>letected?</u> Perform the CAN commun Refer to <u>DAS-54, "BSW CC</u>	is Procedure". <u>t Incident"</u> . "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace <u>DNTROL MODULE : DTC Logic"</u> .	m
YES >> NO >> Diagnosis 1.CHECK & Check if "U1 s "U1000" c YES >> NO >> 2.CHECK & Check if any	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> <b>SELF-DIAGNOSIS RESULT</b> 000" is detected other than letected? Perform the CAN commun Refer to <u>DAS-54, "BSW CC</u> GO TO 2. SIDE RADAR RH SELF-DIA	is Procedure". <u>t Incident"</u> . "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace <u>DNTROL MODULE : DTC Logic"</u> .	m
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 S "U1000" d YES >> NO >> 2.CHECK S Check if any S any DTC	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> <b>SELF-DIAGNOSIS RESULT</b> 000" is detected other than <u>letected?</u> Perform the CAN commun Refer to <u>DAS-54, "BSW CC</u> GO TO 2. SIDE RADAR RH SELF-DIA OTC is detected in "Self D <u>detected?</u>	is Procedure". <u>t Incident"</u> . "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace <u>DNTROL MODULE : DTC Logic"</u> . AGNOSIS RESULTS iagnostic Result" of "SIDE RADAR RIGHT".	". the malfunctioning parts.
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 S "U1000" d YES >> NO >> 2.CHECK S Check if any S any DTC YES >>	Refer to <u>DAS-75, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> <b>SELF-DIAGNOSIS RESULT</b> 000" is detected other than <u>letected?</u> Perform the CAN commun Refer to <u>DAS-54, "BSW CC</u> GO TO 2. SIDE RADAR RH SELF-DIA OTC is detected in "Self D <u>detected?</u>	is Procedure". t Incident". "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic".	". the malfunctioning parts.

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#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# POWER SUPPLY AND GROUND CIRCUIT BSW CONTROL MODULE

## BSW CONTROL MODULE : Diagnosis Procedure

## 1.CHECK FUSES

Check if any of the following fuses are blown:

Signal name	Fuse No.
Ignition power supply	45

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

## 2. CHECK BSW CONTROL MODULE POWER SUPPLY CIRCUIT

Check voltage between BSW control module harness connector and ground.

	Terminal		Condition		
(+) (–)			Condition	Standard	Reference voltage
BSW control module			Ignition	Ignition voltage	
Connector	Terminal		switch		
		Ground	OFF	0 - 0.1 V	0 V
M61	16		ON	9.5 - 16 V	Battery volt- age

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the BSW control module power supply circuit.

 $\mathbf{3}$ . Check BSW control module ground circuit

1. Turn the ignition switch OFF.

2. Disconnect the BSW control module connector.

3. Check for continuity between BSW control module harness connector and ground.

BSW cont	rol module		Continuity
Connector	Terminal	Ground	Continuity
M61	M61 6		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the BSW control module ground circuit.

## SIDE RADAR LH

## SIDE RADAR LH : Diagnosis Procedure

## **1.**CHECK FUSES

Check if any of the following fuses are blown:

Signal name	Fuse No.
Ignition power supply	45

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

#### **DAS-76**

INFOID:000000011325670

INFOID:000000011325671

## POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# 2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the side radar LH connector.
- 3. Check voltage between side radar LH harness connector and ground.

	Terminals (+) (-) Side radar LH		Condition				
(-			Standard	Standard	Standard	Reference voltage	
Side ra			Ignition switch	voltage	(Approx.)		
Connector	Terminal		Ignition Switch				
		Ground	OFF	0 - 0.1 V	0 V		
B57	5		ON	10 - 16 V	Battery volt- age		

#### Is the inspection result normal?

NO >> Repair the side radar LH power supply circuit.

# 3. CHECK GROUND CIRCUIT

Check continuity between side radar LH harness connectors and ground.

Side ra	adar LH		Continuity		
Connector	Terminal	Ground	Continuity		
B57	2		Existed		
YES >> INS	n result normal' SPECTION ENI pair the side rac AR RH	5	circuit.		
SIDE RADA	R RH : Diag	nosis Proce	edure	INFOID:0000000113	25672
1.CHECK FUS	SES				
Check if any of	the following fu	ses are blown:			
	Signal na	ame		Fuse No.	—
	Ignition powe	r supply		45	
YES >> GC NO >> Re	<u>n result normal</u> ) TO 2. place the blowr WER SUPPLY (	fuse after repa	airing the affected circu	lit if a fuse is blown.	_
1 Turn ignitio	n switch OFF			<u></u>	

- 1. Turn ignition switch OFF.
- 2. Disconnect the side radar RH connector.

3. Check voltage between side radar RH harness connector and ground.

	Terminals				
(·	(+)		Condition	Standard	Reference voltage
Side ra	Side radar RH		voltage		(Approx.)
Connector	Terminal		ignition switch		
		Ground	OFF	0 - 0.1 V	0 V
B317	5		ON	10 - 16 V	Battery volt- age

Is the inspection result normal?

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## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## YES >> GO TO 3.

## NO >> Repair the side radar RH power supply circuit.

# 3. CHECK GROUND CIRCUIT

Check continuity between side radar RH harness connectors and ground.

Side ra	adar RH		Continuity
Connector	Connector Terminal		Continuity
B317	2	1	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the side radar RH ground circuit.

## **BSW SWITCH CIRCUIT**

			<b>B2M</b>		RCUIT	
< DTC/CIRC		NOSIS >			[BSW]	
BSW SW	ITCH C	IRCUIT				٨
Componer	nt Functio	on Check			INFOID:000000011325673	A
1. СНЕСК В	SW SWITC	H INPUT S	IGNAL			В
1. Turn the	ignition swi	tch ON.				
				YS SW" of "B monitor status	SW" with CONSULT.	С
Monitor item		Condition		Monitor status		
WARN SYS	BSW switch	is pressed		On		D
SW	BSW switch	is not pressed		OFF		
	3SW switch	<u>ormal?</u> circuit is nc <u>S-79, "Diag</u> i		edure".		Е
Diagnosis	Procedu	re			INFOID:0000000011325674	F
1.снеск в						
			INPUT			G
	ignition swi erating the		h, check vo	oltage betwee	n BSW control module harness connector and	0
0						Н
	Terminals		Condition			
(+	)	(-)	Condition	Voltage		1
BSW contr	ol module		BSW switc	(Approx.) h		1
Connector	Terminal	Ground				
M61	1		Pressed	0 V		J
			Released	12 V		
Is the inspect YES >> F			ol module.	Refer to <u>DAS-</u>	85, "Removal and Installation".	Κ
•	GO TO 2.					
2. СНЕСК В	SW SWITC	H				L
	tion switch					
	BSW switcl SW switch.		S-89, "Ren	noval and Inst	allation".	в. Л
Is the inspect						Μ
	GO TO 3.					
•	•			<u>DAS-89, "Rem</u>	noval and Installation".	Ν
3. СНЕСК В						
Check contin	uity betwee	n BSW swit	ch harness	connector an	d the ground.	DA
RS	W switch					
Connector	Termi	nal (	Ground	Continuity		Ĺ
M60	2			Existed		Ρ
Is the inspec	tion result n	ormal?				
•	GO TO 4.					
	•	ess or conn				
4.CHECK B	SW SWITC	H SIGNAL	INPUT CIR	CUIT FOR OF	PEN	

1. Disconnect the BSW control module connector.

## **BSW SWITCH CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between the BSW control module harness connector and BSW switch harness connector.

BSW control module		BSW switch		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M61	1	M60	1	Existed	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

#### 5.CHECK BSW SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

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

BSW cont	rol module		Continuity	
Connector	Terminal	Ground	Continuity	
M61	1	Ť	Not existed	

Is the inspection result normal?

YES >> Replace the BSW control module. Refer to <u>DAS-85, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

#### **Component Inspection**

INFOID:000000011325675

## 1.CHECK BSW SWITCH

Check continuity of BSW switch.

Terminal		Condition	Continuity
1 2	When BSW switch is pressed	Existed	
	When BSW switch is released	Not existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace BSW switch.

## **BSW ON INDICATOR CIRCUIT**

< DTC/CIRCL		NOSIS >			[BSW]	
BSW ON I	NDICA	TOR (	CIRCUIT			,
Diagnosis F	Procedu	re			INFOID:0000000011325676	A
1.CHECK BS					UT	_
1. Turn igniti			POWER 5		// 1	E
<ol> <li>Disconnec</li> <li>Turn ignitic</li> </ol>	ct BSW sw	vitch conr ON.		ness connector	and ground.	(
	Termir	nals			_	[
	(+)		()	Voltage		
BSW	/ switch			(Approx.)		
Connector	Termi	nal	Ground			
M60	5			Battery voltage		
s the inspection		ormal?				
	O TO 2.		indicator na	wor ouroply airs	a it	
	•			wer supply circ	uit.	
CHECK BS			SIGNAL F	JK UPEN		
	t the BSW	l control		ness connector rol module har	: ness connector and BSW switch harness connec-	
BSW control	module	В	SW switch		_	
Connector	Terminal	Connect	tor Termin	al Continuity		
M61	4	M60	6	Existed		
s the inspection		ormal?				
	O TO 3.	arnesses	s or connect	ore		
<b>`</b>	•			IRCUIT FOR S	HORT	
	ity betwee	en ine BS	vv control m	oquie namess	connector and ground.	
BSW cor	ntrol module				-	
Connector	Termi	nal	Ground	Continuity		
M61	4			Not existed	_	
s the inspection	on result n	ormal?			-	
YES >> G(	O TO 4.					
NO >> Re 1.CHECK BS	•		s or connect	ors.		
				1 "Componer	at Increation"	C
s the inspection				<u>31, "Componer</u>		
YES >> Re	eplace the	BSW co			S-85. "Removal and Installation".	
NO >> Re	eplace BS	W switch	. <u>DAS-89, "F</u>	Removal and li	nstallation".	
Component	t Inspec	tion			INFOID:000000011325677	
<b>1.</b> CHECK BS		DICATOR	2			

**1**.CHECK BSW ON INDICATOR

Apply battery voltage to BSW switch terminals 5 and 6, and then check if the BSW ON indicator illuminates.

## **BSW ON INDICATOR CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

Terminals		Condition	BSW ON indica-
(+)	(-)	Condition	tor
5	5 6	When the battery voltage is applied	On
5 0	0	When the battery voltage is not applied	Off

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the BSW switch. Refer to <u>DAS-89</u>, "Removal and Installation".

SYMPTOM DIAGNOSIS

**BSW SYSTEM SYMPTOMS** 

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INFOID:000000011325678

#### **CAUTION:**

Symptom Table

# Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

#### NOTE:

For the operational conditions of BSW, refer to <u>DAS-9, "System Description"</u>.

Sympt	om	Possible cause	Inspection item/Reference page	
Indicator/warning lamps do not il- luminate when ignition switch OFF $\Rightarrow$ ON.	BSW warning lamp (Yellow) does not illuminate	<ul> <li>BSW warning lamp signal (CAN)</li> <li>Combination meter</li> <li>BSW control module</li> <li>BSW warning lamp (combination meter)</li> </ul>	<ul> <li>Power supply and ground circuit of BSW control module Refer to <u>DAS-76, "BSW CONTROL MODULE : Diagnosis</u> <u>Procedure"</u></li> <li>BSW control module Active test "BSW/BSI WARNING LAMP" Refer to <u>DAS-18, "CONSULT</u> <u>Function (BSW)"</u>.</li> <li>BSW control module Data monitor "BSW/BSI WARN LMP" Refer to <u>DAS-18, "CONSULT</u> <u>Function (BSW)"</u></li> <li>Combination meter Data mon- itor "BSW W/L" Refer to <u>MWI-35, "CONSULT</u> <u>Function"</u></li> </ul>	
	BSW ON indicator (on the BSW switch) does not illumi- nate	<ul> <li>Harness between BSW control module and BSW switch</li> <li>BSW switch</li> <li>BSW control module</li> </ul>	BSW ON indicator circuit Refer to <u>DAS-81, "Diagnosis Pro-</u> cedure"	
	BSW indicator does not turn ON	<ul> <li>Harness between side radar and BSW indicator</li> <li>Side radar LH/RH</li> <li>BSW indicator</li> </ul>	Perform self-diagnosis of side ra- dar Refer to <u>DAS-20, "CONSULT</u> <u>Function (SIDE RADAR LEFT)"</u> or <u>DAS-21, "CONSULT Function</u> ( <u>SIDE RADAR RIGHT)"</u>	
BSW system is not activated. (Indicator/warning lamps illumi- nate when ignition switch OFF $\Rightarrow$ ON.)	BSW ON indicator is not turned ON ⇔ OFF when op- erating BSW switch	<ul> <li>Harness between BSW control module and BSW switch</li> <li>Harness between BSW switch and ground</li> <li>BSW control module</li> <li>BSW switch</li> </ul>	BSW ON indicator circuit Refer to <u>DAS-81, "Diagnosis Pro-</u> cedure"	
	Buzzer is not sounding	<ul><li>BSW control module</li><li>Combination meter</li></ul>	Meter buzzer circuit Refer to <u>WCS-40, "Component</u> <u>Function Check"</u>	

## NORMAL OPERATING CONDITION

## NORMAL OPERATING CONDITION

### Description

INFOID:0000000011325679

[BSW]

#### PRECAUTIONS FOR BLIND SPOT WARNING (BSW)

- The BSW system is not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the BSW system.
- The BSW system may not provide a warning for vehicles that pass through the detection zone quickly.
- Do not use the BSW system when towing a trailer because the system may not function properly.
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate BSW when certain objects are present such as:
- Pedestrians, bicycles, animals.
- Several types of vehicles such as motorcycles.
- Oncoming vehicles.
- Vehicles remaining in the detection zone when driver accelerate from a stop.
- A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.
- A vehicle approaching rapidly from behind.
- A vehicle which vehicle overtakes rapidly.
- Severe weather or road spray conditions may reduce the ability of the side radar to detect other vehicles.
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.
- The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.

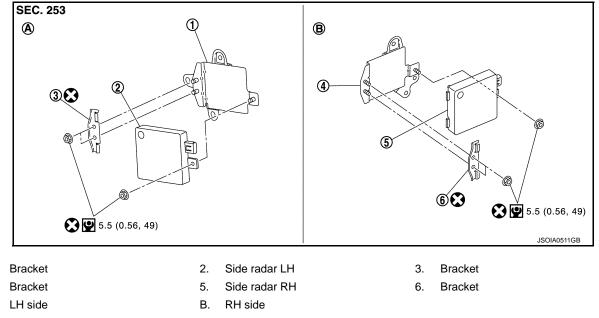
BSW CONTROL MODULE		
< REMOVAL AND INSTALLATION >	[BSW]	
REMOVAL AND INSTALLATION		А
BSW CONTROL MODULE		
Removal and Installation	INFOID:000000011325680	В
<ol> <li>REMOVAL</li> <li>Remove cluster lid C. Refer to <u>IP-14, "Removal and Installation"</u>.</li> <li>Remove mounting bolts from BSW control module.</li> <li>Disconnect BSW control module connector.</li> </ol>		С
4. Remove BSW control module. INSTALLATION		D
Install in the reverse order of removal.		Е
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		G
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		DAS
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## < REMOVAL AND INSTALLATION >

# SIDE RADAR

**Removal and Installation** 

#### EXPLODED VIEW



Refer to GI-4, "Components" for symbol makes in the figure.

#### REMOVAL AND INSTALLATION

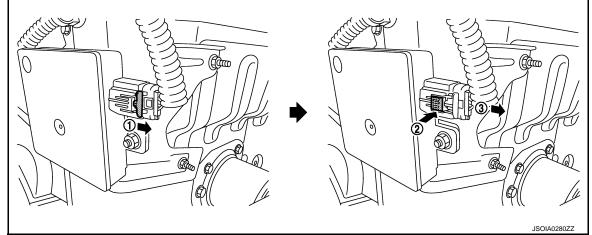
#### Removal

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- 1. Remove the rear bumper fascia assembly. Refer to EXT-16, "REAR BUMPER : Removal and Installation".
- 2. Remove the side radar connector.



#### NOTE:

This illustration is an example.

3. Remove the mounting nuts to remove the side radar RH/LH from bracket.

#### Installation

Note the following, and install in the reverse order of removal.

[BSW]

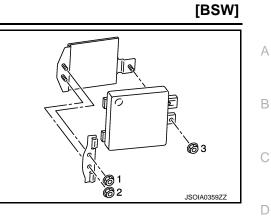
## SIDE RADAR

#### < REMOVAL AND INSTALLATION >

- Tighten mounting nuts in the numerical order as shown in the figure.
- Always lock the side radar connector.

#### **CAUTION:**

Since right side radar and left side radar are similar in shape, never confuse right with left.



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< REMOVAL AND INSTALLATION >

## **BSW INDICATOR**

## Exploded View

BSW indicator is installed on the door mirror surface. Refer to <u>MIR-37</u>, "GLASS <u>MIRROR</u> : <u>Removal and</u> <u>Installation</u>".

#### NOTE:

Always remove BSW indicator together with glass mirror.

INFOID:000000011325682

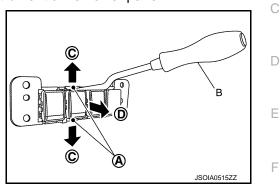
< REMOVAL AND INSTALLATION >

# BSW SWITCH

Removal and Installation

#### REMOVAL

- 1. Remove the instrument lower panel (LH). Refer to IP-14, "Removal and Installation".
- 2. Remove the bracket for BSW switch and other switches from instrument driver lower panel.
- 3. Insert remover tool (B) in pawl (A) of the bracket and widen the pawl in (C) direction to release the fit.
- 4. Remove BSW switch from the bracket in (D) direction.



INSTALLATION Install in the reverse order of removal. А

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