SECTION DAS **DRIVER ASSISTANCE SYSTEM**

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PRECAUTION PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT **PRE-TENSIONER**" INFOID:000000007492632

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 iniury.
- 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.

Precaution for BSW System Service

INFOID:000000007492633

WARNING:

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

- Never perform the active test while driving.
- 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:

System Maintenance

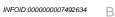
The two side radar for the BSW system are located near the rear bumper.

- Always keep the area near the side radar clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radar.
- Do not strike or damage the area around the side radar.

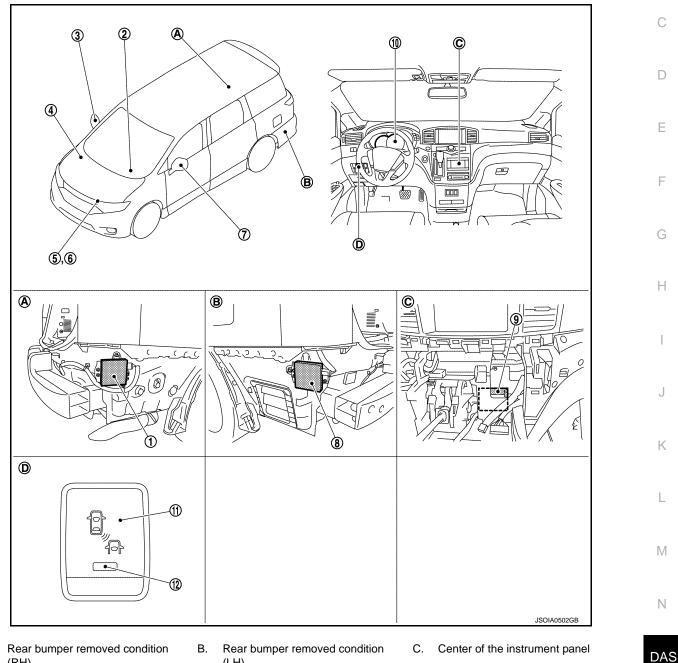
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location



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- Rear bumper removed condition Α. (RH)
- Rear bumper removed condition (LH)
- Instrument lower panel (LH)
- Function No. Component 1 Side radar RH Refer to DAS-6, "Side Radar LH/RH" Refer to DAS-7, "BCM" BCM Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" for detailed instal-2 lation location 3 BSW indicator RH Refer to DAS-7, "BSW Indicator LH/RH"

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COMPONENT PARTS

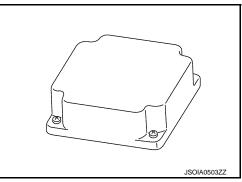
< SYSTEM DESCRIPTION >

[BSW]

No.	Component	Function
4	ABS actuator and electric unit (control unit)	Refer to <u>DAS-7, "ABS Actuator and Electric Unit (Control Unit)"</u> Refer to <u>BRC-8, "Component Parts Location"</u> for detailed installation location
5	тсм	Refer to <u>DAS-7, "TCM"</u> Refer to <u>TM-10, "CVT CONTROL SYSTEM : Component Parts Location"</u> for detailed instal- lation location
6	ECM	Refer to <u>DAS-7, "ECM"</u> Refer to <u>EC-15, "ENGINE CONTROL SYSTEM : Component Parts Location"</u> for detailed in- stallation location
7	BSW indicator LH	Refer to DAS-7, "BSW Indicator LH/RH"
8	Side radar LH	Refer to DAS-6, "Side Radar LH/RH"
9	BSW control module	Refer to DAS-6, "BSW Control Module"
10	Combination meter	Description: Refer to <u>DAS-7, "Combination Meter"</u> System display and warning: <u>DAS-14, "System Display and Warning"</u> Refer to <u>MWI-6, "METER SYSTEM : Component Parts Location"</u> for detailed installation location
11	BSW switch	 Description: Refer to <u>DAS-7, "BSW Switch"</u> System display and warning: <u>DAS-14, "Switch Name and Function"</u>
12	BSW ON indicator (On the BSW switch)	Refer to DAS-14, "System Display and Warning"

BSW Control Module

INFOID:000000007492635



- 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

- 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.



COMPONENT PARTS

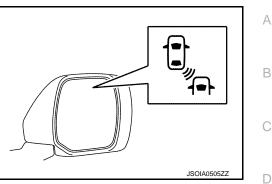
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BSW Indicator LH/RH

INFOID:000000007492637



- 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	INFOID:000000007492638	
 Installed to the instrument lower panel, the BSW switch is used to activate/deactivate the BSV Transmits a BSW switch signal to the BSW control module. 	W system.	F
Combination Meter	INFOID:000000007492639	G
 Receives BSW warning lamp signal and buzzer output signal from BSW control module via or cation. 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 		Н
ABS Actuator and Electric Unit (Control Unit)	INFOID:000000007492640	
Transmits vehicle speed signal to BSW control module via CAN communication. BCM	INFOID:000000007492641	
 Transmits turn indicator signal to BSW control module via CAN communication. Transmits dimmer signal to BSW control module via CAN communication. TCM 	INFOID:000000007492642	K
Transmits shift position signal to BSW control module via CAN communication. ECM	INFOID:000000007492643	L
Transmits engine speed signal to BSW control module via CAN communication.		M

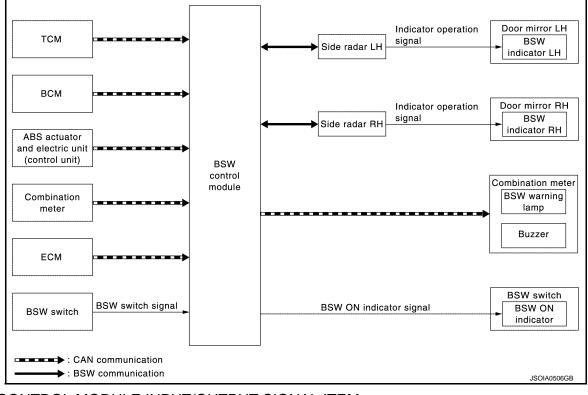
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< SYSTEM DESCRIPTION >

SYSTEM

System Description

SYSTEM DIAGRAM



BSW CONTROL MODULE INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
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
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
		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
ECM	CAN communication	Engine speed signal	Receives an engine speed
BSW switch	BSW switch signal		Receives an ON/OFF state of the BSW switch

Output Signal Item

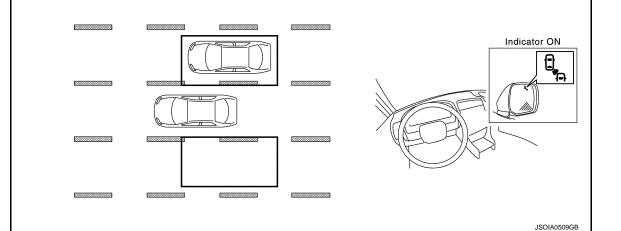
Reception unit		Signal name	Description
Combination meter	CAN communication	BSW warning lamp signal	Transmits a BSW warning lamp signal to turn ON the BSW warning lamp
meter		Buzzer output signal	Transmits a buzzer output signal to activate buzzer

< SYSTEM DESCRIPTION >

Reception unit	Signal name		Description	٨
		BSW indicator signal	Transmits a BSW indicator signal to turn ON the BSW indicator	A
Side radar LH, RH	BSW communication	BSW indicator dimmer signal	Transmits a BSW indicator dimmer signal to dimmer BSW indicator	В
		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	С

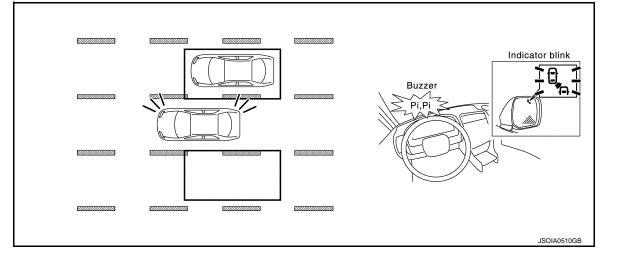
FUNCTION DESCRIPTION

- 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.

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< 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-16</u>, "<u>Precautions for</u> <u>Blind Spot Warning</u>".

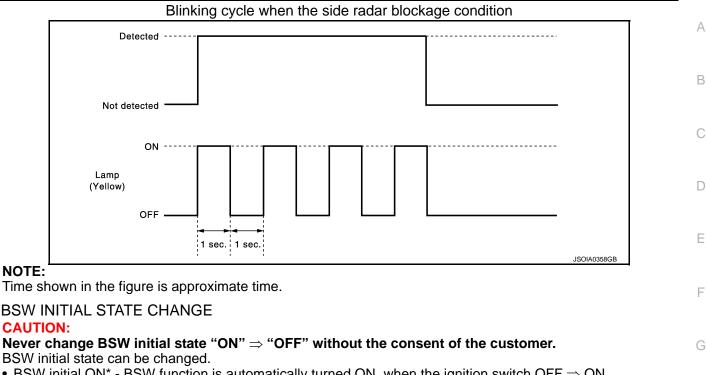
BULB CHECK ACTION AND FAIL-SAFE INDICATION

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 [*]	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.

< SYSTEM DESCRIPTION >

[BSW]



- 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

- Turn ignition switch ON. 1.
- 2. Switch BSW functions to OFF.
- 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.

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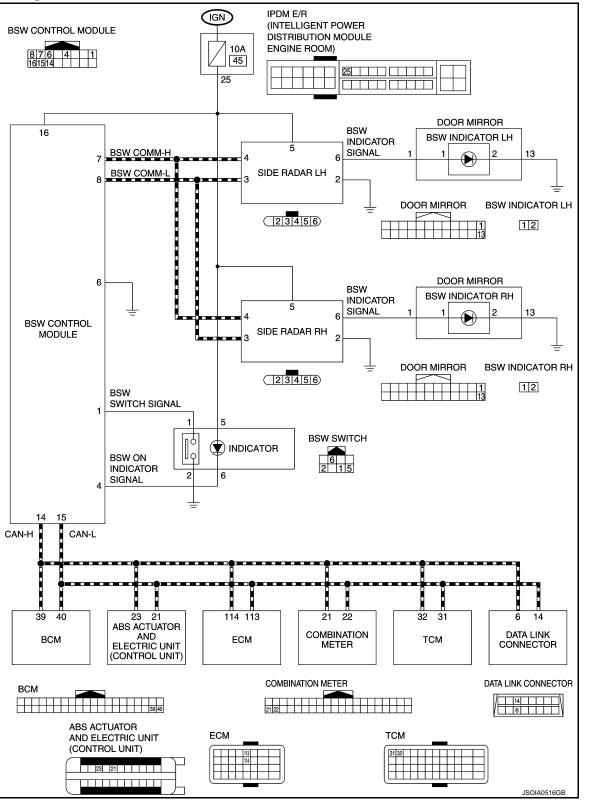
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< SYSTEM DESCRIPTION >

Circuit Diagram



Fail-safe (BSW Control Module)

INFOID:000000007492646

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)

FAIL-SAFE CONTROL BY DTC

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.	В
 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 meter blinks are used by temporary ambient conditions such as splashing water, mist or fog. 	С
 The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar. 	D
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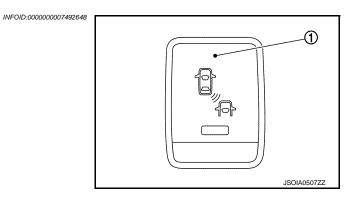
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OPERATION

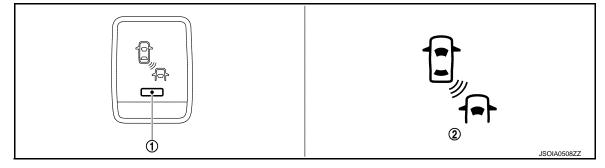
Switch Name and Function



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
2	BSW warning lamp (In the combination meter)	Turns ON when BSW system is malfunctioningBlinks when radar blockage is detected

DISPLAY AND WARNING OPERATION

	Vehicle condition/ Driver's operation			Ac	tion
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

OPERATION

< SYSTEM DESCRIPTION >

	Vehicle condition/	Driver's operatio	n	Ac	tion		
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	l	
	Less than approx. 29 (18)	_	_	OFF	OFF	(
		—	Vehicle is absent	OFF	OFF		
		OFF	Vehicle is detected	ON	OFF		
				Blink	Short continuous beep		
ON	Approx. 32 (20) or more ON (Vehicle de	Approx. 32 (20) or more ON	ON (Vehicle de-	Before turn signal oper- ates Vehicle is detected	200 ms Indicator ON Indicator OFF 200 ms JSOIA0251GB	60 ms Buzzer ON Buzzer OFF 570 ms	
		(Vehicle de- tected direc-	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.

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HANDLING PRECAUTION

Precautions for Blind Spot Warning

SIDE RADAR HANDLING

- Side radar for BSW system is located inside the rear bumper.
- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paintwork near the side radar.
- Do not strike or damage the areas around the side radar.
- Do not strike, damage, and scratch the side radar, especially the vent seal (gray circular) area, under repair.

PRECAUTIONS FOR BLIND SPOT WARNING

- 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.

DIAGNOSIS SYSTEM (BSW CONTROL MODULE)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BSW CONTROL MODULE)

CONSULT Function (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-22, "DTC Index".

DATA MONITOR NOTE:

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

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

ICC BUZZER

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DIAGNOSIS SYSTEM (BSW CONTROL MODULE)

< SYSTEM DESCRIPTION >

Test item	Operation	Description	BSW warning chime operation sound
MODE1	Transmits the buzzer output signals to the combination meter via CAN communication	Intermittent beep sound	
ICC BUZZER	Test start	Starts the tests of "MODE1"	_
ICC BUZZER	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	_
LAMP	On	Transmits the BSW warning lamp signal to the combina- tion meter via CAN communication	ON

DIAGNOSIS SYSTEM (SIDE RADAR LH)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (SIDE RADAR LH)

CONSULT Function (SIDE RADAR LEFT)

DESCRIPTION

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

Select diag mode	Function	С
Self Diagnostic Result	Displays memorized DTC in the side radar	
Data Monitor	Displays real-time data of side radar	D
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 LH. Refer to DAS-25, "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 displayed	Н
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed	

DATA MONITOR

Monitored item [Unit]	Description	
BEAM DISTANCE [—]	NOTE: The item is displayed, but it is not used	J
BEAM POSITION [—]	NOTE: The item is displayed, but it is not used	K
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	L
ACTIVATE OPE [—]	NOTE: The item is displayed, but it is not used	M
VEHICLE DETECT [On/Off]	Indicates [On/Off] status of vehicle detection	-
ACTIVE TEST		Ν

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	Ρ
DRIVE	Off	Stops the voltage to illuminate the BSW indicator	

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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
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 RH. Refer to DAS-27, "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 displayed
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

DATA MONITOR

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

BSW CONTROL MODULE

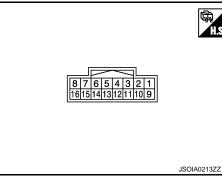
ECU DIAGNOSIS INFORMATION **BSW CONTROL MODULE**

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor item		Condition	Value/Status
VHCL SPEED SE	While driving		Displays the ve- hicle speed cal- culated by BSW control module
BUZZER O/P	Engine running	When the buzzer of the BSW system operates	On
BUZZER U/F	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
	Turn signal lamp LH blinkir	ng	LH
Turn signal Turn signal lamp RH blinking Turn signal lamp LH and RH		ng	RH
		tH blinking	LH&RH
WARN SYS SW	Instition quitab ON	When BSW switch is pressed	On
WARN 515 5W	Ignition switch ON	When BSW switch is not pressed	Off
	Ignition quitch ON	BSW warning lamp ON	On
BSW/BSI WARN LMP	Ignition switch ON	BSW warning lamp OFF	Off
BSW SYSTEM ON	Institute quitab ON	When the BSW system is ON (BSW ON indicator ON)	On
BSW STSTEM UN	Ignition switch ON	When the BSW system is OFF (BSW ON indicator OFF)	Off

TERMINAL LAYOUT PHYSICAL VALUES



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	nal No. color)	Description		Condition		Standard value	Reference value	
+	_	Signal name	Input/ Output	Conduid	וונ	Standard value	(Approx.)	DAS
1		PSM/ owitch signal	loput	BSW switch	Pressed	0 - 0.1 V	0 V	
(BR)	6	BSW switch signal	Input	DOVV SWIICH	Released	9.5 -16 V	12 V	Р
4	(B/W)	BSW ON indicator sig-	Output	BSW ON indicator	Illuminated	0 - 0.1 V	0 V	
(Y)		nal	Output	BSW ON Indicator	OFF	9.5 - 16 V	12 V	
6 (B/W)	Ground	Ground	—	Ignition swit	ch ON	0 - 0.1 V	0 V	

[BSW]

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INFOID:000000007492654 В

Revision: 2011 September

BSW CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

	ninal No. re color) Condition		Description		Standard value	Reference value	
+	_	Signal name	Input/ Output	Condition	Standard Value	(Approx.)	
7 (L)		BSW communication-H	_	_	_	_	
8 (Y)		BSW communication-L	_	_	_	_	
14 (L)	6 (B/W)	CAN -H	_	_	_	_	
15 (P)		CAN -L	_	_	_	_	
16 (G)		Ignition power supply	Input	Ignition switch ON	9.5 - 16 V	Battery Voltage	

Fail-safe

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 inspection priority chart.

Priority	Detected items (DTC)
1	U1508: LOST COMM (SIDE RDR L)
2	U1000: CAN COMM CIRCUIT
2	 U1010: CONTROL UNIT (CAN) U1507: LOST COMM (SIDE RDR R)
3	C1B53: SIDE RDR R MALF
-	C1B54: SIDE RDR L MALF
	C1A01: POWER SUPPLY CIR
	C1A02: POWER SUPPLY CIR 2
	U0121: VDC CAN CIR 2
	U0401: ECM CAN CIR 1
	• U0402: TCM CAN CIR 1
	U0415: VDC CAN CIR 1
	U150B: ECM CAN CIRC 3
4	U150C: VDC CAN CIRC 3
4	U150D: TCM CAN CIRC 3
	U150E: BCM CAN CIRC 3
	U1503: SIDE RDR L CAN CIR 2
	U1504: SIDE RDR L CAN CIR 1
	U1505: SIDE RDR R CAN CIR 2
	U1506: SIDE RDR R CAN CIR 1
	U1518: SIDE RDR L CAN CIRC 3
	U1519: SIDE RDR R CAN CIRC 3
5	C1A03: VHCL SPEED SE CIRC
6	C1A00: CONTROL UNIT

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
- IGN counter is displayed on FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now CAN communication system (U1000, U1010)

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BSW CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

- 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 $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 49$ 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 49, it is fixed to 49 until the self-diagnosis results are erased.

	DTC	BSW warning lamp	Fail-safe	Reference
C1A00	CONTROL UNIT	ON	×	DAS-35
C1A01	POWER SUPPLY CIR	ON	×	DAS-36
C1A02	POWER SUPPLY CIR 2	ON	×	<u>DAS-36</u>
C1A03	VHCL SPEED SE CIRC	ON	×	DAS-37
C1B53	SIDE RDR R MALF	ON	×	DAS-42
C1B54	SIDE RDR L MALF	ON	×	DAS-43
NO DTC IS DETECTED. FURTHER ESTING MAY BE RE- QUIRED	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	_	_	_
U1000	CAN COMM CIRCUIT	ON	×	DAS-46
U1010	CONTROL UNIT (CAN)	ON	×	<u>DAS-49</u>
U0121	VDC CAN CIR 2	ON	×	<u>DAS-51</u>
U0401	ECM CAN CIR 1	ON	×	DAS-52
U0402	TCM CAN CIR 1	ON	×	DAS-53
U0415	VDC CAN CIR 1	ON	×	DAS-55
U150B	ECM CAN CIRC 3	ON	×	<u>DAS-56</u>
U150C	VDC CAN CIRC 3	ON	×	DAS-57
U150D	TCM CAN CIRC 3	ON	×	<u>DAS-58</u>
U150E	BCM CAN CIRC 3	ON	×	DAS-59
U1503	SIDE RDR L CAN CIR 2	ON	×	DAS-60
U1504	SIDE RDR L CAN CIR 1	ON	×	DAS-61
U1505	SIDE RDR R CAN CIR 2	ON	×	DAS-62
U1506	SIDE RDR R CAN CIR 1	ON	×	DAS-63
U1507	LOST COMM (SIDE RDR R)	ON	×	DAS-64
U1508	LOST COMM (SIDE RDR L)	ON	×	DAS-65
U1518	SIDE RDR L CAN CIRC 3	ON	×	DAS-66
U1519	SIDE RDR R CAN CIRC 3	ON	×	DAS-67

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SIDE RADAR LH

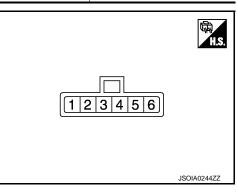
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

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 NADAN MALI	Side radar is malfunctioning.	On
BLOCKAGE COND	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.	_
VEHICLE DETECT	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
+	-	Signal name	Input/ Output	Condition	Stanuard value	(Approx.)
2 (B)	Ground	Ground	_	_	0 - 0.1 V	0 V
3 (Y)		BSW communication-L	_	_	_	—
4 (L)	2	BSW communication-H	_	_	_	_
5 (V)	(B)	Ignition power supply	Input	Ignition switch ON	10 - 16 V	Battery voltage
6 (W)		BSW indicator	Output	Approx. 2 sec. after ignition switch OFF \Rightarrow ON (bulb check)	5.5 - 16 V	6 V

Fail-safe

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[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.

SIDE RADAR LH

< ECU DIAGNOSIS INFORMATION >

TEMPORARY DISABLED STATUS AT BLOCKAGE

When the side radar is blocked, the operation is temporarily cancelled. Then BSW warning lamp in combina-А tion 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

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority С 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	E				
3	C1B50: SIDE RDR MALFUNCTION					
4	C1B51: BSW/BSI IND SHORT CIR C1B52: BSW/BSI IND OPEN CIR C1B55: RADAR BLOCKAGE	F				

DTC Index

				×: Applicable	
	DTC	BSW warning lamp	Fail-safe	Reference page	Н
C1B50	SIDE RDR MALFUNCTION	ON	×	DAS-38	
C1B51	BSW/BSI IND SHORT CIR	ON	×	DAS-39	
C1B52	BSW/BSI IND OPEN CIR	ON	×	<u>DAS-40</u>	
C1B55	RADAR BLOCKAGE	Blink	×	DAS-44	
U1000	CAN COMM CIRCUIT	ON	×	DAS-45	J
U1010	CONTROL UNIT (CAN)	ON	×	<u>DAS-48</u>	0
U0104	ADAS CAN CIR1	ON	×	<u>DAS-50</u>	
U0405	ADAS CAN CIR2	ON	×	DAS-54	Κ

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SIDE RADAR RH

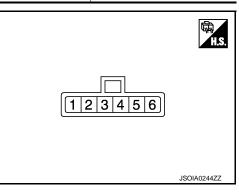
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

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 is malfunctioning.	On
BLOCKAGE COND	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.	_
VEHICLE DETECT	Side radar does not detect a vehicle.	Off
	Side radar detects a vehicle.	On

TERMINAL LAYOUT



PHYSICAL VALUES

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

Fail-safe

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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.

SIDE RADAR RH

< ECU DIAGNOSIS INFORMATION >

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

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	E				
3	C1B50: SIDE RDR MALFUNCTION					
4	C1B51: BSW/BSI IND SHORT CIR C1B52: BSW/BSI IND OPEN CIR C1B55: RADAR BLOCKAGE	F				

DTC Index

				×: Applicable	
	DTC	BSW warning lamp	Fail-safe	Reference page	Н
C1B50	SIDE RDR MALFUNCTION	ON	×	DAS-38	
C1B51	BSW/BSI IND SHORT CIR	ON	×	DAS-39	
C1B52	BSW/BSI IND OPEN CIR	ON	×	<u>DAS-40</u>	
C1B55	RADAR BLOCKAGE	Blink	×	DAS-44	
U1000	CAN COMM CIRCUIT	ON	×	<u>DAS-46</u>	J
U1010	CONTROL UNIT (CAN)	ON	×	<u>DAS-48</u>	0
U0104	ADAS CAN CIR1	ON	×	DAS-50	
U0405	ADAS CAN CIR2	ON	×	<u>DAS-54</u>	Κ

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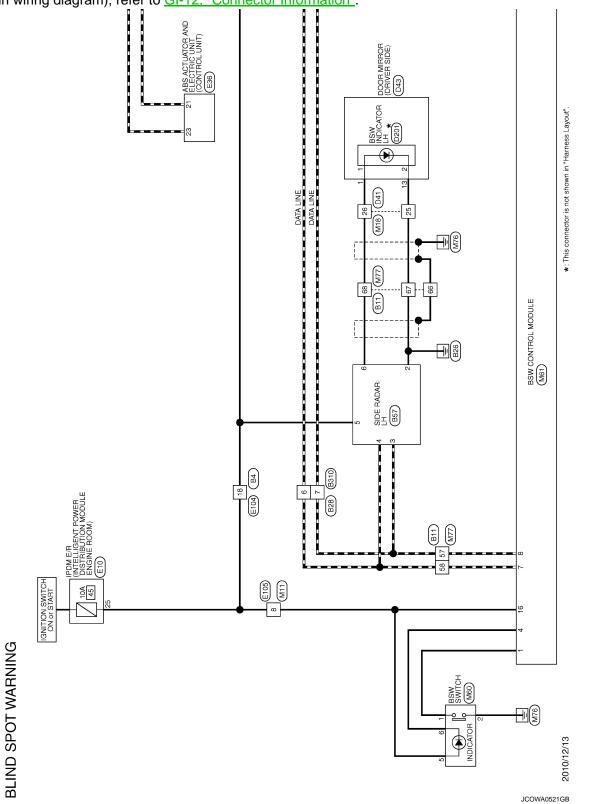
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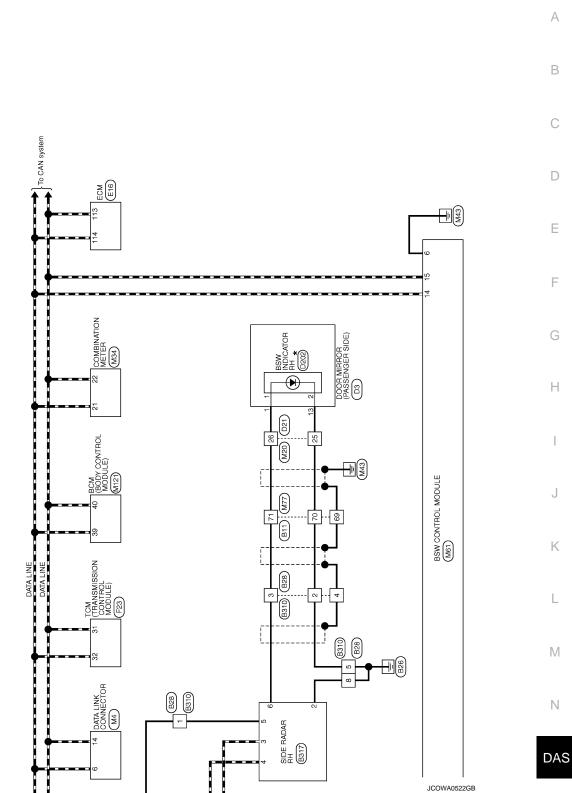
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WIRING DIAGRAM BLIND SPOT WARNING

Wiring Diagram

For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if notdescribed in wiring diagram), refer to <u>GI-12</u>, "<u>Connector Information</u>".





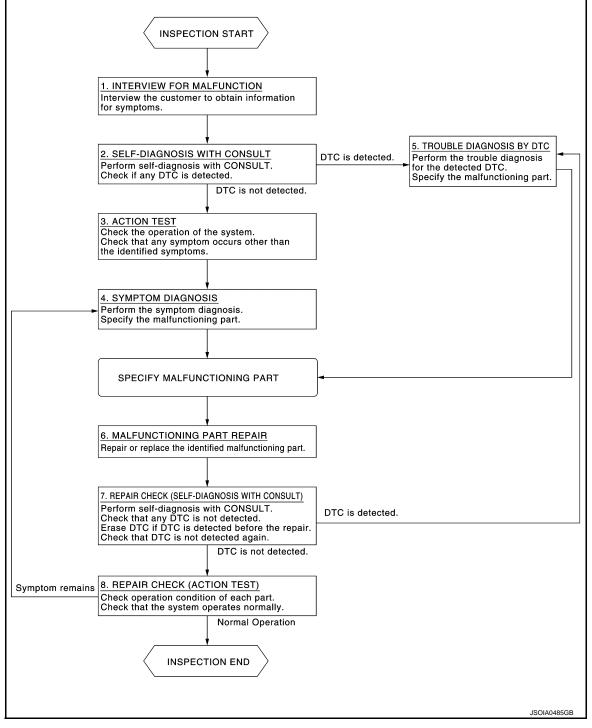
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BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

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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
 Perform "All DTC Reading" with CONSULT. Check if the DTC is detected on the self-diagnosis results of "SIDE RADAR LEFT/RIGHT" and/or "BSW". <u>Is any DTC detected?</u> YES >> GO TO 5. NO >> GO TO 3.
NO \rightarrow GO TO 3. 3. PRE-INSPECTION FOR DIAGNOSIS
Perform pre-inspection for diagnosis. Refer to <u>DAS-32</u> , "Inspection Procedure".
>> GO TO 4. 4. ACTION TEST
Perform BSW system action test to check the operation status. Refer to <u>DAS-33, "Description"</u> . Check if any other malfunctions occur.
>> GO TO 6.
5. TROUBLE DIAGNOSIS BY DTC
 Check the DTC in the self-diagnosis results. Perform trouble diagnosis for the detected DTC. Refer to <u>DAS-25. "DTC Index"</u> (SIDE RADAR LEFT) or <u>DAS-27. "DTC Index"</u> (SIDE RADAR RIGHT) and/or <u>DAS-22. "DTC Index"</u> (BSW).
NOTE: 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-75, "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)
 Erases self-diagnosis results. Perform "All DTC Reading" again after repairing or replacing the specific items.
3. Check if any DTC is detected in self-diagnosis results of "SIDE RADAR LEFT/RIGHT" and "BSW".
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: 2011 September

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:000000007492668

[BSW]

ACTION TEST

< BASIC INSPECTION >

ACTION TEST

		Δ
Description	INFOID:000000007492669	
Always perform the BSW system action test to check that the system operates normally after side radar LH/RH, or repairing any BSW system malfunction. WARNING:	replacing the	В
Be careful of traffic conditions and safety around the vehicle when performing road test. CAUTION:		С
 Fully understand the following items well before the road test; Precautions: Refer to <u>DAS-4, "Precaution for BSW System Service"</u>. System description: Refer to <u>DAS-8, "System Description"</u>. Normal operating condition: Refer to <u>DAS-76, "Description"</u>. 		D
Work Procedure	INFOID:000000007492670	Е
WARNING:		
Be careful of traffic conditions and safety around the vehicle when performing road test. CAUTION:		F
 Fully understand the following items well before the road test; Precautions: Refer to DAS-4, "Precaution for BSW System Service". 		
 System description: Refer to <u>DAS-8, "System Description"</u>. Normal operating condition: Refer to <u>DAS-76, "Description"</u>. 		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		on	Ac	tion	
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	J
OFF	—	_	—	OFF	OFF	K
	Less than approx. 29 (18)	_	_	OFF	OFF	L
		—	Vehicle is absent	OFF	OFF	-
		OFF	Vehicle is detected	ON	OFF	Μ
ON	Approx. 32 (20) or more	ON (Vehicle de- tected direc- tion)	Before turn signal oper- ates Vehicle is detected	Blink 200 ms Indicator OFF 200 ms JSOIA0251GB Blink 200 ms JSOIA0251GB	Short continuous beep Buzzer ON Buzzer OFF 570 ms JSOIA0452GB	N DAS P
			ter turn sig- nal operates	Indicator OFF 200 ms JSOIA0251GB		

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< 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

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes	
C1A00	CONTROL UNIT	BSW control module internal malfunction	BSW control module	
TC CONFI	RMATION PROCEDU	IRE		
.PERFORM	DTC CONFIRMATION	I PROCEDURE		
Check if th <u>"C1A00" de</u> YES >> R	All DTC Reading" with	as the current malfunction in "Self Dia alfunction?	agnostic Result" of "BSW".	
Diagnosis Procedure				
	ELF-DIAGNOSIS RESU	ILTS " is detected in "Self Diagnostic Resul	t" of "BSW"	
any DTC de		is detected in Sen Diagnostic Resul		
'ES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-22, "DTC Index"</u> .				
NO >> R	eplace the BSW contro	I module. Refer to <u>DAS-77, "Removal</u>	and Installation".	

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[BSW]

INFOID:000000007492671

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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:000000007492673

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, fuseBSW control module
C1A02	POWER SUPPLY CIR 2	The battery voltage sent to BSW control module remains more than 19.3 V for 5 seconds	

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-36, "Diagnosis Procedure". YES

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

Diagnosis Procedure

INFOID:000000007492674

1.CHECK BSW CONTROL MODULE POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of BSW control module. Refer to DAS-68, "BSW CONTROL MODULE : Diagnosis Procedure".

Is the inspection result normal?

- YES >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation".
- NO >> Repair or replace the malfunctioning parts.

< DTC/CIRCUIT DIAGNOSIS >

C1A03 VEHICLE SPEED SENSOR

DTC Logic

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INFOID:000000007492675

[BSW]

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
C1A03	VHCL SPEED SE CIRC	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) re- ceived by the BSW control module via CAN communication, are inconsistent	 Wheel speed sensor ABS actuator and electric unit (control unit) BSW control module
	3" is detected along	g with DTC "U1000", first diagnose the D i <u>c"</u>	TC "U1000". Refer to <u>DAS-46. "BSW</u>
	RMATION PROC		
.PERFORM	I DTC CONFIRMA	TION PROCEDURE	
Drive the CAUTIO	BSW system ON. vehicle at 30 km/h <mark>N:</mark>	(19 MPH) or more.	
Stop the Perform '	All DTC Reading"	with CONSULT. acted as the current malfunction in "Self I	Diagnostic Result" of "BSW".
(ES >> R	etected as the curre Refer to <u>DAS-37, "D</u> Refer to <u>GI-42, "Inte</u>	iagnosis Procedure".	
iagnosis	Procedure		INFOID:00000007492676
.CHECK S	ELF-DIAGNOSIS R	RESULTS	
		er than "C1A03" in "Self Diagnostic Resu	ult" of "BSW".
F	Perform the CAN co Refer to <u>DAS-46, "B</u>	ommunication system inspection. Repair SW CONTROL MODULE : DTC Logic".	or replace the malfunctioning parts.
	O TO 2.	ID ELECTRIC UNIT (CONTROL UNIT) \$	SELE-DIAGNOSIS RESULTS
	BS ACTUATOR AN		
CHECK A		"Self Diagnostic Result" of "ABS".	
CHECK Al heck if any l any DTC d	DTC is detected in etected?	"Self Diagnostic Result" of "ABS".	
CHECK Al heck if any I any DTC d YES >> F	DTC is detected in etected?	"Self Diagnostic Result" of "ABS". on the detected DTC and repair or repla	

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C1B50 SIDE RADAR MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

C1B50 SIDE RADAR MALFUNCTION

DTC LOGIC

[BSW]

INFOID:000000007492677

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 DAS-38, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007492678

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-27, "DTC Index"</u> (SIDE RADAR RIGHT) or <u>DAS-25, "DTC Index"</u> (SIDE RADAR LEFT).
- NO >> Replace the side radar. Refer to <u>DAS-78. "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:000000007492679

	Trouble diagnosis n	lame	DTC detecting condition	Possible cause
1B51	BSW/BSI IND SHOR		t circuit in BSW indicator circuit is detected. (Over cur- is detected)	BSW indicator circuitBSW indicatorSide radar
ссо	ONFIRMATION P	ROCEDL	IRE	
PERI	FORM DTC CONF	IRMATION	I PROCEDURE	
Per Che	t the engine. form "All DTC Read eck if the "C1B51" i HT/LEFT".		CONSULT. I as the current malfunction in "Self Diagnos	tic Result" of "SIDE RADAR
he "C	C1B51" detected as	the currer	nt malfunction?	
ES O	>> Refer to DAS-		osis Procedure".	
ayın	osis Procedure	:		INFOID:00000000749268
CHE	CK BSW INDICAT	OR CIRCU	IT FOR SHORT	
Disc		harness co	onnector and BSW indicator harness connected adar harness connector and ground.	tor.
Connec	Side radar ctor Terminal	Ground	Continuity	
Connec B57 (L B317 (I	ctor Terminal H) 6	Ground	Continuity Not existed	
B57 (L B317 (F the in	ctor Terminal H) 6 RH) 6 spection result nor			
B57 (L B317 (F the in (ES	ctor Terminal H) 6 RH) 6 spection result norm	mal?	Not existed	
B57 (L B317 (F the in: YES NO	ctor Terminal H) 6 Spection result norm >> GO TO 2. >> Repair the har	<u>mal?</u> nesses or	Not existed	
B57 (L B317 (F the in YES NO .REPI	ctor Terminal H) 6 spection result norr >> GO TO 2. >> Repair the har LACE THE SIDE R	<u>mal?</u> nesses or ADAR	Not existed	
B57 (L B317 (F the in (ES NO .REPI Rep Peri	ctor Terminal H) 6 spection result norr >> GO TO 2. >> Repair the har LACE THE SIDE R blace the side radar form "All DTC Read	mal? nesses or ADAR r. ding" with (Not existed	
B57 (L B317 (I the in YES NO .REPI Rep Peri Che	CtorTerminalH)6RH)6spection result norm>> GO TO 2.>> Repair the hardLACE THE SIDE Rblace the side radarform "All DTC Readeck if the "C1B51" is	mal? nesses or ADAR r. ding" with (s detected	Not existed	RIGHT/LEFT"
B57 (L B317 (f the in (ES NO .REPI Rep Peri Che the D	Ctor Terminal H) 6 Spection result norm >> GO TO 2. >> Repair the harm LACE THE SIDE R place the side radar form "All DTC Readed eck if the "C1B51" is TC "C1B51" detect	mal? nesses or ADAR r. ding" with (s detected <u>ed?</u>	Not existed connectors. CONSULT. in "Self Diagnostic Result" of "SIDE RADAR	RIGHT/LEFT"
B57 (L B317 (I the in YES NO .REPI Rep Peri Che	Ctor Terminal H) 6 Spection result norm >> GO TO 2. >> Repair the harm LACE THE SIDE R place the side radar form "All DTC Readed eck if the "C1B51" is TC "C1B51" detect	mal? nesses or ADAR r. ding" with (s detected ed? de radar. F	Not existed	RIGHT/LEFT"
B57 (L B317 (f the in 'ES JO .REPI Rep Peri Che the D' 'ES	ctor Terminal H) 6 Spection result norm >> GO TO 2. >> Repair the harm LACE THE SIDE R place the side radar form "All DTC Reade eck if the "C1B51" is TC "C1B51" detect >> Replace the side	mal? nesses or ADAR r. ding" with (s detected ed? de radar. F	Not existed connectors. CONSULT. in "Self Diagnostic Result" of "SIDE RADAR	RIGHT/LEFT"
B57 (L B317 (f ES IO .REPI Rep Peri Che the D	ctor Terminal H) 6 Spection result norm >> GO TO 2. >> Repair the harm LACE THE SIDE R place the side radar form "All DTC Reade eck if the "C1B51" is TC "C1B51" detect >> Replace the side	mal? nesses or ADAR r. ding" with (s detected ed? de radar. F	Not existed connectors. CONSULT. in "Self Diagnostic Result" of "SIDE RADAR	RIGHT/LEFT"
B57 (L B317 (f ES IO .REPI Rep Peri Che the D	ctor Terminal H) 6 Spection result norm >> GO TO 2. >> Repair the harm LACE THE SIDE R place the side radar form "All DTC Reade eck if the "C1B51" is TC "C1B51" detect >> Replace the side	mal? nesses or ADAR r. ding" with (s detected ed? de radar. F	Not existed connectors. CONSULT. in "Self Diagnostic Result" of "SIDE RADAR	RIGHT/LEFT"

C1B52 BSW/BSI INDICATOR OPEN CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

C1B52 BSW/BSI INDICATOR OPEN CIRCUIT

DTC Logic

INFOID:000000007492681

INFOID:000000007492682

[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.	BSW indicator circuitBSW indicatorSide radar

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-40, "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	Side radar Door mirror		Continuity	
	Connector	Terminal	Connector	Terminal	Continuity
_	B57 (LH)	6	D43 (LH)	1	Existed
	B317 (RH)	0	D3 (RH)		LAISteu

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 mirror		BSW indicator		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D43 (LH)	1	D201 (LH)	1	
D3 (RH)		D202 (RH)		Existed
D43 (LH)	10	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

< DTC/CIRCUIT DIAGNOSIS >

 Door mirror
 Continuity

 Connector
 Terminal

 D43 (LH)
 13

 D3 (RH)
 13

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4.CHECK SIDE RADAR VOLTAGE OUTPUT

1. Connect side radar harness connector.

2. Check voltage between door mirror harness connector and ground.

Door	mirror		Condition	Standard	Reference
Connector	Terminal	Ground	Condition	voltage	voltage (Approx.)
D43 (LH)		Ground	Ignition switch		0.14
D3 (RH)	1		$OFF \Rightarrow ON$ (Approx. 2 sec.)	5.5 - 16 V	6 V

Is the inspection result normal?

YES >> Replace glass mirror.

NO >> Replace side radar. Refer to DAS-78. "Removal and Installation".

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C1B53 SIDE RADAR RIGHT MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

C1B53 SIDE RADAR RIGHT MALFUNCTION

DTC Logic

INFOID:000000007492683

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

Diagnosis Procedure

INFOID:000000007492684

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-46, "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-27. "DTC Index"</u> (SIDE RADAR RIGHT).
- NO >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation".

C1B54 SIDE RADAR LEFT MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

C1B54 SIDE RADAR LEFT MALFUNCTION

DTC Logic

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INFOID:000000007492685

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B54	SIDE RDR L MALF	BSW control module detects that side radar LH has a malfunction.	Side radar LH
TC CON	FIRMATION PROCED	URE	
1.PERFC	ORM DTC CONFIRMATIO	N PROCEDURE	
2. Turn t 3. Perfor	he engine. he BSW system ON. m "All DTC Reading" with c if the "C1B54" is detected	CONSULT. d as the current malfunction in "Self Diagn	ostic Result" of "BSW".
YES >	<u>" detected as the current r</u> > Refer to <u>DAS-43, "Diagr</u> > Refer to <u>GI-42, "Intermit</u>	nosis Procedure".	
Diagnos	is Procedure		INFOID:00000007492686
1. CHECK	SELF-DIAGNOSIS RES	ULTS	
Check if "l	J1000" is detected other the	nan "C1B54" in "Self Diagnostic Result" of	"BSW".
	detected?		-
		nunication system inspection. Repair or re CONTROL MODULE : DTC Logic".	eplace the malfunctioning parts.
• ·	SELF-DIAGNOSIS RES	ULTS	
Check if a	ny DTC is detected in "Se	f Diagnostic Result" of "SIDE RADAR LEI	-T".
	<u>C detected?</u>	0	
YES >	 Perform diagnosis on the DAS-25, "DTC Index" (\$ 	ne detected DTC and repair or replace th	e malfunctioning parts. Refer to
NO >		ol module. Refer to <u>DAS-77, "Removal an</u>	d 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 deposit- ed.

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:000000007492688

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

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INFOID:000000007492690

INFOID:000000007492691

INFOID:000000007492692

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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 Communica-

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.

DAS-45

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 GI-42, "Intermittent Incident".

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	CAN communication systemBSW communication system

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-46

INFOID:000000007492694

INFOID:000000007492695

INFOID:000000007492697

INFOID:000000007492696

U1000 CAN COMM CIRCUIT	
< DTC/CIRCUIT DIAGNOSIS >	[BSW]
YES >> Refer to <u>LAN-17</u> , "Trouble Diagnosis Flow Chart". NO >> Refer to <u>GI-42</u> , "Intermittent Incident".	
NO >> Nelei lo <u>OF42, intermittent incident</u> .	

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-78, "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-78, "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-48

2012 QUEST

INFOID-000000007492704

INFOID:000000007492703

INFOID:000000007492700

INFOID-00000007492698

INFOID:000000007492699

INFOID:000000007492701

INFOID:000000007492702

[BSW]

< DTC/CIRCUIT DIAGNOSIS >

DTC DETECTION LOGIC

DTC

BSW CONTROL MODULE : DTC Logic

Trouble diagnosis name

DTC detecting condition

Possible causes

INFOID:000000007492705

2012 QUEST

U1010	CONTROL UNIT (CAN)	If BSW control module detects malfunction by CAN controller initial diagnosis	BSW control module
SW CONT	ROL MODULE :	: Diagnosis Procedure	INF0/D:000000007492706
.PERFORM	DTC CONFIRMATIO	N PROCEDURE	
Perform "A Check if th		d as the current malfunction in "Self Dia	gnostic Result" of "BSW".
	ected as the current n eplace the BSW contro	nalfunction? ol module. Refer to <u>DAS-77, "Removal</u>	and Installation".
	SPECTION END		<u></u>

DAS-49

[BSW]

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< DTC/CIRCUIT DIAGNOSIS >

U0104 ADAS CAN 1

DTC Logic

INFOID:000000007492707

[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-45, "SIDE</u> <u>RADAR LH : DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-46, "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-50, "Diagnosis Procedure"</u>.

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

Diagnosis Procedure

INFOID:000000007492708

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-45</u>, "<u>SIDE RADAR LH</u> : <u>DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-46</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-22, "DTC Index"</u>.
- NO >> Replace side radar LH or RH. Refer to <u>DAS-78</u>, "Removal and Installation"

U0121 VDC CAN 2

< DTC/CIRCUIT DIAGNOSIS >

U0121 VDC CAN 2

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INFOID:000000007492709

DTC DETECTION LOGIC

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)
	1" is detected along wit ODULE : DTC Logic ["] .	h DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-46, "BSW</u>
DTC CONFI	RMATION PROCED	JRE	
1.PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
	engine. 3SW system ON. All DTC Reading" with	CONSULT.	
4. Check if t <u>ls "U0121" de</u> YES >> R		as the current malfunction in "Self Dia nalfunction? nosis Procedure".	gnostic Result" of "BSW".
Diagnosis			INF0ID:00000007492710
1.CHECK SI	ELF-DIAGNOSIS RESI	JLTS	
Check if "U10	00" is detected other th	nan "U0121" in "Self Diagnostic Result"	of "BSW".
ls "U1000" de	tected?		
R	efer to DAS-46, "BSW	unication system inspection. Repair of CONTROL MODULE : DTC Logic".	replace the malfunctioning parts.
	O TO 2. 35 ACTUATOR AND F	LECTRIC UNIT (CONTROL UNIT) SE	F-DIAGNOSIS RESULTS
		f Diagnostic Result" of "ABS".	
Chack if any I		Diagnostic Nesuli ULADS.	
	etected?		
l <u>s any DTC de</u> YES >> P		e detected DTC and repair or replace	the malfunctioning parts. Refer to

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U0401 ECM CAN 1

< DTC/CIRCUIT DIAGNOSIS >

U0401 ECM CAN 1

DTC Logic

[BSW]

INFOID:000000007492711

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-46, "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-52, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:000000007492712

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-46, "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-93, "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-77</u>, "Removal and Installation".

U0402 TCM CAN 1

< DTC/CIRCUIT DIAGNOSIS >

U0402 TCM CAN 1

DTC Logic

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[BSW]

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INFOID:000000007492713 DTC DETECTION LOGIC DTC DTC detecting condition Possible causes Trouble diagnosis name If BSW control module detects an error signal that U0402 тсм TCM CAN CIRC1 is received from TCM via CAN communication NOTE: If DTC "U0402" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to DAS-46, "BSW CONTROL MODULE : DTC Logic". DTC CONFIRMATION PROCEDURE 1.PERFORM DTC CONFIRMATION PROCEDURE Start the engine. Turn the BSW system ON. Perform "All DTC Reading" with CONSULT. Check if the "U0402" is detected as the current malfunction in "Self Diagnostic Result" of "BSW". Is "U0402" detected as the current malfunction? YES >> Refer to DAS-53, "Diagnosis Procedure". >> Refer to GI-42, "Intermittent Incident". Diagnosis Procedure INFOID:000000007492714 1.CHECK SELF-DIAGNOSIS RESULTS Check if "U1000" is detected other than "U0402" 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-46, "BSW CONTROL MODULE : DTC Logic".

NO >> GO TO 2.

2.CHECK TCM SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to L TM-48, "DTC Index".
- NO >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation".

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< DTC/CIRCUIT DIAGNOSIS >

U0405 ADAS CAN 2

DTC Logic

INFOID:000000007492715

[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-45, "SIDE</u> <u>RADAR LH : DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-45, "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 <u>DAS-54, "Diagnosis Procedure"</u>.

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

Diagnosis Procedure

INFOID:000000007492716

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-45</u>, "<u>SIDE RADAR LH</u> : <u>DTC Logic</u>" (SIDE RADAR LEFT), <u>DAS-46</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-22, "DTC Index"</u>.
- NO >> Replace side radar LH or RH. Refer to <u>DAS-78</u>, "Removal and Installation".

U0415 VDC CAN 1

< DTC/CIRCUIT DIAGNOSIS >

U0415 VDC CAN 1

DTC Logic

[BSW]

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INFOID:000000007492717

DTC DETECTION LOGIC	2
DIC DETECTION LOGI	

DTC	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 MODULE : DTC Logic".	th DTC "U1000", first diagnose the DTC	C "U1000". Refer to <u>DAS-46, "BSW</u>
TC CONF	IRMATION PROCED	URE	
.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
8. Perform	BSW system ON. "All DTC Reading" with		
	the "U0415" is detected etected as the current r	d as the current malfunction in "Self Dia	ignostic Result" of "BSW".
	Refer to <u>DAS-55, "Diag</u>		
	Refer to <u>GI-42, "Intermit</u>		
Diagnosis	Procedure		INFOID:00000007492718
.снеска	SELF-DIAGNOSIS RES	ULTS	
Check if "U1	000" is detected other t	han "U0415" in "Self Diagnostic Result"	of "BSW".
<u>s "U1000" d</u>			
	Refer to <u>DAS-46, "BSW</u>	nunication system inspection. Repair o <u>CONTROL MODULE : DTC Logic</u> ".	r replace the malfunctioning parts.
`	GO TO 2.		
		ELECTRIC UNIT (CONTROL UNIT) SE	LF-DIAGNOSIS RESULIS
•		If Diagnostic Result" of "ABS".	
	detected?		
s any DTC (.		
YES >>	Perform diagnosis on th BRC-37, "DTC Index".	ne detected DTC and repair or replace	the malfunctioning parts. Refer to

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U150B ECM CAN 3

< DTC/CIRCUIT DIAGNOSIS >

U150B ECM CAN 3

DTC Logic

[BSW]

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-46, "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-56, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:000000007492720

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-46, "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-93, "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-77</u>, "Removal and Installation".

U150C VDC CAN 3

< DTC/CIRCUIT DIAGNOSIS >

U150C VDC CAN 3

DTC Logic

[BSW]

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INFOID:000000007492721

DTC DETECTION LOGIC

	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:	C" is detected along wi	th DTC "U1000", first diagnose the DTC	"111000" Refer to DAS-46 "BSW
	<u>IODULE : DTC Logic"</u> .	in Die Orobo, nist diagnose the Die	01000 . Kelel to <u>DA3-40, D3W</u>
DTC CONFI	RMATION PROCED	URE	
1.PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
1. Start the	engine.		
	BSW system ON.	CONSULT	
	'All DTC Reading" with the "U150C" is detected	d as the current malfunction in "Self Dia	gnostic Result" of "BSW".
<u>ls "U150C" d</u>	etected as the current r	nalfunction?	-
	Refer to <u>DAS-57, "Diag</u> Refer to GI-42, "Intermit		
		tent incident.	
Diagnosis	Procedure		INFOID:00000007492722
1. CHECK S	ELF-DIAGNOSIS RES	ULTS	
		ULTS nan "U150C" in "Self Diagnostic Result"	of "BSW".
	000" is detected other th		of "BSW".
Check if "U10 <u>Is "U1000" de</u> YES >> F	000" is detected other the	nan "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or	
Check if "U10 <u>Is "U1000" de</u> YES >> F F	000" is detected other the	nan "U150C" in "Self Diagnostic Result"	
Check if "U10 <u>Is "U1000" de</u> YES >> F F NO >> 0	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2.	nan "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> .	replace the malfunctioning parts.
Check if "U10 I <u>s "U1000" de</u> YES >> F F NO >> 0 2. CHECK A	000" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. BS ACTUATOR AND E	nan "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or	replace the malfunctioning parts.
Check if "U10 I <u>s "U1000" de</u> YES >> F F NO >> 0 2. CHECK A	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se	nan "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> . ELECTRIC UNIT (CONTROL UNIT) SEL	replace the malfunctioning parts.
Check if "U10 Is "U1000" de YES >> F NO >> C 2.CHECK A Check if any Is any DTC d YES >> F	000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se etected?	nan "U150C" in "Self Diagnostic Result" nunication system inspection. Repair or <u>CONTROL MODULE : DTC Logic"</u> . ELECTRIC UNIT (CONTROL UNIT) SEL	replace the malfunctioning parts. F-DIAGNOSIS RESULTS

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U150D TCM CAN 3

< DTC/CIRCUIT DIAGNOSIS >

U150D TCM CAN 3

DTC Logic

[BSW]

INFOID:000000007492723

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-46, "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-58, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:000000007492724

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-46, "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-48, "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-77</u>, "Removal and Installation".

U150E BCM CAN 3

< DTC/CIRCUIT DIAGNOSIS >

U150E BCM CAN 3

DTC DETECTION LOGIC

DTC Logic

[BSW]

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INFOID:000000007492725

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 MODULE : DTC Logic".	th DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-46, "BSW</u>
TC CONF	IRMATION PROCED	URE	
1 .PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
. Start the			
 Turn the Perform 	BSW system ON. "All DTC Reading" with	CONSULT.	
		as the current malfunction in "Self Dia	gnostic Result" of "BSW".
	etected as the current r		
	Refer to <u>DAS-59, "Diag</u> ı Refer to <u>GI-42, "Intermit</u>		
		tent incident.	
Jiagnosis	Procedure		INFOID:000000007492726
1. снеск s	SELF-DIAGNOSIS RES	ULTS	
Check if "U1	000" is detected other th	nan "U150E" in "Self Diagnostic Result"	of "BSW".
s "U1000" d	etected?	-	
		nunication system inspection. Repair or	r replace the malfunctioning parts.
	Refer to <u>DAS-46, "BSW</u> GO TO 2.	CONTROL MODULE : DTC Logic".	
^	BCM SELF-DIAGNOSIS	RESULTS	
s any DTC o		f Diagnostic Result" of "BCM".	
YES >> I		ne detected DTC and repair or replace	the malfunctioning parts. Refer to
	DCS-SS, DTC IIIUEX.		

NO >> Replace the BSW control module. Refer to <u>DAS-77, "Removal and Installation"</u>.

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U1503 SIDE RDR L CAN 2

< DTC/CIRCUIT DIAGNOSIS >

U1503 SIDE RDR L CAN 2

DTC Logic

INFOID:000000007492727

[BSW]

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-46, "BSW CONTROL MODULE : DTC Logic"</u> for DTC "U1000".
- Refer to DAS-65, "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-60, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:000000007492728

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-46, "BSW CONTROL MODULE : DTC Logic"</u>.
- YES-2 >> U1508 detected: Refer to DAS-65, "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-25. "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-77, "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:000000007492729

DTC DETECTION LOGIC

	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>DAS</u> Refer to <u>DAS</u>			DTC "U1000" or "U1508".
.PERFORM	I DTC CONFIRMATION F	PROCEDURE	
B. Perform "	3SW system ON. All DTC Reading" with CC		
<u>s "U1504" det</u> YES >> R	he "U1504" is detected as <u>tected as the current malf</u> efer to <u>DAS-61, "Diagnos</u> efer to <u>GI-42, "Intermitten</u>	is Procedure".	Result" of "BSW".
Diagnosis I		<u>i modent</u> .	INFOID:000000007492730
.CHECK SE	ELF-DIAGNOSIS RESULT	rs	
Check if "U10	00" or "U1508" is detected	d other than "U1504" in "Self Diagnostic Resu	Ilt" of "BSW".
YES-1 >> U fu YES-2 >> U	nctioning parts. Refer to [1508 detected: Refer to [he CAN communication system inspection. F DAS-46, "BSW CONTROL MODULE : DTC L DAS-65, "DTC Logic".	
	O TO 2.		
CHECK SI	DE RADAR LH SELF-DIA		
	NTC is detected in "Calf D	iagnostic Result" of "SIDE RADAR LEFT".	
s any DTC de	etected?	detected DTC and repair or replace the malf	

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U1505 SIDE RDR R CAN 2

< DTC/CIRCUIT DIAGNOSIS >

U1505 SIDE RDR R CAN 2

DTC Logic

INFOID:000000007492731

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-46, "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-62, "Diagnosis Procedure".
- NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:000000007492732

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-46, "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-27, "DTC Index".
- NO >> Replace the BSW control module. Refer to <u>DAS-77</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:000000007492733

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1506	SIDE RDR R CAN CIR 1	BSW control module detects an error signal that is received from side radar RH via BSW communication	Side radar RH
	06" is detected along with [MODULE : DTC Logic".	DTC "U1000", first diagnose the DTC "U1000	". Refer to <u>DAS-46, "BSN</u>
DTC CONF	IRMATION PROCEDUR	E	
1.PERFOR	M DTC CONFIRMATION F	PROCEDURE	
 Turn the Perform 	e engine. BSW system ON. "All DTC Reading" with CO		
	the "U1506" is detected as etected as the current malf	s the current malfunction in "Self Diagnostic F	Result" of "BSW".
	Refer to <u>DAS-63, "Diagnos</u>		
	Refer to GI-42, "Intermitten		
Diagnosis	Procedure		INFOID:0000000749273
1.снеска	SELF-DIAGNOSIS RESUL	rs	
Check if "U1	000" is detected other than	"U1506" in "Self Diagnostic Result" of "BSW	¹¹ .
<u>ls "U1000" d</u>			
		ication system inspection. Repair or replace DNTROL MODULE : DTC Logic".	the malfunctioning parts
	GO TO 2.	 	
2.снеск в	SIDE RADAR RH SELF-DI	AGNOSIS RESULTS	
Check if any	DTC is detected in "Self D	iagnostic Result" of "SIDE RADAR RIGHT".	
s any DTC o	detected?		
		detected DTC and repair or replace the mal	functioning parts. Refer to
	DAS-27, "DTC Index".	andula Defente DAC 77 "Demoval and last	11 - C - H

NO >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation".

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U1507 LOST COMM(SIDE RDR R)

< DTC/CIRCUIT DIAGNOSIS >

U1507 LOST COMM(SIDE RDR R)

DTC Logic

INFOID:000000007492735

[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	BSW communication systemSide radar RH

NOTE:

If DTC "U1507" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-46, "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 <u>DAS-64, "Diagnosis Procedure"</u>.

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

Diagnosis Procedure

INFOID:000000007492736

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-46, "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-27, "DTC Index".
- NO >> Replace the BSW control module. Refer to <u>DAS-77, "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:000000007492737

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 connectorBSW communication systemSide radar LH
NOTE: DTC "U1508"	is detected along with	DTC "U1000", first diagnose the DTC "	J1508".
TC CONFI	RMATION PROCED	URE	
PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
I. Start the	engine. BSW system ON.		
3. Perform '	All DTC Reading" with		pnostic Result" of "BSW".
3. Perform ' 4. Check if t <u>s "U1508" de</u> YES >> R	All DTC Reading" with	d as the current malfunction in "Self Dia <u>g</u> nalfunction? nosis Procedure".	gnostic Result" of "BSW".
3. Perform ' 4. Check if f <u>s "U1508" de</u> YES >> R NO >> R	All DTC Reading" with the "U1508" is detected tected as the current n tefer to <u>DAS-65. "Diag</u> r	d as the current malfunction in "Self Dia <u>g</u> nalfunction? nosis Procedure".	gnostic Result" of "BSW".
3. Perform ' 4. Check if t <u>s "U1508" de</u> YES >> R NO >> R Diagnosis	All DTC Reading" with the "U1508" is detected tected as the current n defer to <u>DAS-65, "Diagr</u> defer to <u>GI-42, "Intermit</u>	d as the current malfunction in "Self Diag <u>nalfunction?</u> <u>nosis Procedure"</u> . <u>ttent Incident"</u> .	
 Perform ' Check if t Check if t YES >> R NO >> R Diagnosis CHECK SI Turn the 2. Check the 	All DTC Reading" with the "U1508" is detected stected as the current n defer to <u>DAS-65. "Diagr</u> defer to <u>GI-42, "Intermit</u> Procedure DE RADAR HARNESS ignition switch OFF. e terminals and connect	d as the current malfunction in "Self Diag <u>nalfunction?</u> <u>nosis Procedure"</u> . <u>ttent Incident"</u> .	INFOID:000000007492738
 Perform ' Check if t Check if t <u>s "U1508" de</u> YES >> R NO >> R Diagnosis CHECK SI CHECK SI Turn the Check the nector side 	All DTC Reading" with the "U1508" is detected stected as the current n defer to <u>DAS-65. "Diagr</u> defer to <u>GI-42, "Intermit</u> Procedure DE RADAR HARNESS ignition switch OFF. e terminals and connect	d as the current malfunction in "Self Diag <u>nalfunction?</u> <u>nosis Procedure"</u> . <u>ttent Incident"</u> . S CONNECTOR	INFOID:000000007492738
 Perform ' Check if the second second	All DTC Reading" with the "U1508" is detected as the current n tefer to <u>DAS-65. "Diagr</u> tefer to <u>GI-42, "Intermit</u> Procedure DE RADAR HARNESS ignition switch OFF. e terminals and connect de). ion result normal? Perform the CAN comm	d as the current malfunction in "Self Diag <u>nalfunction?</u> <u>hosis Procedure"</u> . <u>ttent Incident"</u> . S CONNECTOR ctors of the side radar LH for damage, to nunication system inspection. Repair or <u>ole Diagnosis Flow Chart"</u> .	INFOID:00000007492738 Dend and short (unit side and con-

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U1518 SIDE RDR L CAN 3

< DTC/CIRCUIT DIAGNOSIS >

U1518 SIDE RDR L CAN 3

DTC Logic

INFOID:000000007492739

[BSW]

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-46, "BSW CONTROL MODULE : DTC Logic"</u> for DTC "U1000".
- Refer to DAS-65, "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-66, "Diagnosis Procedure"</u>.
- NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

Diagnosis Procedure

INFOID:000000007492740

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-46, "BSW CONTROL MODULE : DTC Logic"</u>.
- YES-2 >> U1508 detected: Refer to DAS-65, "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-25. "DTC Index"</u>.
- NO >> Replace the BSW control module. Refer to <u>DAS-77, "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:000000007492741

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 I <u>/ODULE : DTC Logic"</u> .	DTC "U1000", first diagnose the DTC "U1000	". Refer to <u>DAS-46, "BSW</u>
DTC CONF	IRMATION PROCEDUR	E	
1.PERFOR	M DTC CONFIRMATION F	PROCEDURE	
1. Start the	engine.		
	BSW system ON.		
 Perform Check if 	"All DTC Reading" with CC the "U1519" is detected as	Sthe current malfunction in "Self Diagnostic F	Result" of "BSW"
s "U1519" d	etected as the current malf	function?	
YES >>	<u>etected as the current malf</u> Refer to <u>DAS-67, "Diagnos</u>	is Procedure".	
YES >>		is Procedure".	
YES >> NO >>	Refer to <u>DAS-67, "Diagnos</u>	is Procedure".	INFOID:000000007492742
YES >> NO >> Diagnosis	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure	<u>is Procedure"</u> . <u>at Incident"</u> .	INFOID:000000007492742
YES >> NO >> Diagnosis 1.check s	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESUL ⁻	<u>is Procedure"</u> . <u>it Incident"</u> . TS	
YES >> NO >> Diagnosis 1.CHECK S	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESUL ⁻ 000" is detected other than	<u>is Procedure"</u> . <u>at Incident"</u> .	
YES >> NO >> Diagnosis 1.CHECK S Check if "U1	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u>	<u>is Procedure"</u> . <u>it Incident"</u> . TS	n
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >>	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u> Perform the CAN commun Refer to <u>DAS-46, "BSW CC</u>	t <mark>is Procedure"</mark> . I <u>ncident"</u> . TS 1 "U1519" in "Self Diagnostic Result" of "BSW	n
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 S <u>"U1000" d</u> YES >> NO >>	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u> Perform the CAN commun Refer to <u>DAS-46, "BSW CO</u> GO TO 2.	<u>is Procedure"</u> . It Incident". "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic".	n
YES >> NO >> Diagnosis 1.CHECK s Check if "U1 <u>s "U1000" d</u> YES >> NO >> 2.CHECK s	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u> Perform the CAN commun Refer to <u>DAS-46, "BSW CC</u> GO TO 2. SIDE RADAR RH SELF-DI/	is Procedure". It Incident". "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic". AGNOSIS RESULTS	n
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >> NO >> 2.CHECK S Check if any	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure SELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u> Perform the CAN commun Refer to <u>DAS-46, "BSW CO</u> GO TO 2. SIDE RADAR RH SELF-DI/ DTC is detected in "Self D	<u>is Procedure"</u> . It Incident". "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic".	n
YES >> NO >> Diagnosis I.CHECK S Check if "U1 s "U1000" d YES >> NO >> 2.CHECK S Check if any s any DTC o	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure BELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u> Perform the CAN commun Refer to <u>DAS-46, "BSW CC</u> GO TO 2. BIDE RADAR RH SELF-DI/ DTC is detected in "Self D <u>detected?</u>	is Procedure". It Incident". TS "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic". AGNOSIS RESULTS viagnostic 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 o YES >>	Refer to <u>DAS-67, "Diagnos</u> Refer to <u>GI-42, "Intermitten</u> Procedure BELF-DIAGNOSIS RESULT 000" is detected other than <u>etected?</u> Perform the CAN commun Refer to <u>DAS-46, "BSW CC</u> GO TO 2. BIDE RADAR RH SELF-DI/ DTC is detected in "Self D <u>detected?</u>	is Procedure". It Incident". "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic". AGNOSIS RESULTS	". • 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 (Approx.)	
BSW control module			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	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-68

INFOID-000000007492743

INFOID:000000007492744

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		Condition	Que dition	
(-	+)	(-)	Condition	Standard	Reference
Side ra	adar LH		Ignition switch	voltage	voltage (Approx.)
Connector	Terminal				
		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:0000000749	2745
1.снеск ғыз	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	n result normal') 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				

- 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			
(·	+)	(–)	Condition	Standard	Reference voltage	
Side ra	idar RH		Ignition switch	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

			D3W 3		IKCUII		
< DTC/CIRC		NOSIS >					[BSW]
BSW SW	ITCH C	IRCUIT					
Componer	nt Functio	on Check					INFOID:000000007492746
1.снеск в			GNAI				
,	ignition swi		GNAL				
2. Select th	ne DATA MC	NITOR item		YS SW" of "B		CONSULT.	
3. With ope	erating the E	SVV SWITCH,	CNECK THE I	monitor status	5.		
Monitor item		Condition		Monitor status	_		
WARN SYS	BSW switch			On	_		
SW		is not pressed		OFF	-		
-	3SW switch	<u>ormal?</u> circuit is no S-71, "Diagr		dure".			
Diagnosis	Procedu	re					INF0ID:00000007492747
1. снеск в							
			INPUT				
	ignition swi erating the		n, check vo	ltage betwee	en BSW c	ontrol module	harness connector and
	Terminals		Condition		-		
	(+) (-) Voltage						
BSW contr			BSW switch	(Approx.) า			
Connector	Terminal	Ground	Pressed	0 V	_		
M61	1		Released	12 V	_		
Is the inspect	tion result n	ormal?	1		-		
	Replace the GO TO 2.	BSW contro	ol module. F	Refer to <u>DAS-</u>	-77, "Remo	oval and Installa	<u>ation"</u> .
2.снеск в		Ή					
	ition switch						
2. Remove	BSW switcl	h.	S-81 "Por	noval and Inst	tallation"		
Is the inspect					<u>tanation </u> .		
YES >> (GO TO 3.					Long (all 10 all 10	
NO >> F 3. CHECK B	•			<u>DAS-81, "Ren</u>	noval and	installation".	
				connector an	d the area	Ind	
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	511 Hall1655	CONTECTOR 411	ia trie grou	inu.	
BS	SW switch			Continuity	-		
Connector	Termi	nal G	Ground	Conunuity			
M60	2			Existed	_		
Is the inspect		ormal?					
	GO TO 4. Repair harne	ess or conne	ector.				
4.CHECK B	•			CUIT FOR OF	PEN		
		/ control mo					

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 cont	rol module	BSW	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	*	Not existed

Is the inspection result normal?

YES >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation".

NO >> Repair the harnesses or connectors.

Component Inspection

INFOID:000000007492748

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/CIRC		NOSIS >			[BSW]
BSW ON	INDICA	TOR CI	RCUIT		
Diagnosis Procedure					
1. CHECK BSW ON INDICATOR POWER SUPPLY CIRCUIT					
	tion switch				<u> </u>
 Disconne Turn ignit 	ect BSW sw tion switch	/itch connec ON.		ss connector a	and ground.
	Termi	nals			
	(+)		(-)	Voltage	
BS	W switch			(Approx.)	
Connector	Termi	inal C	Ground		
M60	5			Battery voltage	-
the inspect		ormal?			- -
	GO TO 2.		ootor pours		:4
	•		•	er supply circu	п.
		DICATOR SI	GNAL FOR		
	tion switch		dulo harnor	ss connector.	
					ess connector and BSW switch harness connec-
tor.	Julianty 50				
BSW contro	ol module	BSW	switch	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M61	4	M60	6	Existed	
s the inspect	ion result n	ormal?			
	O TO 3.			_	
`	•	arnesses or			1007
				CUIT FOR SH	
check continu	uity betwee	en the BSW	control moc	dule harness o	connector and ground.
8000			1		
	ontrol module		Nerve - 1	Continuity	
Connector	Termi		Ground	Net	-
M61	4	ormelQ		Not existed	
s the inspect YES >> 0	<u>ion result n</u> 30 TO 4.	iormal?			
		arnesses or	connectors	S.	
	-				
			to DAS-73	"Component	Inspection"
s the inspect			.o <u>ono no,</u>	Component	
YES >> R	Replace the	BSW contro			77, "Removal and Installation".
NO >> F	Replace BS	W switch. D	<u>AS-81, "Re</u>	moval and Ins	<u>stallation"</u> .
Componer	nt Inspec	tion			INFOID:000000007492750

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	6	When the battery voltage is applied	On	
		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-81, "Removal and Installation"</u>.

SYMPTOM DIAGNOSIS

BSW SYSTEM SYMPTOMS

А

С

INFOID:000000007492751 B

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 DAS-8, "System Description".

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	 BSW warning lamp signal (CAN) Combination meter BSW control module BSW warning lamp (combination meter) 	 Power supply and ground circuit of BSW control module Refer to <u>DAS-68, "BSW CONTROL MODULE : Diagnosis</u> <u>Procedure"</u> BSW control module Active test "BSW/BSI WARNING LAMP" Refer to <u>DAS-17, "CONSULT</u> <u>Function (BSW)"</u>. BSW control module Data monitor "BSW/BSI WARN LMP" Refer to <u>DAS-17, "CONSULT</u> <u>Function (BSW)"</u> Combination meter Data mon- itor "BSW W/L" Refer to <u>MWI-35, "CONSULT</u> <u>Function"</u>
	BSW ON indicator (on the BSW switch) does not illumi- nate	 Harness between BSW control module and BSW switch BSW switch BSW control module 	BSW ON indicator circuit Refer to <u>DAS-73, "Diagnosis Pro-</u> cedure"
	BSW indicator does not turn ON	 Harness between side radar and BSW indicator Side radar LH/RH BSW indicator 	Perform self-diagnosis of side ra- dar Refer to <u>DAS-19, "CONSULT</u> <u>Function (SIDE RADAR LEFT)"</u> or <u>DAS-20, "CONSULT Function</u> (<u>SIDE RADAR RIGHT)"</u>
BSW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF \Rightarrow ON.)	BSW ON indicator is not turned ON ⇔ OFF when op- erating BSW switch	 Harness between BSW control module and BSW switch Harness between BSW switch and ground BSW control module BSW switch 	BSW ON indicator circuit Refer to <u>DAS-73, "Diagnosis Pro-</u> cedure"
	Buzzer is not sounding	BSW control moduleCombination meter	Meter buzzer circuit Refer to <u>WCS-35, "Component</u> <u>Function Check"</u>

NORMAL OPERATING CONDITION

NORMAL OPERATING CONDITION

Description

INFOID:000000007492752

[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.

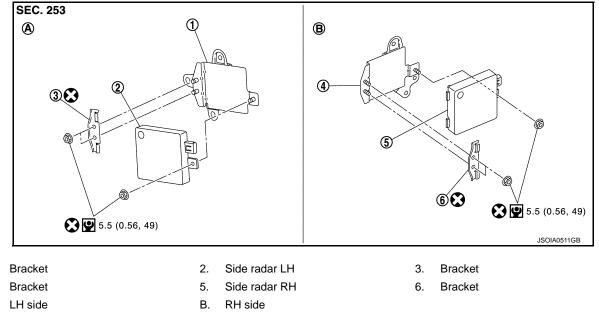
BSW CONTROL MODULE		
< REMOVAL AND INSTALLATION >	[BSW]	
REMOVAL AND INSTALLATION		А
BSW CONTROL MODULE		
Removal and Installation	INFOID:000000007492753	В
 REMOVAL Remove cluster lid C. Refer to <u>IP-13, "Removal and Installation"</u>. Remove mounting bolts from BSW control module. Disconnect BSW control module connector. 		С
4. Remove BSW control module. INSTALLATION		D
Install in the reverse order of removal.		Е
		F
		G
		Н
		I
		J
		K
		L
		Μ
		Ν
		DAS
	-	Ρ

< REMOVAL AND INSTALLATION >

SIDE RADAR

Removal and Installation

EXPLODED VIEW



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

REMOVAL AND INSTALLATION

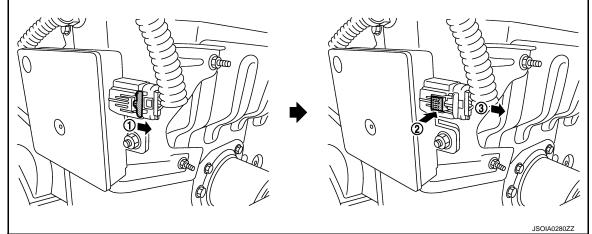
Removal

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4.

Α.

- 1. Remove the rear bumper fascia assembly. Refer to EXT-15, "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]

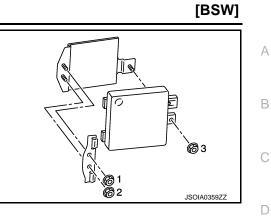
SIDE RADAR

< 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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F

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J

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L

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DAS

< REMOVAL AND INSTALLATION >

BSW INDICATOR

Exploded View

BSW indicator is installed on the door mirror surface. Refer to <u>MIR-29</u>, "<u>GLASS MIRROR</u> : <u>Removal and</u> <u>Installation</u>".

NOTE:

Always remove BSW indicator together with glass mirror.

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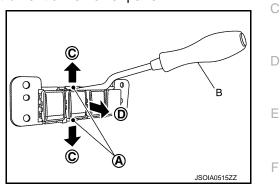
< REMOVAL AND INSTALLATION >

BSW SWITCH

Removal and Installation

REMOVAL

- 1. Remove the instrument lower panel (LH). Refer to IP-13, "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. [BSW]

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