# DAS SECTION **DRIVER ASSISTANCE SYSTEM**

А

В

С

D

Е

# **CONTENTS**

#### BSW

PRECAUTION	4
PRECAUTIONS Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER" Precaution for BSW System Service	4
SYSTEM DESCRIPTION	5
COMPONENT PARTS Component Parts Location BSW Control Module Side Radar LH/RH BSW Indicator LH/RH BSW Switch Combination Meter ABS Actuator and Electric Unit (Control Unit) BCM TCM ECM	5 6 7 7 7 7 7 7 7
SYSTEM System Description Circuit Diagram Fail-safe (BSW Control Module) Fail-safe (Side Radar)	8 12 12
OPERATION Switch Name and Function System Display and Warning	14
HANDLING PRECAUTION Precautions for Blind Spot Warning	
DIAGNOSIS SYSTEM (BSW CONTROL MODULE) CONSULT Function (BSW)	

BSW	CONSULT Function (SIDE RADAR LEFT)19 F
PRECAUTION4	DIAGNOSIS SYSTEM (SIDE RADAR RH)20 CONSULT Function (SIDE RADAR RIGHT)20
PRECAUTIONS 4 Precaution for Supplemental Restraint System	ECU DIAGNOSIS INFORMATION21
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"4	BSW CONTROL MODULE21 H Reference Value21
Precaution for BSW System Service4	Fail-safe22
SYSTEM DESCRIPTION5	DTC Inspection Priority Chart22 DTC Index22
COMPONENT PARTS5	SIDE RADAR LH24
Component Parts Location5 BSW Control Module6	Reference Value
Side Radar LH/RH6	Fail-safe25
BSW Indicator LH/RH7	DTC Inspection Priority Chart25
BSW Switch7	DTC Index25 K
Combination Meter	SIDE RADAR RH
SYSTEM	WIRING DIAGRAM
System Description8	
Circuit Diagram	BLIND SPOT WARNING28
Fail-safe (BSW Control Module)12 Fail-safe (Side Radar)13	Wiring Diagram28 N
OPERATION14	BASIC INSPECTION
Switch Name and Function14 System Display and Warning14	DIAGNOSIS AND REPAIR WORK FLOW30 Work Flow
HANDLING PRECAUTION16 Precautions for Blind Spot Warning	PRE-INSPECTION FOR DIAGNOSIS
	Inspection Procedure32
	ACTION TEST33
<b>MODULE)17</b> CONSULT Function (BSW)	Description33 Work Procedure
	WORK Procedure
DIAGNOSIS SYSTEM (SIDE RADAR LH)19	DTC/CIRCUIT DIAGNOSIS35

C1A00 CONTROL UNIT	35
DTC Logic	
Diagnosis Procedure	
C1A01 POWER SUPPLY CIRCUIT 1, C1A02	•••
POWER SUPPLY CIRCUIT 2	
DTC Logic	
Diagnosis Procedure	30
C1A03 VEHICLE SPEED SENSOR	. 37
DTC Logic	37
Diagnosis Procedure	
C1B50 SIDE RADAR MALFUNCTION	
DTC LOGIC	
Diagnosis Procedure	38
C1B51 BSW/BSI INDICATOR SHORT CIR-	
CUIT	. 39
DTC Logic	
Diagnosis Procedure	
C C	
C1B52 BSW/BSI INDICATOR OPEN CIR-	
CUIT	
DTC Logic	40
Diagnosis Procedure	40
C1B53 SIDE RADAR RIGHT MALFUNCTION.	. 42
DTC Logic	
Diagnosis Procedure	
C1B54 SIDE RADAR LEFT MALFUNCTION	-
DTC Logic	43
	43
DTC Logic Diagnosis Procedure	43 43
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE	43 43 43
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic	43 43 <b>44</b> 44
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure	43 43 <b>44</b> 44 44
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic	43 43 <b>44</b> 44 44
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT	43 43 • <b>44</b> 44 44 • <b>45</b>
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH	43 43 44 44 44 44 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description	43 43 44 44 44 44 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH	43 43 44 44 44 44 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure	43 43 44 44 44 44 44 44 45 45 45 45
DTC Logic Diagnosis Procedure <b>C1B55 RADAR BLOCKAGE</b> DTC Logic Diagnosis Procedure <b>U1000 CAN COMM CIRCUIT</b> <b>SIDE RADAR LH</b> SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure <b>SIDE RADAR RH</b>	43 43 44 44 44 44 44 45 45 45 45 45 45
DTC Logic Diagnosis Procedure <b>C1B55 RADAR BLOCKAGE</b> DTC Logic Diagnosis Procedure <b>U1000 CAN COMM CIRCUIT</b> <b>SIDE RADAR LH</b> SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH	43 43 44 44 44 44 44 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH	43 43 44 44 44 44 44 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure <b>C1B55 RADAR BLOCKAGE</b> DTC Logic Diagnosis Procedure <b>U1000 CAN COMM CIRCUIT</b> <b>SIDE RADAR LH</b> SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH	43 43 44 44 44 44 44 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH	43 43 44 44 44 44 44 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : DEscription SIDE RADAR RH : DTC Logic SIDE RADAR RH : DTC Logic SIDE RADAR RH : DTC Logic SIDE RADAR RH : DTC Logic	43 43 44 44 44 44 44 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : DTC Logic SIDE RADAR RH : Diagnosis Procedure	43 43 44 44 44 44 45 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR SIDE RADAR SIDE RADAR SIDE RADAR SIDE RADAR SIDE SID	43 43 44 44 44 44 45 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : Diagnosis Procedure SIDE RADAR RH : Diagnosis Procedure BSW CONTROL MODULE BSW CONTROL MODULE : DEscription BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DTC Logic	43 43 44 44 44 44 45 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : Description SIDE RADAR RH : DTC Logic SIDE RADAR RH : DIAGNOSIS Procedure BSW CONTROL MODULE : Description BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : Diagnosis Procedure	43 43 44 44 44 44 45 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : Diagnosis Procedure SIDE RADAR RH : Diagnosis Procedure BSW CONTROL MODULE BSW CONTROL MODULE : DEscription BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DTC Logic	43 43 44 44 44 44 45 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : Description SIDE RADAR RH : DTC Logic SIDE RADAR RH : DIAGNOSIS Procedure BSW CONTROL MODULE : Description BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : Diagnosis Procedure	43 43 43 44 44 44 45 45 45 45 45 45 45 45 45 45
DTC Logic Diagnosis Procedure C1B55 RADAR BLOCKAGE DTC Logic Diagnosis Procedure U1000 CAN COMM CIRCUIT SIDE RADAR LH SIDE RADAR LH : Description SIDE RADAR LH : DTC Logic SIDE RADAR LH : Diagnosis Procedure SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH SIDE RADAR RH : Description SIDE RADAR RH : DIC Logic SIDE RADAR RH : DTC Logic SIDE RADAR RH : DTC Logic SIDE RADAR RH : DTC Logic SIDE RADAR RH : DIC Logic SIDE RADAR RH : DIC Logic SIDE RADAR RH : Diagnosis Procedure BSW CONTROL MODULE : Description BSW CONTROL MODULE : DTC Logic BSW CONTROL MODULE : DIC Logic BSW CONTROL MODULE : DIAGNOSIS Procedure	43 43 43 44 44 44 45 45 45 45 45 45 45 45 45 45

SIDE RADAR LH : Diagnosis Procedure48
SIDE RADAR RH48SIDE RADAR RH : Description48SIDE RADAR RH : DTC Logic48SIDE RADAR RH : Diagnosis Procedure48
BSW CONTROL MODULE
U0104 ADAS CAN 1
U0121 VDC CAN 2
U0401 ECM CAN 1         52           DTC Logic         52           Diagnosis Procedure         52
U0402 TCM CAN 1
<b>U0405 ADAS CAN 2</b>
U0415 VDC CAN 1
U150B ECM CAN 3
U150C VDC CAN 3
U150D TCM CAN 3
U150E BCM CAN 3
U1503 SIDE RDR L CAN 2
U1504 SIDE RDR L CAN 1
U1505 SIDE RDR R CAN 2 62 DTC Logic

Diagnosis Procedure62
U1506 SIDE RDR R CAN 163 DTC Logic63 Diagnosis Procedure63
U1507 LOST COMM(SIDE RDR R)64
DTC Logic64 Diagnosis Procedure64
U1508 LOST COMM(SIDE RDR L)65
DTC Logic65 Diagnosis Procedure65
U1518 SIDE RDR L CAN 3
DTC Logic66 Diagnosis Procedure66
U1519 SIDE RDR R CAN 367 DTC Logic67 Diagnosis Procedure67
POWER SUPPLY AND GROUND CIRCUIT68
BSW CONTROL MODULE
SIDE RADAR LH
SIDE RADAR RH

>	BSW SWITCH CIRCUIT7	
<u>2</u> 3 3	Component Function Check	'1 '1
<b>1</b> 1	BSW ON INDICATOR CIRCUIT	'3
	SYMPTOM DIAGNOSIS7	'5
5	BSW SYSTEM SYMPTOMS7 Symptom Table7	
<b>5</b>	NORMAL OPERATING CONDITION7 Description7	
-	REMOVAL AND INSTALLATION7	7
7	BSW CONTROL MODULE7 Removal and Installation7	
3	SIDE RADAR	
3	BSW INDICATOR	
<b>3</b>	BSW SWITCH	

M

J

Κ

L

Ν

DAS

# PRECAUTION PRECAUTIONS

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

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

#### WARNING:

Always observe the following items for preventing accidental activation.

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

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

#### WARNING:

Always observe the following items for preventing accidental activation.

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

Precaution for BSW System Service

INFOID:000000008378256

#### 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** 



[BSW]

А

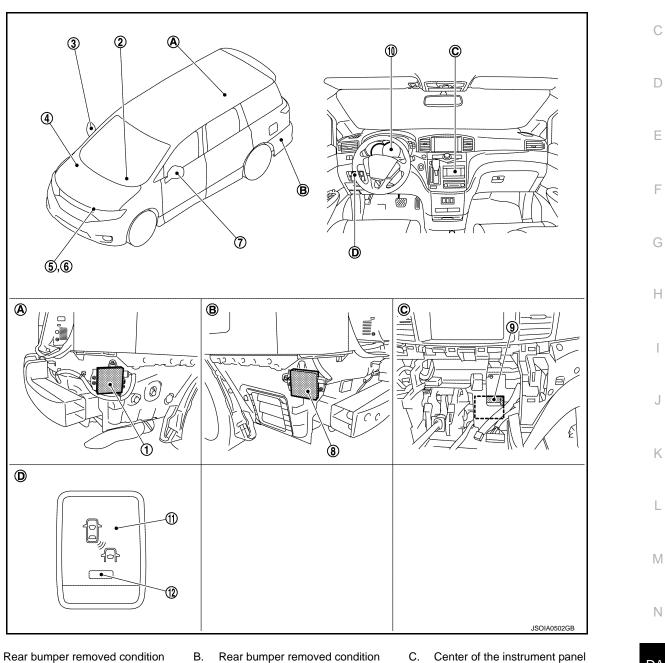
В

F

J

Κ

DAS



- Α. Rear bumper removed condition (RH)
- Β. Rear bumper removed condition (LH)
- Instrument lower panel (LH) D.

No.	Component	Function
1	Side radar RH	Refer to DAS-6, "Side Radar LH/RH"
2	ВСМ	Refer to <u>DAS-7, "BCM"</u> Refer to <u>BCS-4, "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed instal- lation location
3	BSW indicator RH	Refer to DAS-7, "BSW Indicator LH/RH"

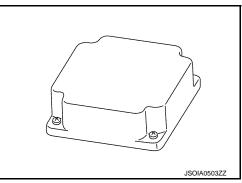
# **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

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	<ul> <li>Description: Refer to <u>DAS-7, "Combination Meter"</u></li> <li>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</li> </ul>
11	BSW switch	<ul> <li>Description: Refer to <u>DAS-7, "BSW Switch"</u></li> <li>System display and warning: <u>DAS-14, "Switch Name and Function"</u></li> </ul>
12	BSW ON indicator (On the BSW switch)	Refer to DAS-14, "System Display and Warning"

# **BSW Control Module**

INFOID:000000008378258



- 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**

## < SYSTEM DESCRIPTION >

[BSW]

# **BSW Indicator LH/RH**

indicator lamp.

Combination Meter

**BSW Switch** 

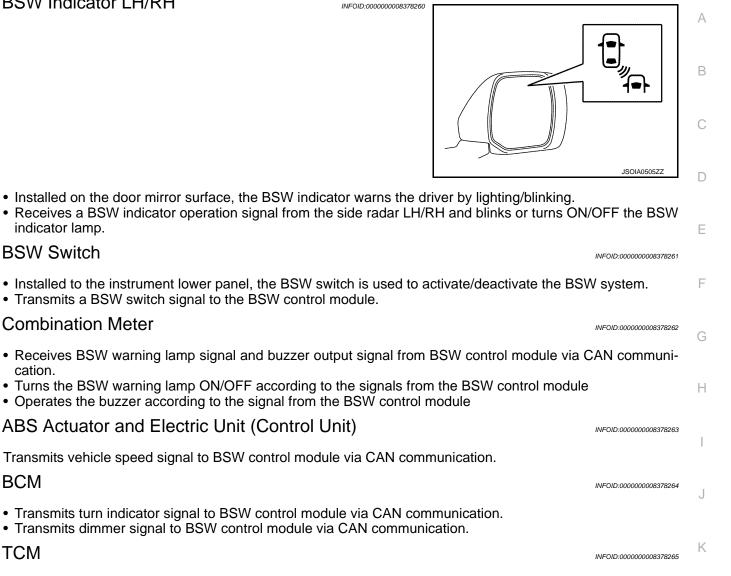
cation.

BCM

TCM

ECM

DID:0000000008378260	



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

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

L

M

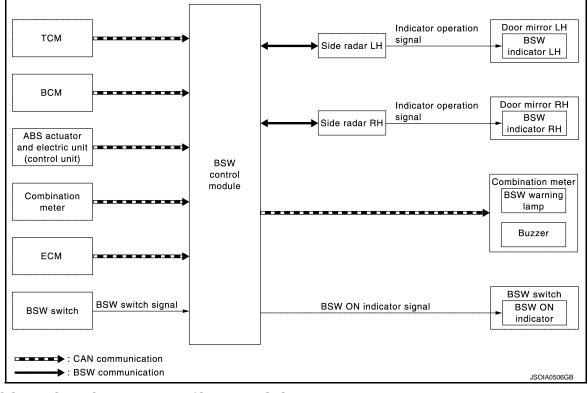
Ν

# < 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**

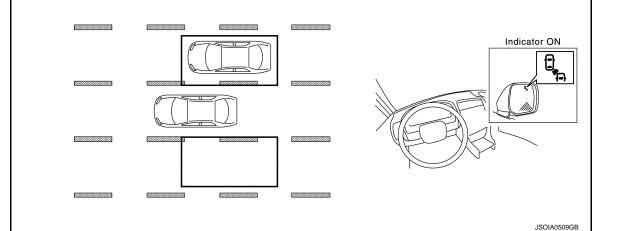
Reception unit	Signal name		Description
Combination meter	CAN communication	BSW warning lamp signal Buzzer output signal	Transmits a BSW warning lamp signal to turn ON the BSW warning lamp
			Transmits a buzzer output signal to activate buzzer

#### < SYSTEM DESCRIPTION >

Reception unit	Signal name		Description	
		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

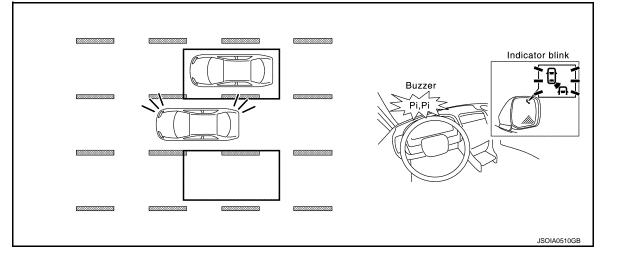
#### FUNCTION DESCRIPTION

- 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.

D

Е

F

Н

Κ

L

Μ

Ν

DAS

#### < 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>".

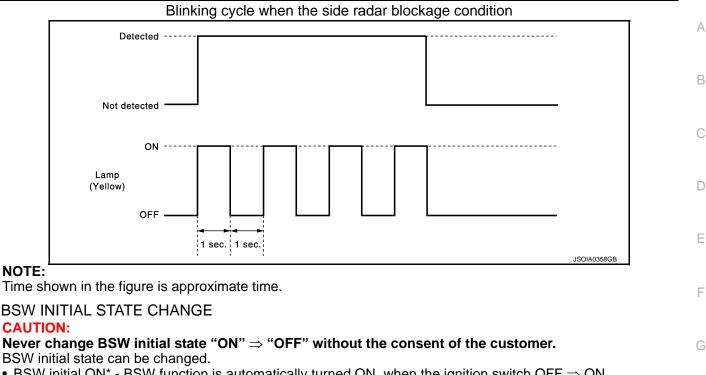
#### BULB CHECK ACTION AND FAIL-SAFE INDICATION

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 <sup>*</sup>	OFF → OFF (Yellow) ON JSOIA0374GB
When DTC is detected	OFF	ON	OFF
When radar blockage is detected	OFF	ON	OFF

\*: 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.

Κ

J

Н

L

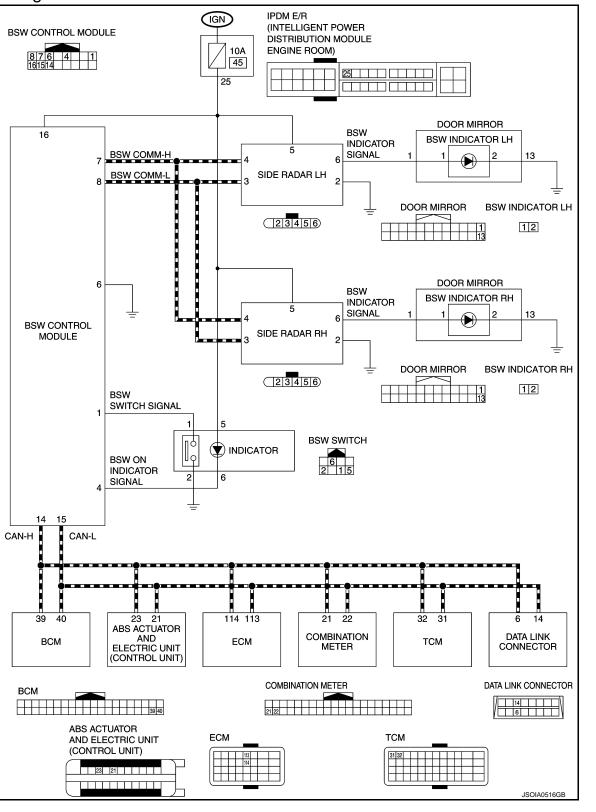
Μ

Ν

DAS

# < SYSTEM DESCRIPTION >

# Circuit Diagram



# Fail-safe (BSW Control Module)

INFOID:000000008378269

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 C

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
<ul> <li>TEMPORARY DISABLED STATUS AT BLOCKAGE</li> <li>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.</li> <li>The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.</li> </ul>	С
<ul> <li>The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.</li> </ul>	D
	Е
	F
	G
	Н
	I
	J
	K
	L
	Μ
	Ν

DAS

Ρ

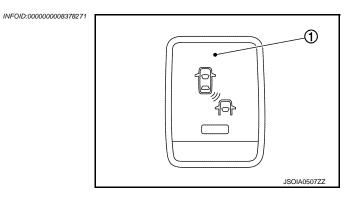
[BSW]

А

# < SYSTEM DESCRIPTION >

# OPERATION

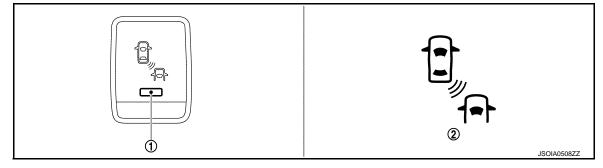
Switch Name and Function



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)	<ul><li>Turns ON when BSW system is malfunctioning</li><li>Blinks when radar blockage is detected</li></ul>

## DISPLAY AND WARNING OPERATION

	Vehicle condition/	Driver's operatio	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	
OFF		_	—	OFF	OFF	

[BSW]

# OPERATION

#### < SYSTEM DESCRIPTION >

	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	E
	Less than ap- prox. 29 (18)	_	_	OFF	OFF	C
		_	Vehicle is absent	OFF	OFF	-
		OFF	Vehicle is detected	ON	OFF	
				Blink	Short continuous beep	E
ON	N Approx. 32 (20) or more ON (Vehicle de- tected direc- tion) Vehic dete Vehic dete tected direc- ter tur		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 JSOIA0452GB	F
		Vehicle is detected af- ter turn sig- nal operates	Blink 200 ms Indicator ON Indicator OFF 200 ms JSOIA0251GB	OFF	ŀ	

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.

Κ

L

Μ

Ν

DAS

# 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:

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

Monitored item [Unit]	SIGNAL A	SW MAIN SIGNAL	Description
		BSW	
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

[BSW]

INFOID:000000008378274

В

F

# **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 BOZZER	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	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	C
Self Diagnostic Result	Displays memorized DTC in the side radar	
Data Monitor	Displays real-time data of side radar	Г
Active Test	Enables operation check of electrical loads by sending driving signal to them	L
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 dis- played	Н
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed	

# DATA MONITOR

#### NOTE:

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

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

# ACTIVE TEST

#### CAUTION:

Never perform the active test while driving.

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

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

А

В

Е

DAS

# DIAGNOSIS SYSTEM (SIDE RADAR RH)

# CONSULT Function (SIDE RADAR RIGHT)

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 dis- played
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

## DATA MONITOR

#### NOTE:

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

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

# ACTIVE TEST

#### CAUTION:

#### Never perform the active test while driving.

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

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

# ECU DIAGNOSIS INFORMATION BSW CONTROL MODULE

### **Reference Value**

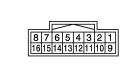
### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

Monitor item	Condition		Value/Status
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 blinking	3	LH
Turn signal	Turn signal lamp RH blinkin	g	RH
	Turn signal lamp LH and RH	1 blinking	LH&RH
WARN SYS SW	Invition quitch ON	When BSW switch is pressed	On
WARIN 515 5W	Ignition switch ON	When BSW switch is not pressed	Off
BSW/BSI WARN LMP	Ignition quitch ON	BSW warning lamp ON	On
DOVV/BOI VVARIN LIVIP	Ignition switch ON	BSW warning lamp OFF	Off
BSW SYSTEM ON	Ignition out tob ON	When the BSW system is ON (BSW ON indicator ON)	On
	Ignition switch ON	When the BSW system is OFF (BSW ON indicator OFF)	Off

# TERMINAL LAYOUT PHYSICAL VALUES



Ν

L

Μ

JSOIA0213ZZ

DAS Terminal No. Description (Wire color) Reference value Condition Standard value (Approx.) Input/ Ρ + Signal name Output Pressed 0-0.1 V 0 V 1 BSW switch signal Input **BSW** switch (BR) Released 9.5 -16 V 12 V 6 (B/W) Illuminated 0 - 0.1 V 0 V 4 BSW ON indicator sig-Output **BSW ON indicator** nal (Y) 12 V OFF 9.5 - 16 V

INFOID:000000008378277 B

А

С

# **BSW CONTROL MODULE**

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Standard value	Reference value
+	_	Signal name	Input/ Output	Condition	Standard Value	(Approx.)
6 (B/W)	Ground	Ground	_	Ignition switch ON	0 - 0.1 V	0 V
7 (L)	6 (B/W)	BSW communication-H	_	_	_	_
8 (Y)		BSW communication-L	_	_	_	_
14 (L)		CAN -H	_	_	_	_
15 (P)		CAN -L	_	_	_	_
16	1	Ignition power supply	Input	Ignition switch ON	05 - 16 V	Battory Voltago

### Fail-safe

(G)

INFOID:000000008378278

INFOID:00000008378279

**Battery Voltage** 

9.5 - 16 V

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

Ignition switch ON

Input

## **DTC Inspection Priority Chart**

Ignition power supply

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     U1010: CONTROL UNIT (CAN)     U1507: LOST COMM (SIDE RDR R)
3	C1B53: SIDE RDR R MALF     C1B54: SIDE RDR L MALF
4	<ul> <li>C1A01: POWER SUPPLY CIR</li> <li>C1A02: POWER SUPPLY CIR 2</li> <li>U0121: VDC CAN CIR 2</li> <li>U0401: ECM CAN CIR 1</li> <li>U0402: TCM CAN CIR 1</li> <li>U0415: VDC CAN CIR 1</li> <li>U150B: ECM CAN CIRC 3</li> <li>U150C: VDC CAN CIRC 3</li> <li>U150D: TCM CAN CIRC 3</li> <li>U150E: BCM CAN CIRC 3</li> <li>U150E: BCM CAN CIRC 3</li> <li>U1503: SIDE RDR L CAN CIR 2</li> <li>U1504: SIDE RDR L CAN CIR 2</li> <li>U1505: SIDE RDR R CAN CIR 2</li> <li>U1506: SIDE RDR R CAN CIR 2</li> <li>U1506: SIDE RDR R CAN CIR 3</li> <li>U1518: SIDE RDR L CAN CIR 3</li> <li>U1519: SIDE RDR R CAN CIRC 3</li> </ul>
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

# **BSW CONTROL MODULE**

#### < ECU DIAGNOSIS INFORMATION >

• IGN counter is displayed on FFD (Freeze Frame Data).

- 0: The malfunctions that are detected now
- CAN communication system (U1000, U1010)
- 1 39: It increases like 0 → 1 → 2 … 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 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	×	DAS-36	
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 TESTING 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	×	DAS-49	
U0121	VDC CAN CIR 2	ON	×	DAS-51	
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	×	DAS-56	
U150C	VDC CAN CIRC 3	ON	×	DAS-57	
U150D	TCM CAN CIRC 3	ON	×	DAS-58	
U150E	BCM CAN CIRC 3	ON	×	<u>DAS-59</u>	
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	L

Ρ

[BSW]

v. Applicable

А

В

С

< ECU DIAGNOSIS INFORMATION >

# SIDE RADAR LH

# **Reference Value**

### VALUES ON THE DIAGNOSIS TOOL

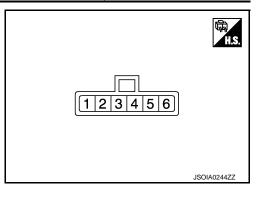
#### NOTE:

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

CONSULT	MONITOR	ITEM
CONCOLL		

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

# TERMINAL LAYOUT



#### PHYSICAL VALUES

	nal No. color)	Description		Condition	Standard value	Reference value	
+	-	Signal name	Input/ Output	Condition	Stanuaru 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	

# SIDE RADAR LH

#### < ECU DIAGNOSIS INFORMATION >

#### Fail-safe

INFOID:000000008378282

INFOID:000000008378283

[BSW]

А

В

С

D

Е

#### FAIL-SAFE CONTROL BY DTC

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

#### TEMPORARY DISABLED STATUS AT BLOCKAGE

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

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

# **DTC Inspection Priority Chart**

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

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

### **DTC** Index

INFOID:000000008378284

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

Ν

DAS

< ECU DIAGNOSIS INFORMATION >

# SIDE RADAR RH

**Reference Value** 

#### VALUES ON THE DIAGNOSIS TOOL

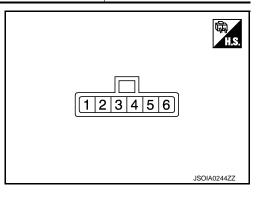
#### NOTE:

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

CONSULT	MONITOR	ITEM
CONCOLL		

Monitor Item	Condition	Value/Status
BEAM DISTANCE	NOTE: The item is displayed, but it is not used.	_
BEAM POSITION	NOTE: The item is displayed, but it is not used.	_
SIDE RADAR MALF	Side radar is normal.	Off
SIDE RADAR MALF	Side radar is malfunctioning.	On
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.	_
	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	Stanuaru 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

# SIDE RADAR RH

#### < ECU DIAGNOSIS INFORMATION >

#### Fail-safe

INFOID:000000008378286

INFOID:000000008378287

[BSW]

А

В

С

D

Е

#### FAIL-SAFE CONTROL BY DTC

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

#### TEMPORARY DISABLED STATUS AT BLOCKAGE

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

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

# **DTC Inspection Priority Chart**

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)	F
2	U0104: ADAS CAN CIR 1     U0405: ADAS CAN CIR 2	(
3	C1B50: SIDE RDR MALFUNCTION	
4	<ul> <li>C1B51: BSW/BSI IND SHORT CIR</li> <li>C1B52: BSW/BSI IND OPEN CIR</li> <li>C1B55: RADAR BLOCKAGE</li> </ul>	ŀ

#### **DTC** Index

INFOID:000000008378288

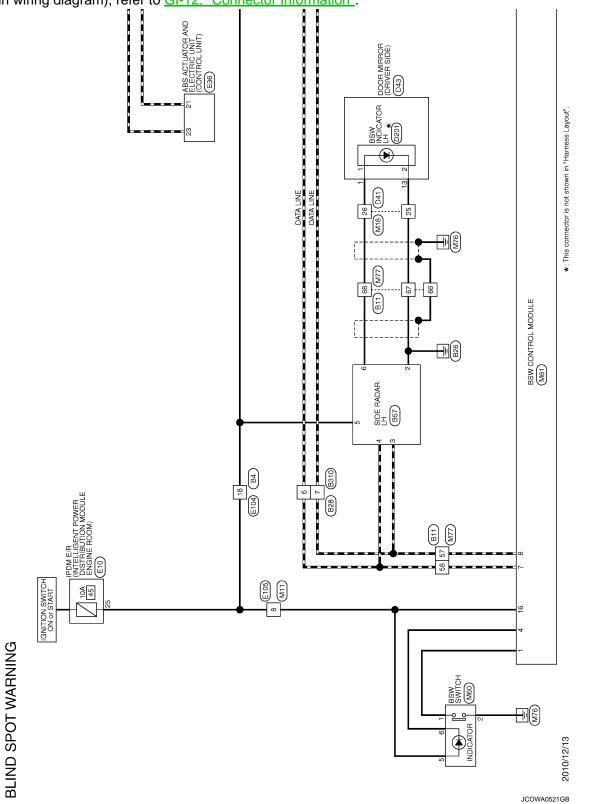
	DTC	BSW warning lamp	Fail-safe	Reference page	
C1B50	SIDE RDR MALFUNCTION	ON	×	DAS-38	J
C1B51	BSW/BSI IND SHORT CIR	ON	×	DAS-39	
C1B52	BSW/BSI IND OPEN CIR	ON	×	<u>DAS-40</u>	k
C1B55	RADAR BLOCKAGE	Blink	×	DAS-44	1
U1000	CAN COMM CIRCUIT	ON	×	DAS-46	
U1010	CONTROL UNIT (CAN)	ON	×	<u>DAS-48</u>	L
U0104	ADAS CAN CIR1	ON	×	DAS-50	
U0405	ADAS CAN CIR2	ON	×	DAS-54	N

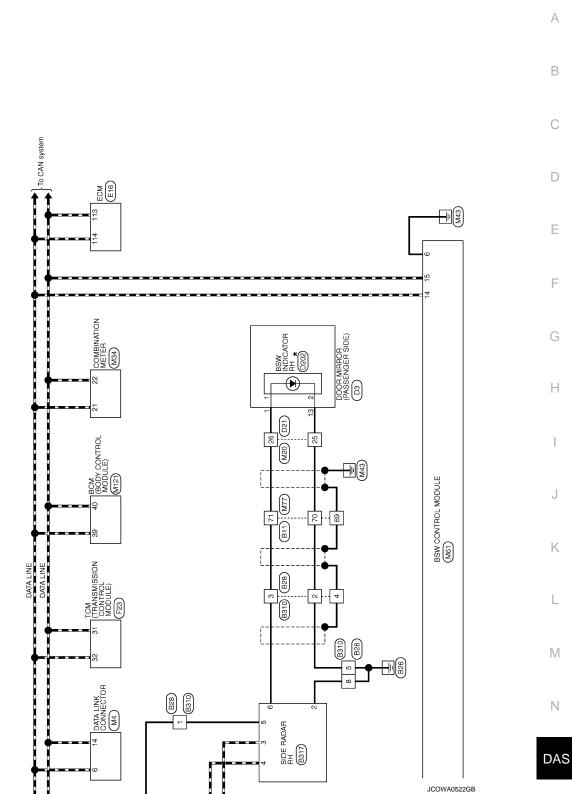
DAS

# 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>".



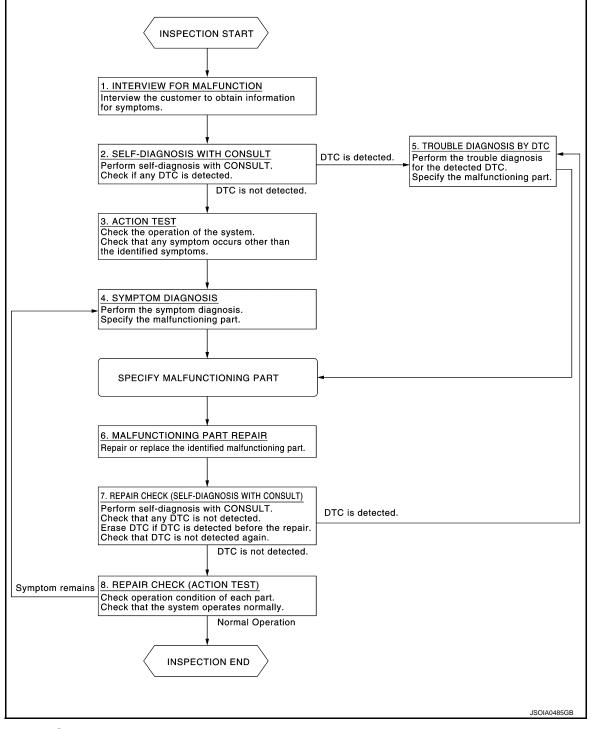


# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:000000008378290





## 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 > [F	BSW]
The customers are not professionals. Never assume that "maybe the customer means" or "maybe the tomer mentioned this symptom".	e cus-
>> GO TO 2.	
2.SELF-DIAGNOSIS WITH CONSULT	
<ol> <li>Perform "All DTC Reading" with CONSULT.</li> <li>Check if the DTC is detected on the self-diagnosis results of "SIDE RADAR LEFT/RIGHT" and/or "E <u>Is any DTC detected?</u></li> <li>YES &gt;&gt; GO TO 5. NO &gt;&gt; GO TO 3.</li> </ol>	SW".
<b>3.</b> PRE-INSPECTION FOR DIAGNOSIS	
Perform pre-inspection for diagnosis. Refer to DAS-32, "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	
1. Check the DTC in the self-diagnosis results.	
<ol> <li>Perform trouble diagnosis for the detected DTC. Refer to <u>DAS-25, "DTC Index"</u> (SIDE RADAR LE <u>DAS-27, "DTC Index"</u> (SIDE RADAR RIGHT) and/or <u>DAS-22, "DTC Index"</u> (BSW).</li> <li>NOTE:</li> </ol>	FT) or
If "DTC: U1000" is detected, first diagnose the CAN communication system or BSW communication sys	tem.
>> GO TO 7.	
6. SYMPTOM DIAGNOSIS	
Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to <u>DAS-75, "Syn</u> <u>Table"</u> .	<u>nptom</u>
>> GO TO 7.	
7. MALFUNCTIONING PART REPAIR	
Repair or replace the identified malfunctioning parts.	
>> GO TO 8.	
8. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)	
<ol> <li>Erases self-diagnosis results.</li> <li>Perform "All DTC Reading" again after repairing or replacing the specific items.</li> <li>Check if any DTC is detected in self-diagnosis results of "SIDE RADAR LEFT/RIGHT" and "BSW".</li> </ol>	
Is any DTC detected?	
YES >> GO TO 5. NO >> GO TO 9.	
9.REPAIR CHECK (ACTION TEST)	
Perform the BSW system action test. Check that the malfunction symptom is solved or no other sym occur.	ptoms
Is there a malfunction symptom?	
YES >> GO TO 4.	

Revision: 2012 August

NO >> INSPECTION END

# **PRE-INSPECTION FOR DIAGNOSIS**

< BASIC INSPECTION >

# PRE-INSPECTION FOR DIAGNOSIS

Inspection Procedure

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

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

YES >> Clean the rear bumper.

NO >> GO TO 2.

2. CHECK SIDE RADAR AND THE SIDE RADAR OUTSKIRTS

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

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

NO >> GO TO 3.

**3.**CHECK SIDE RADAR INSTALLATION CONDITION

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

YES >> INSPECTION END

NO >> Install side radar properly.

INFOID:000000008378291

[BSW]

# **ACTION TEST**

#### < BASIC INSPECTION >

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

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

А

В

С

D

Ε

F

G

Н

#### < BASIC INSPECTION >

#### NOTE:

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

>> INSPECTION END

# < DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS C1A00 CONTROL UNIT

DTC Logic

# DTC DETECTION LOGIC

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				
	All DTC Reading" with	CONSULT. as the current malfunction in "Self Dia	agnostic Result" of "BSW".			
YES >> R	<u>tected as the current m</u> efer to <u>DAS-35, "Diagn</u> ISPECTION END					
Diagnosis Procedure						
	ELF-DIAGNOSIS RESU					
-		' is detected in "Self Diagnostic Resul	t" of "BSW".			
<u>s any DTC detected?</u> YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to DAS-22, "DTC Index".						
NO $>> \overline{R}$	eplace the BSW contro	I module. Refer to <u>DAS-77, "Removal</u>	and Installation".			

L

Μ

Ν

Р

[BSW]

INFOID:000000008378294

А

В

#### 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:00000008378296

# DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

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

>> Refer to DAS-36, "Diagnosis Procedure". YES

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

#### Diagnosis Procedure

INFOID:00000008378297

# 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**

А

INFOID:000000008378298

[BSW]

#### DTC DETECTION LOGIC В Trouble diagnosis DTC DTC detecting condition Possible causes name If the vehicle speed signal (wheel speed) from Wheel speed sensor VHCL SPEED SE ABS actuator and electric unit (control unit) re-· ABS actuator and electric unit (control C1A03 CIRC ceived by the BSW control module via CAN unit) D · BSW control module communication, are inconsistent NOTE: If DTC "C1A03" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to DAS-46, "BSW Е CONTROL MODULE : DTC Logic" DTC CONFIRMATION PROCEDURE **1.**PERFORM DTC CONFIRMATION PROCEDURE F 1. Start the engine. Turn the BSW system ON. 2. 3. Drive the vehicle at 30 km/h (19 MPH) or more. **CAUTION:** Always drive safely. 4. Stop the vehicle. Н 5. Perform "All DTC Reading" with CONSULT. Check if the "C1A03" is detected as the current malfunction in "Self Diagnostic Result" of "BSW". 6. Is "C1A03" detected as the current malfunction? YES >> Refer to DAS-37, "Diagnosis Procedure". >> Refer to GI-42, "Intermittent Incident". NO Diagnosis Procedure INFOID:00000008378299 1.CHECK SELF-DIAGNOSIS RESULTS Κ Check if "U1000" is detected other than "C1A03" in "Self Diagnostic Result" of "BSW". Is "U1000" detected? YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to DAS-46, "BSW CONTROL MODULE : DTC Logic". NO >> GO TO 2. 2.check abs actuator and electric unit (control unit) self-diagnosis results M Check if any DTC is detected in "Self Diagnostic Result" of "ABS". Is any DTC detected? YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to Ν BRC-37, "DTC Index". NO >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation". DAS

### C1B50 SIDE RADAR MALFUNCTION

#### < DTC/CIRCUIT DIAGNOSIS >

### C1B50 SIDE RADAR MALFUNCTION

### DTC LOGIC

INFOID:000000008378300

[BSW]

#### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

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

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

Is the "C1B50" detected as the current malfunction?

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

#### Diagnosis Procedure

INFOID:000000008378301

**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]

А

#### INFOID:000000008378302

	Trouble diagnosis name	c	DTC detecting condition		Possible cause
C1B51	BSW/BSI IND SHORT C	IR Short circ rent is det	uit in BSW indicator circuit is detected tected tected)	I. (Over cur-	<ul><li>BSW indicator circuit</li><li>BSW indicator</li><li>Side radar</li></ul>
тс со	ONFIRMATION PRO	OCEDURE			
.PERI	FORM DTC CONFIRM	MATION PR	ROCEDURE		
. Perl . Che	t the engine. form "All DTC Reading eck if the "C1B51" is c HT/LEFT".		NSULT. the current malfunction in "Se	lf Diagnosti	c Result" of "SIDE RADAF
	C1B51" detected as the				
YES NO	>> Refer to <u>DAS-39.</u> >> INSPECTION EN		Procedure".		
-	osis Procedure				
ayın					INFOID:000000083783
.CHE	CK BSW INDICATOR	CIRCUIT F	FOR SHORT		
. Disc			ector and BSW indicator harne harness connector and groun		or.
	Side radar		Continuity		
Connee	ctor Terminal G	Ground	Continuity		
Connec B57 (L B317 (F	ctor Terminal G	Ground ——	Continuity Not existed		
B57 (L B317 (I	ctor Terminal G				
B57 (L B317 (F the in: YES	Ctor     Terminal       H)     6       RH)     6       spection result norma       >> GO TO 2.	1?	Not existed		
B57 (L B317 (F the in: YES NO	ctor     Terminal       H)     6       RH)     6       spection result norma       >> GO TO 2.       >> Repair the harnes	I? sses or con	Not existed		
B57 (L B317 (I the in YES NO REPI REPI	Ctor     Terminal       H)     6       Spection result norma       >> GO TO 2.       >> Repair the harnes       LACE THE SIDE RAD       place the side radar.       form "All DTC Reading	<u>I?</u> sses or coni DAR g" with CON	Not existed		
B57 (L B317 (F the in YES NO REPI REPI Pert Che	Ctor     Terminal       H)     6       Spection result norma       >> GO TO 2.       >> Repair the harnes       LACE THE SIDE RAD       place the side radar.       form "All DTC Reading       eck if the "C1B51" is d	I? sses or con DAR g" with CON etected in "S	Not existed	E RADAR F	RIGHT/LEFT"
B57 (L B317 (f the in YES NO REPI REPI Rep Peri Che	Ctor       Terminal         H)       6         Spection result norma         >> GO TO 2.         >> Repair the harnes         LACE THE SIDE RAD         place the side radar.         form "All DTC Reading         eck if the "C1B51" is d         TC "C1B51" detected	I? sses or con DAR g" with CON etected in "s	Not existed nectors. VSULT. Self Diagnostic Result" of "SID		RIGHT/LEFT"
B57 (L B317 (F the in YES NO REPI REPI Pert Che	Ctor       Terminal         H)       6         Spection result norma         >> GO TO 2.         >> Repair the harnes         LACE THE SIDE RAD         place the side radar.         form "All DTC Reading         eck if the "C1B51" is d         TC "C1B51" detected	I? sses or con DAR g" with CON etected in "s ? radar. Refe	Not existed		RIGHT/LEFT"
B57 (L B317 (f the in YES NO REPI Rep Peri Che the D YES	ctor       Terminal         H)       6         Spection result norma         >> GO TO 2.         >> Repair the harnes         LACE THE SIDE RAD         Dace the side radar.         form "All DTC Reading         eck if the "C1B51" is d         TC "C1B51" detected"         >> Replace the side	I? sses or con DAR g" with CON etected in "s ? radar. Refe	Not existed nectors. VSULT. Self Diagnostic Result" of "SID		RIGHT/LEFT"
B57 (L B317 (f the in YES NO REPI Rep Peri Che the D YES	ctor       Terminal         H)       6         Spection result norma         >> GO TO 2.         >> Repair the harnes         LACE THE SIDE RAD         Dace the side radar.         form "All DTC Reading         eck if the "C1B51" is d         TC "C1B51" detected"         >> Replace the side	I? sses or con DAR g" with CON etected in "s ? radar. Refe	Not existed nectors. VSULT. Self Diagnostic Result" of "SID		RIGHT/LEFT"
B57 (L B317 (f the in YES NO REPI Rep Peri Che the D YES	ctor       Terminal         H)       6         Spection result norma         >> GO TO 2.         >> Repair the harnes         LACE THE SIDE RAD         Dace the side radar.         form "All DTC Reading         eck if the "C1B51" is d         TC "C1B51" detected"         >> Replace the side	I? sses or con DAR g" with CON etected in "s ? radar. Refe	Not existed nectors. VSULT. Self Diagnostic Result" of "SID		RIGHT/LEFT"

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

< DTC/CIRCUIT DIAGNOSIS >

## C1B52 BSW/BSI INDICATOR OPEN CIRCUIT

### DTC Logic

INFOID:000000008378304

INFOID:00000008378305

[BSW]

#### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

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

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

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

- YES >> Refer to DAS-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 radar		Door mirror		Continuity
	Connector	Terminal	Connector	Terminal	Continuity
_	B57 (LH)	6	D43 (LH)	1	Existed
	B317 (RH)	0	D3 (RH)	I	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

2. CHECK BSW INDICATOR CIRCUIT FOR OPEN 2

1. Disconnect BSW indicator harness connector.

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

Door	Door mirror		ndicator	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D43 (LH)	1	D201 (LH)	1	
D3 (RH)	I	D202 (RH)	I	Existed
D43 (LH)	13	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**

Door mirror       Terminal       Ground       Continuity         D3 (RH)       13       Existed         Da inspection result normal?       Existed         S3       >> GO T0 4.       O         O       >> Repair the hamesses or connectors.         CHECK SIDE RADAR VOLTAGE OUTPUT         Connect side radar hamess connector.         Check voltage between door mirror harness connector and ground.         Door mirror       Ground         ground       Condition         (H)       1         Orone to ide radar hamess connector.         Check voltage between door mirror harness connector and ground.         Door mirror       Ground         (H)       1         (H) <t< th=""><th>SW]</th></t<>	SW]
connector       Terminal       Ground $243$ (LH)       13       Existed $23$ (RH)       13       Existed $23$ (RH)       13       Existed $25$ >> GO TO 4.       Some connectors. $25$ >> Repair the harnesses or connectors. $243$ (LH) $25$ >> Repair the harnesses or connectors. $245$ Connect side radar harness connector. $25$ Connect side radar harness connector. $25$ Check voltage between door mirror harness connector and ground. $25$ Some constructor $26$ metric the trained of the trained	
Data (LH)       13       Existed         Data (RH)       1       Existed <tr< td=""><td></td></tr<>	
D3 (RH)       Image: conspection result normal?         ES       >> GO TO 4.         D       >> Repair the harnesses or connectors.         CHECK SIDE RADAR VOLTAGE OUTPUT         Connect side radar harness connector.         Check voltage between door mirror harness connector and ground.         Door mirror         connector         Terminal         43 (LH)         1         Ground         Ignition switch         OFF $\Rightarrow$ ON         0FF $\Rightarrow$ ON         6FF $\Rightarrow$ ON         0FF $\Rightarrow$ ON	
$\frac{S}{O} \Rightarrow SO TO 4.$ $\frac{S}{O} \Rightarrow Sepair the harnesses or connectors.$ $CHECK SIDE RADAR VOLTAGE OUTPUT$ Connect side radar harness connector. Check voltage between door mirror harness connector and ground. $\frac{1}{Oor mirror} = Oor mirror}{Oonnector} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror} = Oor mirror} = Oor mirror} = Oor mirror harness connector and ground.$ $\frac{1}{Oor mirror} = Oor mirror}{Oor mirror} = Oor mirror}{Oor mirror} = Oor $	
D       >> Repair the harnesses or connectors.         CHECK SIDE RADAR VOLTAGE OUTPUT         Connect side radar harness connector.         Check voltage between door mirror harness connector and ground. $\overline{Door mirror}$ $\overline{Door mirror}$ $\overline{Door mirror}$ $\overline{Onnector Terminal}$ $43$ (LH) $1$ $OFF \Rightarrow ON$	
CHECK SIDE RADAR VOLTAGE OUTPUT         Connect side radar harness connector.         Check voltage between door mirror harness connector and ground. $\overline{Door mirror}$ $\overline{Condition}$ Standard voltage       Reference voltage (Approx.) $\overline{A3 (LH)}$ 1 $\overline{Condition}$ $\overline{Standard}$ $\overline{Voltage}$ $\overline{Approx.}$ $\overline{A3 (LH)}$ 1 $\overline{OFF \Rightarrow ON}$ $5.5 - 16 \vee$ $6 \vee$ $\overline{OFF \Rightarrow ON}$ $\overline{S.5 - 16 \vee}$ $6 \vee$ $\overline{PS}$ > Replace glass mirror.	
Connect side radar harness connector. Check voltage between door mirror harness connector and ground. $Door mirroronnectorReferencevoltage(Approx.)a3 (LH)03 (RH)1ConditionStandardvoltage(Approx.)Ignition switchOFF \Rightarrow ON(Approx. 2 sec.)6 Vre inspection result normal?ES>> Replace glass mirror.$	
Check voltage between door mirror harness connector and ground.Door mirrorDoor mirrorConditionStandard voltageReference voltage (Approx.)43 (LH) $23 (RH)$ 1Ignition switch OFF $\Rightarrow$ ON (Approx. 2 sec.)5.5 - 16 V6 Vme inspection result normal?ES >> Replace glass mirror.	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
43 (LH) D3 (RH)1Ignition switch OFF $\Rightarrow$ ON (Approx. 2 sec.)5.5 - 16 V6 Vne inspection result normal?ES>> Replace glass mirror.	
D3 (RH)       (Approx. 2 sec.)         ne inspection result normal?         ES       >> Replace glass mirror.	
ne inspection result normal? ES >> Replace glass mirror.	
ES >> Replace glass mirror.	
S >> Replace side radal. Refer to <u>DAS-7.6. Removar and installation</u> .	
	I

Ρ

### C1B53 SIDE RADAR RIGHT MALFUNCTION

#### < DTC/CIRCUIT DIAGNOSIS >

### C1B53 SIDE RADAR RIGHT MALFUNCTION

### DTC Logic

INFOID:000000008378306

[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:000000008378307

### **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

А

В

INFOID:000000008378308

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
DTC CON	FIRMATION PROCED	JRE	
<b>1.</b> PERFC	ORM DTC CONFIRMATIO	N PROCEDURE	
2. Turn tl 3. Perfor	he engine. he BSW system ON. m "All DTC Reading" with t if the "C1B54" is detected	CONSULT. I as the current malfunction in "Self Diagn	ostic Result" of "BSW".
YES >	<u>' detected as the current n</u> > Refer to <u>DAS-43, "Diagr</u> > Refer to <u>GI-42, "Intermit</u>	osis Procedure".	
Diagnos	is Procedure		INFOID:00000008378309
<b>1.</b> CHECK	SELF-DIAGNOSIS RESI	JLTS	
		nan "C1B54" in "Self Diagnostic Result" of	"BSW".
	detected?		
		unication system inspection. Repair or re CONTROL MODULE : DTC Logic <sup>**</sup> .	eplace the malfunctioning parts.
• ·	SELF-DIAGNOSIS RESI	JLTS	
		f Diagnostic Result" of "SIDE RADAR LEF	=T".
	<u>C detected?</u>		
YES >	Perform diagnosis on th DAS-25, "DTC Index" (S	e detected DTC and repair or replace the	e malfunctioning parts. Refer to
NO >		of module. Refer to DAS-77, "Removal an	d Installation".

Ν

DAS

Ρ

### C1B55 RADAR BLOCKAGE

#### < DTC/CIRCUIT DIAGNOSIS >

### C1B55 RADAR BLOCKAGE

### DTC Logic

[BSW]

#### DTC DETECTION LOGIC

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

#### NOTE:

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

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

#### Diagnosis Procedure

INFOID:000000008378311

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

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

#### >> GO TO 2.

#### 2. CHECK THE SIDE RADAR

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

#### >> GO TO 3.

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

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

#### >> GO TO 4.

### 4.INTERVIEW

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

#### Is any of above conditions seen?

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

### **U1000 CAN COMM CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### U1000 CAN COMM CIRCUIT SIDE RADAR LH

### SIDE RADAR LH : Description

INFOID:000000008378312

INFOID:000000008378313

INFOID:000000008378314

INFOID:000000008378315

L

M

Ν

DAS

Ρ

[BSW]

В

А

#### 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, "Intermittent Incident"</u>.

#### 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 <u>GI-42, "Intermittent Incident"</u>.

### BSW CONTROL MODULE

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

#### CAN COMMUNICATION

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

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

#### **BSW COMMUNICATION**

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

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

#### DTC DETECTION LOGIC

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

#### NOTE:

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

#### BSW CONTROL MODULE : Diagnosis Procedure

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

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

Is "U1000" detected as the current malfunction?

### **DAS-46**

[BSW]

INFOID:000000008378317

INFOID:00000008378318

INFOID:000000008378320

INFOID:000000008378319

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

### **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.

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

Is "U1010" detected as the current malfunction?

- YES >> Replace the side radar RH. Refer to <u>DAS-78, "Removal and Installation"</u>.
- 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

INFOID-00000008378327

INFOID:000000008378322

INFOID:000000008378323

INFOID-000000008378321

INFOID:000000008378325

INFOID:000000008378326

INFOID:00000008378324

### U1010 CONTROL UNIT (CAN)

## < DTC/CIRCUIT DIAGNOSIS >

BSW CONTROL MODULE : DTC Logic

#### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1010	CONTROL UNIT (CAN)	If BSW control module detects malfunction by CAN controller initial diagnosis	BSW control module
SW CON	TROL MODULE :	: Diagnosis Procedure	INFOID:00000008378325
.PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
Perform " Check if t <u>"U1010" de</u> ′ES >> R	tected as the current n	d as the current malfunction in "Self Dia	

А

### < DTC/CIRCUIT DIAGNOSIS >

## U0104 ADAS CAN 1

### DTC Logic

INFOID:000000008378330

[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:000000008378331

### **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

## DTC Logic

А

В

INFOID:000000008378332

отс	DETEC		
	DEIEC	I ION	LUGIC

	C Trouble diagnosis name	DTC detecting condition	Possible causes
U012	1 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)
	0121" is detected along wit	h DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-46, "BSW</u>
ртс со	NFIRMATION PROCED	JRE	
1.PERF	ORM DTC CONFIRMATIO	N PROCEDURE	
2. Turn	the engine. the BSW system ON. rm "All DTC Reading" with		
4. Chec <u>Is "U0121</u>	k if the "U0121" is detected " detected as the current m	l as the current malfunction in "Self Dia nalfunction?	gnostic Result" of "BSW".
	> Refer to <u>DAS-51, "Diagr</u> >> Refer to GI-42, "Intermit		
	sis Procedure		INFOID:00000008378333
			INFOID.00000008378333
I CHEC	K SELF-DIAGNOSIS RES		
I IONEO		JLIS	
Check if "	U1000" is detected other th	JLTS nan "U0121" in "Self Diagnostic Result"	of "BSW".
Check if " <u>Is "U1000</u> YES :	U1000" is detected other th <u>" detected?</u> >> Perform the CAN comm Refer to <u>DAS-46, "BSW</u>		
Check if " Is "U1000 YES : NO :	U1000" is detected other th <u>" detected?</u> >> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> >> GO TO 2.	nan "U0121" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic</u> ".	replace the malfunctioning parts.
Check if " <u>Is "U1000</u> YES : NO : <b>2.</b> CHEC	U1000" is detected other th <u>" detected?</u> >> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> >> GO TO 2. K ABS ACTUATOR AND E	nan "U0121" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . LECTRIC UNIT (CONTROL UNIT) SE	replace the malfunctioning parts.
Check if " Is "U1000 YES NO 2.CHEC Check if a	U1000" is detected other th <u>" detected?</u> >> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> >> GO TO 2. K ABS ACTUATOR AND E any DTC is detected in "Sel	nan "U0121" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic</u> ".	replace the malfunctioning parts.
Check if " <u>Is "U1000</u> YES NO <b>2.</b> CHEC Check if a <u>Is any DT</u>	U1000" is detected other th <u>" detected?</u> >> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> >> GO TO 2. K ABS ACTUATOR AND E any DTC is detected in "Sel <u>C detected?</u>	nan "U0121" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . LECTRIC UNIT (CONTROL UNIT) SE	replace the malfunctioning parts. _F-DIAGNOSIS RESULTS

Ν

DAS

Ρ

### **U0401 ECM CAN 1**

### < DTC/CIRCUIT DIAGNOSIS >

### U0401 ECM CAN 1

### DTC Logic

INFOID:000000008378334

#### 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:000000008378335

### **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-97, "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

[BSW]

А

В

С

D

Ε

F

Н

INFOID:000000008378337

DIC Logic			INFOID:00000008378336
DTC DETEC	TION LOGIC		
DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0402	TCM CAN CIRC1	If BSW control module detects an error signal that is received from TCM via CAN communication	ТСМ
	2" is detected along with DTC ODULE : DTC Logic".	"U1000", first diagnose the DTC "U1000".	Refer to <u>DAS-46, "BSW</u>

#### DTC CONFIRMATION PROCEDURE

### 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- Turn the BSW system ON. 2.
- Perform "All DTC Reading" with CONSULT. 3.
- Check if the "U0402" is detected as the current malfunction in "Self Diagnostic Result" of "BSW". 4.

#### Is "U0402" detected as the current malfunction?

- YES >> Refer to DAS-53, "Diagnosis Procedure".
- NO >> Refer to GI-42, "Intermittent Incident".

### Diagnosis Procedure

### 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. J 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 TM-48, "DTC Index".
- NO >> Replace the BSW control module. Refer to DAS-77, "Removal and Installation".

Κ

DAS

## < DTC/CIRCUIT DIAGNOSIS >

### U0405 ADAS CAN 2

### DTC Logic

INFOID:000000008378338

[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:000000008378339

### **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

А

INFOID:000000008378340

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)
	5" is detected along wi ODULE : DTC Logic".	th DTC "U1000", first diagnose the DTC	C "U1000". Refer to <u>DAS-46, "BSW</u>
TC CONFI	RMATION PROCED	URE	
PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
	engine. BSW system ON. 'All DTC Reading" with	CONSULT	
Check if	the "U0415" is detected	as the current malfunction in "Self Dia	gnostic Result" of "BSW".
	etected as the current n		-
(ES >> F	etected as the current n Refer to <u>DAS-55, "Diag</u> e Refer to <u>GI-42, "Intermit</u>	nosis Procedure".	-
(ES >> F NO >> F	Refer to <u>DAS-55, "Diag</u> i	nosis Procedure".	- INFOID:00000008378341
′ES >> F NO >> F iagnosis	Refer to <u>DAS-55, "Diag</u> u Refer to <u>GI-42, "Intermit</u>	nosis Procedure". ttent Incident".	
YES >> F NO >> F iagnosis .CHECK S	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES	nosis Procedure". ttent Incident".	INFOID:00000008378341
(ES >> F NO >> F iagnosis .CHECK S heck if "U10 "U1000" de	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 100" is detected other the etected?	nosis Procedure". ttent Incident". ULTS nan "U0415" in "Self Diagnostic Result"	INFOID:00000008378341 of "BSW".
YES >> F NO >> F iagnosis .CHECK S heck if "U10 <u>"U1000" de</u> YES >> F	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 100" is detected other the <u>etected?</u> Perform the CAN comm	nosis Procedure". ttent Incident". ULTS nan "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o	INFOID:00000008378341 of "BSW".
(ES >> F NO >> F iagnosis .CHECK S heck if "U10 <u>"U1000" de</u> (ES >> F F	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 100" is detected other the <u>etected?</u> Perform the CAN comm	nosis Procedure". ttent Incident". ULTS nan "U0415" in "Self Diagnostic Result"	INFOID:00000008378341 of "BSW".
<ul> <li>(ES &gt;&gt; F</li> <li>NO &gt;&gt; F</li> <li>iagnosis</li> <li>CHECK S</li> <li>Deck if "U10</li> <li>"U1000" def</li> <li>(ES &gt;&gt; F</li> <li>F</li> <li>NO &gt;&gt; C</li> </ul>	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the <u>etected?</u> Refer to <u>DAS-46, "BSW</u> GO TO 2.	nosis Procedure". ttent Incident". ULTS nan "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o	INFOID:00000008378341 of "BSW". r replace the malfunctioning parts.
<ul> <li>(ES &gt;&gt; F</li> <li>IO &gt;&gt; F</li> <li>agnosis</li> <li>CHECK S</li> <li>Deck if "U10</li> <li>(U1000" def</li> <li>(ES &gt;&gt; F</li> <li>F</li> <li>IO &gt;&gt; C</li> <li>CHECK A</li> </ul>	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the tected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. BS ACTUATOR AND E	ULTS nan "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>CONTROL MODULE : DTC Logic"</u> .	INFOID:00000008378341 of "BSW". r replace the malfunctioning parts.
(ES >> F NO >> F iagnosis .CHECK S neck if "U10 <u>"U1000" de</u> (ES >> F NO >> C .CHECK A neck if any	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 100" is detected other the rected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se	Dosis Procedure". Itent Incident". ULTS Dan "U0415" in "Self Diagnostic Result" Dunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . ELECTRIC UNIT (CONTROL UNIT) SE	INFOID:00000008378341 of "BSW". r replace the malfunctioning parts.
YES >> F NO >> F iagnosis .CHECK S heck if "U10 <u>"U1000" de</u> YES >> F NO >> C .CHECK A heck if any any DTC d YES >> F	Refer to <u>DAS-55, "Diag</u> Refer to <u>GI-42, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se <u>etected?</u>	Dosis Procedure". Itent Incident". ULTS Dan "U0415" in "Self Diagnostic Result" Dunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . ELECTRIC UNIT (CONTROL UNIT) SE	of "BSW". r replace the malfunctioning parts. LF-DIAGNOSIS RESULTS

Ν

Р

### U150B ECM CAN 3

### < DTC/CIRCUIT DIAGNOSIS >

### U150B ECM CAN 3

### DTC Logic

[BSW]

INFOID:000000008378342

#### 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:000000008378343

### **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-97, "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]

А

В

#### INFOID:000000008378344

#### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U150C	VDC CAN CIRC 3	BSW control module detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	ABS actuator and electric unit (control unit)
	OC" is detected along wi MODULE : DTC Logic".	th DTC "U1000", first diagnose the DTC	5 "U1000". Refer to <u>DAS-46, "BSW</u>
DTC CONF	IRMATION PROCED	URE	
1.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
3. Perform	BSW system ON. "All DTC Reading" with		
	the "U150C" is detected the current r	d as the current malfunction in "Self Dia	gnostic Result" of "BSW".
	Refer to <u>DAS-57, "Diag</u> i		
	Refer to <u>GI-42, "Intermit</u>		
Diagnosis	Procedure		INFOID:00000008378345
<b>1.</b> снеск s	ELF-DIAGNOSIS RES	ULTS	
		nan "U150C" in "Self Diagnostic Result"	of "BSW".
	Perform the CAN comn	nunication system inspection. Repair or	replace the malfunctioning parts.
	Refer to <u>DAS-46, "BSW</u> GO TO 2.	CONTROL MODULE : DTC Logic"	
		ELECTRIC UNIT (CONTROL UNIT) SEI	
Check if anv	DIC is detected in "Se	If Diagnostic Result" of "ABS".	
,	latactad?		
Is any DTC of YES >>		ne detected DTC and repair or replace	the malfunctioning parts. Refer to

Ν

DAS

Ρ

### U150D TCM CAN 3

### < DTC/CIRCUIT DIAGNOSIS >

### U150D TCM CAN 3

### DTC Logic

[BSW]

INFOID:000000008378346

#### 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:000000008378347

### **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 Logic

[BSW]

А

В

INFOID:000000008378348

### DTC DETECTION LOGIC

	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 communication	ВСМ
	E" is detected along wi IODULE : DTC Logic <sup>"</sup> .	th DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-46, "BSW</u>
DTC CONFI	RMATION PROCED	URE	
1.PERFORM	M DTC CONFIRMATIO	N PROCEDURE	
1. Start the	engine.		
2. Turn the	BSW system ON.		
	"All DTC Reading" with the "U150E" is detected	CONSULI. d as the current malfunction in "Self Dia	gnostic Result" of "BSW".
	etected as the current r		<u> </u>
	Refer to <u>DAS-59, "Diag</u>		
NO >> F	Refer to <u>GI-42, "Intermit</u>	tent Incident".	
Diagnosis	Procedure		INFOID:00000008378349
<b>1.</b> CHECK S	ELF-DIAGNOSIS RES	UITS	
		0ET0	
Check if "U1(	000" is detected other th		of "BSW".
Check if "U10 Is "U1000" de		nan "U150E" in "Self Diagnostic Result"	of "BSW".
<u>ls "U1000" de</u> YES >> F F	etected? Perform the CAN comn Refer to <u>DAS-46, "BSW</u>		
<u>ls "U1000" de</u> YES >> F F NO >> C	e <u>tected?</u> Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2.	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic</u> ".	
I <u>s "U1000" de</u> YES >> F F NO >> C <b>2.</b> CHECK B	etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. CM SELF-DIAGNOSIS	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . RESULTS	
Is "U1000" de YES >> F NO >> C 2.CHECK B Check if any	etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. CM SELF-DIAGNOSIS DTC is detected in "Se	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic</u> ".	
Is "U1000" de YES >> F NO >> C 2.CHECK B Check if any Is any DTC d	etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. CM SELF-DIAGNOSIS DTC is detected in "Se <u>etected?</u>	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . RESULTS If Diagnostic Result" of "BCM".	r replace the malfunctioning parts.
Is "U1000" de YES >> F NO >> C 2.CHECK B Check if any Is any DTC d YES >> F	etected? Perform the CAN comm Refer to <u>DAS-46, "BSW</u> GO TO 2. CM SELF-DIAGNOSIS DTC is detected in "Se <u>etected?</u>	nan "U150E" in "Self Diagnostic Result" nunication system inspection. Repair of <u>CONTROL MODULE : DTC Logic"</u> . RESULTS	r replace the malfunctioning parts.

Ν

Ρ

### U1503 SIDE RDR L CAN 2

#### < DTC/CIRCUIT DIAGNOSIS >

### U1503 SIDE RDR L CAN 2

### DTC Logic

INFOID:000000008378350

[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:000000008378351

#### **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

\_\_\_\_\_

А

[BSW]

INFOID:000000008378352

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1504	SIDE RDR L CAN CIR 1	BSW control module detects an error signal that is received from side radar LH via BSW communication	Side radar LH
Refer to DA		DTC "U1000", or "U1508", first diagnose the I <u>DTC Logic"</u> for DTC "U1000". C "U1508".	DTC "U1000" or "U1508".
DTC CONFI	RMATION PROCEDUR	E	
1.perform	M DTC CONFIRMATION F	ROCEDURE	
1. Start the			
	BSW system ON. "All DTC Reading" with CC	DNSULT.	
4. Check if	the "U1504" is detected as	the current malfunction in "Self Diagnostic F	Result" of "BSW".
	etected as the current malf Refer to <u>DAS-61, "Diagnos</u>		
	Refer to <u>GI-42, "Intermitten</u>		
Diagnosis	Procedure		INFOID:00000008378353
1 CHECKS	ELF-DIAGNOSIS RESULT	-8	
		d other than "U1504" in "Self Diagnostic Resu	ult" of "BS\\/"
	""U1508" detected?	other than 01304 in Seir Diagnostic Rest	
	J1000 detected: Perform t	he CAN communication system inspection. F DAS-46, "BSW CONTROL MODULE : DTC L	

NO >> GO TO 2.

2. CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

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

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-25. "DTC Index"</u>.

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

Κ

L

Μ

Ν

### U1505 SIDE RDR R CAN 2

#### < DTC/CIRCUIT DIAGNOSIS >

### U1505 SIDE RDR R CAN 2

### DTC Logic

INFOID:000000008378354

[BSW]

#### DTC DETECTION LOGIC

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

#### NOTE:

If DTC "U1505" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-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:000000008378355

### **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]

А

INFOID:000000008378356

If DTC "U1506" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to DAS-46, "B         CONTROL MODULE : DTC Logic".         DTC CONFIRMATION PROCEDURE        PERFORM DTC CONFIRMATION PROCEDURE        Start the engine.        Turn the BSW system ON.        Perform "All DTC Reading" with CONSULT.        Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".         s: "U1506" detected as the current malfunction?         YES       >> Refer to DAS-63, "Diagnosis Procedure".         NO       >> Refer to GI-42, "Intermittent Incident".         Diagnosis Procedure	DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
<ul> <li>Turn the BSW system ON.</li> <li>Perform "All DTC Reading" with CONSULT.</li> <li>Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1506" detected as the current malfunction?</u></li> <li>YES &gt;&gt; Refer to <u>DAS-63, "Diagnosis Procedure"</u>.</li> <li>NO &gt;&gt; Refer to <u>GI-42, "Intermittent Incident"</u>.</li> <li>Diagnosis Procedure</li> <li></li></ul>	U1506	SIDE RDR R CAN CIR 1	received from side radar RH via BSW communica-	Side radar RH
.PERFORM DTC CONFIRMATION PROCEDURE         . Start the engine.         . Turn the BSW system ON.         . Perform "All DTC Reading" with CONSULT.         . Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW". <u>s</u> "U1506" detected as the current malfunction?         YES       >> Refer to DAS-63. "Diagnosis Procedure".         NO       >> Refer to GI-42. "Intermittent Incident".         Diagnosis Procedure	DTC "U150		DTC "U1000", first diagnose the DTC "U1000	". Refer to <u>DAS-46, "BSW</u>
<ul> <li>Start the engine.</li> <li>Turn the BSW system ON.</li> <li>Perform "All DTC Reading" with CONSULT.</li> <li>Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".</li> <li><u>c"U1506" detected as the current malfunction?</u></li> <li>YES &gt;&gt; Refer to <u>DAS-63</u>, "Diagnosis Procedure".</li> <li>NO &gt;&gt; Refer to <u>GI-42</u>, "Intermittent Incident".</li> <li>Diagnosis Procedure</li> <li><u>CHECK SELF-DIAGNOSIS RESULTS</u></li> <li><u>c"U1000" detected?</u></li> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning park Refer to <u>DAS-64</u>, "<u>BSW CONTROL MODULE : DTC Logic</u>".</li> <li>NO &gt;&gt; GO TO 2.</li> <li><u>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</u></li> <li><u>check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</u></li> <li><u>any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer</li> </ul>	TC CONF	IRMATION PROCEDUR	E	
<ul> <li>Start the engine.</li> <li>Turn the BSW system ON.</li> <li>Perform "All DTC Reading" with CONSULT.</li> <li>Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1506" detected as the current malfunction?</u></li> <li>YES &gt;&gt; Refer to <u>DAS-63</u>, "<u>Diagnosis Procedure</u>".</li> <li>NO &gt;&gt; Refer to <u>GI-42</u>, "Intermittent Incident".</li> <li>Diagnosis Procedure</li> <li>.CHECK SELF-DIAGNOSIS RESULTS</li> <li>Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1000" detected?</u></li> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning parks refer to <u>DAS-46</u>, "<u>BSW CONTROL MODULE : DTC Logic</u>".</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</li> <li>Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</li> <li><u>s any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Reference of the malfunction of the parts. Reference of the malfunction of the parts of the malfunction of the malfunction of the parts. Reference of the malfunction of th</li></ul>	.PERFOR	M DTC CONFIRMATION F	PROCEDURE	
<ul> <li>B. Perform "All DTĆ Reading" with CONSULT.</li> <li>Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1506" detected as the current malfunction?</u></li> <li>YES &gt;&gt; Refer to <u>DAS-63, "Diagnosis Procedure"</u>.</li> <li>NO &gt;&gt; Refer to <u>GI-42, "Intermittent Incident"</u>.</li> <li>Diagnosis Procedure</li> <li>.CHECK SELF-DIAGNOSIS RESULTS</li> <li>Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1000" detected?</u></li> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning para Refer to <u>DAS-46, "BSW CONTROL MODULE : DTC Logic"</u>.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</li> <li>Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</li> <li><u>s any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer</li> </ul>				
<ul> <li><u>s "U1506" detected as the current malfunction?</u></li> <li>YES &gt;&gt; Refer to <u>DAS-63, "Diagnosis Procedure"</u>.</li> <li>NO &gt;&gt; Refer to <u>G1-42, "Intermittent Incident"</u>.</li> <li><b>Diagnosis Procedure</b></li> <li>.CHECK SELF-DIAGNOSIS RESULTS</li> <li>Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1000" detected?</u></li> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning para Refer to <u>DAS-66, "BSW CONTROL MODULE : DTC Logic"</u>.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</li> <li>Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</li> <li><u>s any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer</li> </ul>	8. Perform	"All DTC Reading" with CC		Popult" of "PS\//"
YES       >> Refer to DAS-63, "Diagnosis Procedure".         NO       >> Refer to GI-42, "Intermittent Incident".         Diagnosis Procedure       INFOLLOW/DECOMPOSITION         .CHECK SELF-DIAGNOSIS RESULTS       Intermittent than "U1506" in "Self Diagnostic Result" of "BSW".         Scheck if "U1000" detected?       YES         YES       >> Perform the CAN communication system inspection. Repair or replace the malfunctioning para Refer to DAS-46, "BSW CONTROL MODULE : DTC Logic".         NO       >> GO TO 2.         CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS         Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".         Sany DTC detected?         YES       >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer			-	result of BSW.
Diagnosis Procedure       INFOLCOMMENT         I.CHECK SELF-DIAGNOSIS RESULTS       Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW".         S "U1000" detected?       YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning para Refer to DAS-46, "BSW CONTROL MODULE : DTC Logic".         NO >> GO TO 2.       Image: Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".         S any DTC detected?       YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer				
<ul> <li>CHECK SELF-DIAGNOSIS RESULTS</li> <li>Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1000" detected?</u></li> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning para Refer to <u>DAS-46, "BSW CONTROL MODULE : DTC Logic"</u>.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</li> <li>Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</li> <li><u>s any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer</li> </ul>	NO >>	Refer to GI-42, "Intermitten	<u>it Incident"</u> .	
<ul> <li>Check if "U1000" is detected other than "U1506" in "Self Diagnostic Result" of "BSW".</li> <li><u>s "U1000" detected?</u></li> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning parallel refer to <u>DAS-46, "BSW CONTROL MODULE : DTC Logic"</u>.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</li> <li>Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</li> <li><u>s any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer</li> </ul>	Diagnosis	Procedure		INFOID:0000000837835
Refer to DAS-46, "BSW CONTROL MODULE : DTC Logic".         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".         s any DTC detected?         YES       >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer	.CHECK S	SELF-DIAGNOSIS RESUL	ГS	
<ul> <li>YES &gt;&gt; Perform the CAN communication system inspection. Repair or replace the malfunctioning paragraphic replace to <u>DAS-46, "BSW CONTROL MODULE : DTC Logic"</u>.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS</li> <li>Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".</li> <li><u>s any DTC detected?</u></li> <li>YES &gt;&gt; Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer</li> </ul>	Check if "U1	000" is detected other than	""U1506" in "Self Diagnostic Result" of "BSW	/" <mark>.</mark>
Refer to DAS-46, "BSW CONTROL MODULE : DTC Logic".         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".         s any DTC detected?         YES       >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer				
2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT". s any DTC detected? YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer		Refer to <u>DAS-46, "BSW CO</u>	ication system inspection. Repair or replace <u>DNTROL MODULE : DTC Logic"</u> .	the malfunctioning parts
Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT". <u>s any DTC detected?</u> YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refe	<b>`</b>			
s any DTC detected? YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refe	LCHECK S	BIDE RADAR RH SELF-DI	AGNOSIS RESULTS	
YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refe	•		iagnostic Result" of "SIDE RADAR RIGHT".	
	<u>s any DTC c</u>	letected?		
DAS-27, "DTC Index".		Deufeure d'eur	detected DTO and see ' ''''''''''''''''''''''''''''''''	transitional data and the Diff. All

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

Μ

Ν

Р

### U1507 LOST COMM(SIDE RDR R)

#### < DTC/CIRCUIT DIAGNOSIS >

### U1507 LOST COMM(SIDE RDR R)

### DTC Logic

INFOID:000000008378358

[BSW]

#### DTC DETECTION LOGIC

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

#### NOTE:

If DTC "U1507" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-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 DAS-64, "Diagnosis Procedure".
- NO >> Refer to GI-42, "Intermittent Incident".

#### Diagnosis Procedure

INFOID:000000008378359

### **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]

А

INFOID:000000008378360

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	<ul> <li>Side radar LH harness connector</li> <li>BSW communication system</li> <li>Side radar LH</li> </ul>
<b>OTE:</b> TC "U1508"	is detected along with	DTC "U1000", first diagnose the DTC "	U1508".
TC CONFI	RMATION PROCED	URE	
.PERFORM	I DTC CONFIRMATIO	N PROCEDURE	
. Perform "	BSW system ON. All DTC Reading" with		
. Check if t	he "U1508" is detected	d as the current malfunction in "Self Diag	gnostic Result" of "BSW".
<u>s "U1508" de</u> YES     >> R	he "U1508" is detected tected as the current n efer to <u>DAS-65, "Diag</u> r efer to <u>GI-42, "Intermit</u>	nalfunction? nosis Procedure".	gnostic Result" of "BSW".
<u>; "U1508" de</u> YES >> R NO >> R	<u>tected as the current n</u> efer to <u>DAS-65, "Diag</u> ı	nalfunction? nosis Procedure".	gnostic Result" of "BSW".
<u>; "U1508" de</u> YES >> R NO >> R Viagnosis	tected as the current n efer to <u>DAS-65, "Diag</u> u efer to <u>GI-42, "Intermit</u>	nalfunction? nosis Procedure". ttent Incident".	_
<u>: "U1508" de</u> YES >> R NO >> R Diagnosis .CHECK SI	tected as the current n efer to <u>DAS-65, "Diag</u> u efer to <u>GI-42, "Intermit</u> <b>Procedure</b> DE RADAR HARNESS gnition switch OFF. e terminals and connect	nalfunction? nosis Procedure". ttent Incident".	INFOID:00000008378361
<ul> <li><u>"U1508" de</u></li> <li>YES &gt;&gt; R</li> <li>NO &gt;&gt; R</li> <li>Diagnosis</li> <li>CHECK SI</li> <li>Turn the i</li> <li>Check the nector sic</li> <li>the inspecti</li> <li>YES &gt;&gt; P</li> </ul>	tected as the current n efer to <u>DAS-65</u> , "Diage efer to <u>GI-42, "Intermit</u> <b>Procedure</b> DE RADAR HARNESS gnition switch OFF. e terminals and connect le). on result normal? erform the CAN comn	nalfunction? nosis Procedure". ttent Incident". S CONNECTOR	INFOID:00000008378361
<ul> <li><u>"U1508" de</u></li> <li>YES &gt;&gt; R</li> <li>NO &gt;&gt; R</li> <li>Diagnosis</li> <li>CHECK SI</li> <li>CHECK SI</li> <li>CHECK SI</li> <li>Check the nector sic</li> <li>the inspecti</li> <li>YES &gt;&gt; P</li> <li>R</li> </ul>	tected as the current n efer to <u>DAS-65</u> , "Diage efer to <u>GI-42, "Intermit</u> <b>Procedure</b> DE RADAR HARNESS gnition switch OFF. e terminals and connect le). on result normal? erform the CAN comn	nalfunction? <u>mosis Procedure"</u> . <u>ttent Incident"</u> . S CONNECTOR ctors of the side radar LH for damage, to <u>hunication system inspection. Repair or</u> <u>ole Diagnosis Flow Chart"</u> .	INFOID:00000008378:

M

Ν

DAS

Ρ

### U1518 SIDE RDR L CAN 3

#### < DTC/CIRCUIT DIAGNOSIS >

### U1518 SIDE RDR L CAN 3

### DTC Logic

INFOID:000000008378362

#### 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 GI-42, "Intermittent Incident".

#### Diagnosis Procedure

INFOID:000000008378363

#### **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]

А

INFOID:000000008378364

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
	1519" is detected along with [ _ MODULE : DTC Logic".	DTC "U1000", first diagnose the DTC "U1000	". Refer to <u>DAS-46, "BSW</u>
	FIRMATION PROCEDUR	E	
.PERFC	ORM DTC CONFIRMATION F	PROCEDURE	
	he engine.		
. Turn t	he BSW system ON.		
<ol> <li>Perfor</li> <li>Check</li> </ol>	m "All DTC Reading" with CC	DNSULT. s the current malfunction in "Self Diagnostic I	Pecult" of "BS\//"
	' detected as the current malf		tesuit of DOW.
YES >	<ul> <li>Refer to <u>DAS-67, "Diagnos</u></li> <li>Refer to <u>GI-42, "Intermitten</u></li> </ul>	is Procedure".	
YES > NO >	> Refer to <u>DAS-67, "Diagnos</u>	is Procedure".	INFOID:00000008378368
YES > NO > Diagnos	> Refer to <u>DAS-67, "Diagnos</u> > Refer to <u>GI-42, "Intermitten</u>	<u>is Procedure"</u> . <u>it Incident"</u> .	INFOID:000000008378368
YES > NO > Diagnos	> Refer to <u>DAS-67, "Diagnos</u> > Refer to <u>GI-42, "Intermitten</u> i <b>s Procedure</b> < SELF-DIAGNOSIS RESUL <sup>-</sup>	<u>is Procedure"</u> . <u>it Incident"</u> .	
YES > NO > Diagnos I.CHECP	> Refer to <u>DAS-67, "Diagnos</u> > Refer to <u>GI-42, "Intermitten</u> i <b>s Procedure</b> < SELF-DIAGNOSIS RESUL <sup>-</sup>	<u>is Procedure"</u> . <u>it Incident"</u> . TS	
YES > NO > Diagnos I.CHECP Check if "U	> Refer to <u>DAS-67</u> , "Diagnos > Refer to <u>GI-42</u> , "Intermitten is <b>Procedure</b> (SELF-DIAGNOSIS RESUL" J1000" is detected other than <u>'detected?</u> > Perform the CAN commun	<u>is Procedure"</u> . I <u>s Incident"</u> . ""U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace	[" <mark>.</mark>
YES > NO > Diagnos I.CHECP Check if "U s "U1000" YES >	<ul> <li>&gt; Refer to <u>DAS-67, "Diagnos</u></li> <li>&gt; Refer to <u>GI-42, "Intermitten</u></li> <li>.is <b>Procedure</b></li> <li>( SELF-DIAGNOSIS RESULTION STRESULTION)</li> <li>J1000" is detected other than <u>'detected?</u></li> <li>&gt; Perform the CAN communing Refer to <u>DAS-46, "BSW COMMUNICATION STRESULTION</u></li> </ul>	t <mark>is Procedure"</mark> . I <u>ncident"</u> . TS 1 "U1519" in "Self Diagnostic Result" of "BSW	[" <mark>.</mark>
YES > NO > Diagnos I.CHECP Check if "U s <u>"U1000"</u> YES > NO >	<ul> <li>&gt; Refer to <u>DAS-67</u>, "<u>Diagnos</u></li> <li>&gt; Refer to <u>GI-42</u>, "<u>Intermitten</u></li> <li>is <b>Procedure</b></li> <li>(SELF-DIAGNOSIS RESUL<sup>-</sup></li> <li>J1000" is detected other than <u>'detected?</u></li> <li>&gt; Perform the CAN commun Refer to <u>DAS-46, "BSW CC</u></li> <li>&gt; GO TO 2.</li> </ul>	is Procedure". It Incident". TS a "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic".	[" <mark>.</mark>
YES > NO > Diagnos I.CHECP Check if "U s <u>"U1000"</u> YES > NO > 2.CHECP	<ul> <li>&gt; Refer to <u>DAS-67</u>, "<u>Diagnos</u></li> <li>&gt; Refer to <u>GI-42</u>, "<u>Intermitten</u></li> <li>is <b>Procedure</b></li> <li>(SELF-DIAGNOSIS RESUL<sup>-</sup></li> <li>J1000" is detected other than <u>'detected?</u></li> <li>&gt; Perform the CAN commun Refer to <u>DAS-46</u>, "<u>BSW CC</u></li> <li>&gt; GO TO 2.</li> <li>(SIDE RADAR RH SELF-DI/</li> </ul>	is Procedure". It Incident". TS a "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic". AGNOSIS RESULTS	[" <mark>.</mark>
YES > NO > Diagnos .CHECH Check if "U S "U1000" YES > NO > 2.CHECH Check if a	<ul> <li>&gt; Refer to <u>DAS-67</u>, "Diagnos</li> <li>&gt; Refer to <u>GI-42</u>, "Intermitten</li> <li>is <b>Procedure</b></li> <li>(SELF-DIAGNOSIS RESULT)</li> <li>J1000" is detected other than</li> <li>'<u>detected?</u></li> <li>&gt; Perform the CAN commun Refer to <u>DAS-46</u>, "BSW CO &gt; GO TO 2.</li> <li>(SIDE RADAR RH SELF-DI/ ny DTC is detected in "Self D</li> </ul>	is Procedure". It Incident". TS a "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic".	[" <mark>.</mark>
YES > NO > Diagnos I.CHECP Check if "U S "U1000" YES > NO > 2.CHECP Check if a s any DTO	<ul> <li>&gt; Refer to <u>DAS-67</u>, "Diagnos</li> <li>&gt; Refer to <u>GI-42</u>, "Intermitten</li> <li>is <b>Procedure</b></li> <li>(SELF-DIAGNOSIS RESULT)</li> <li>J1000" is detected other than</li> <li>' detected?</li> <li>&gt; Perform the CAN commun Refer to <u>DAS-46</u>, "BSW CC</li> <li>&gt; GO TO 2.</li> <li>(SIDE RADAR RH SELF-DI/ ny DTC is detected in "Self D C detected?</li> </ul>	is Procedure". It Incident". TS a "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic". AGNOSIS RESULTS	/". the malfunctioning parts.
YES > NO > Diagnos I.CHECP Check if "U S <u>"U1000</u> YES > NO > 2.CHECP Check if a S any DTO YES >	<ul> <li>&gt; Refer to <u>DAS-67</u>, "<u>Diagnos</u></li> <li>&gt; Refer to <u>GI-42</u>, "<u>Intermitten</u></li> <li>is <b>Procedure</b></li> <li>(SELF-DIAGNOSIS RESULT)</li> <li>J1000" is detected other than</li> <li><u>'detected?</u></li> <li>&gt; Perform the CAN commun Refer to <u>DAS-46</u>, "<u>BSW CC</u></li> <li>&gt; GO TO 2.</li> <li>(SIDE RADAR RH SELF-DI/ ny DTC is detected in "Self D <u>C detected?</u></li> <li>&gt; Perform diagnosis on the on <u>DAS-27, "DTC Index"</u>.</li> </ul>	is Procedure". It Incident". TS a "U1519" in "Self Diagnostic Result" of "BSW ication system inspection. Repair or replace DNTROL MODULE : DTC Logic". AGNOSIS RESULTS Piagnostic Result" of "SIDE RADAR RIGHT".	/". e the malfunctioning parts. functioning parts. Refer to

Ν

Р

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

## POWER SUPPLY AND GROUND CIRCUIT BSW CONTROL MODULE

### BSW CONTROL MODULE : Diagnosis Procedure

### 1.CHECK FUSES

Check if any of the following fuses are blown:

Signal name	Fuse No.	
Ignition power supply	45	

Is the inspection result normal?

YES >> GO TO 2.

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

### 2. CHECK BSW CONTROL MODULE POWER SUPPLY CIRCUIT

Check voltage between BSW control module harness connector and ground.

	Terminal		Condition			
(+)		(-)	Condition	Standard	Reference voltage	
BSW control module			Ignition	voltage	(Approx.)	
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**

INEOID-000000008378366

INFOID:000000008378367

### 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		
(-	+)	()	Ignition switch	Standard voltage	Voltage
Side ra	adar LH				
Connector	Terminal		Ignition Switch		
		Ground	OFF	0 - 0.1 V	0 V
B57	5		ON	10 - 16 V	Battery volt- age

#### Is the inspection result normal?

YES >> GO TO 3.

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			circuit.		
SIDE RADA	R RH : Diag	gnosis Proce	edure		INFOID:00000008378368
1.CHECK FUS	SES				
Check if any of	the following fu	ises are blown:			
	Signal n	ame		Fuse No.	
	Ignition powe	er supply		45	
NO >> Re	) TO 2. place the blowr	n fuse after repa	iring the affected circ	uit if a fuse is blown	
2.CHECK PO			aring the affected circ	uit if a fuse is blown	ı.

2. Disconnect the side radar RH connector.

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

Terminals		Condition			
(·	+)	(–)	Standard		Reference voltage
Side ra	dar 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?

А

В

С

D

Е

F

Ρ

### 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	Terminal	Ground	Continuity
B317	2	1	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the side radar RH ground circuit.

## **BSW SWITCH CIRCUIT**

			B2M 3	SWIICHC	IRCUIT	
< DTC/CIRC	UIT DIAGNOS	SIS >			[BSW]	
BSW SW	ITCH CIR	CUIT				Δ
Componer	nt Function	Check			INFOID:00000008378369	A
1.снеск в	SW SWITCH I	NPUT S	IGNAL			В
	ignition switch		<i></i>			
	e DATA MONI erating the BSW				SW" with CONSULT.	С
Monitor item	С	ondition		Monitor status		
WARN SYS	BSW switch is p	ressed		On		D
SW	BSW switch is no	-		OFF		
YES >> E	<u>tion result norm</u> 3SW switch circ Refer to <u>DAS-7</u>	cuit is no		edure".		E
Diagnosis	Procedure				INFOID:00000008378370	F
	SW SWITCH S	SIGNAI				
	ignition switch					G
2. With ope			n, check vo	oltage betwee	n BSW control module harness connector and	
ground.						Н
	Terminals					
(+	(+) (-)		Condition	Voltage		
BSW contro		. ,		(Approx.)		
Connector	Terminal	Ground	BSW switc	h		
M61	1	Giouna	Pressed	0 V		J
_			Released	12 V		
•	tion result norm		al una a du da d			K
	GO TO 2.	vv contr	oi module.	Refer to <u>DAS-</u>	77, "Removal and Installation".	
2. СНЕСК В	SW SWITCH					I
1. Turn igni	tion switch OFI					
	BSW switch. SW switch. Ret	$rac{1}{100}$	9 91 "Por	noval and Inst	allation"	
	tion result norm		13-01, IXEI			M
•	GO TO 3.					
•	•			DAS-81, "Ren	noval and Installation".	Ν
	SW SWITCH C					
Check contin	uity between B	SW swit	ch harness	connector an	d the ground.	DA
BS	W switch					
Connector	Terminal		Ground	Continuity		
M60	2			Existed	-	Ρ
	tion result norm	al?		-		
YES >> 0	GO TO 4.					
	Repair harness					
4.CHECK B	SW SWITCH S	SIGNAL	INPUT CIR		PEN	

1. Disconnect the BSW control module connector.

### **BSW SWITCH CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

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

BSW 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 <u>DAS-77, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

#### **Component Inspection**

INFOID:000000008378371

### 1.CHECK BSW SWITCH

Check continuity of BSW switch.

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace BSW switch.

### **BSW ON INDICATOR CIRCUIT**

< DTC/CIRCL		NOSIS >			[BSW]	
BSW ON	INDICA	TOR CI	RCUIT			
Diagnosis F	Procedu	re			INFOID:00000008378372	
1 Снеск во				JPPLY CIRCUI	г	
	on switch					
<ol> <li>Disconneo</li> <li>Turn igniti</li> </ol>	ct BSW sw on switch	vitch connec ON.		ess connector a	and ground.	
	Termir	nals				
	(+)		()	Voltage		
BSV	V switch			(Approx.)		
Connector	Termi	nal	Ground			
M60	5			Battery voltage	-	
s the inspection		ormal?				
	O TO 2. Apair the F	SW ON inc	licator pour	or supply oircu	it	
	•		•	er supply circu	IL.	
CHECK BS			IGINAL FO			
	ct the BSW	/ control ma		ess connector. ol module harne	ess connector and BSW switch harness connec-	
BSW control	module	BSV	/ switch			
Connector	Terminal	Connector	Termina	Continuity		
M61	4	M60	6	Existed		
s the inspection	on result n	ormal?				
	O TO 3.					
ר	•	arnesses o				
	-			RCUIT FOR SH	-	
Check continu	ity betwee	n the BSW	control mo	odule harness o	connector and ground.	
BSW cor	ntrol module					
Connector	Termi	nal	Ground	Continuity		
M61	4		eround	Not existed	-	
s the inspection		ormal?				
•	0 TO 4.	<u></u>				
NO >> Re	epair the h	arnesses o	r connecto	rs.		
CHECK BS		DICATOR				
Check the BS	W ON indi	cator. Refer	to DAS-73	<u>3, "Component</u>	Inspection".	
s the inspection	<u>on result n</u>	ormal?				
				Refer to DAS- emoval and Ins	77, "Removal and Installation". stallation".	
Component	t Inspec	tion			INFOID:00000008378373	
1.CHECK BS						
I.UDEUN BS						

**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:00000008378374

#### **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	<ul> <li>BSW warning lamp signal (CAN)</li> <li>Combination meter</li> <li>BSW control module</li> <li>BSW warning lamp (combination meter)</li> </ul>	<ul> <li>Power supply and ground circuit of BSW control module Refer to <u>DAS-68</u>, "<u>BSW CONTROL MODULE</u>: <u>Diagnosis</u> <u>Procedure</u>"</li> <li>BSW control module Active test "BSW/BSI WARNING LAMP" Refer to <u>DAS-17</u>, "<u>CONSULT</u> <u>Function (BSW)</u>".</li> <li>BSW control module Data monitor "BSW/BSI WARN LMP" Refer to <u>DAS-17</u>, "<u>CONSULT</u> <u>Function (BSW)</u>"</li> <li>Combination meter Data mon- itor "BSW W/L" Refer to <u>MWI-35</u>, "<u>CONSULT</u> <u>Function</u>"</li> </ul>	
	BSW ON indicator (on the BSW switch) does not illumi- nate	<ul> <li>Harness between BSW control module and BSW switch</li> <li>BSW switch</li> <li>BSW control module</li> </ul>	BSW ON indicator circuit Refer to <u>DAS-73. "Diagnosis Pro-</u> cedure"	
	BSW indicator does not turn ON	<ul> <li>Harness between side radar and BSW indicator</li> <li>Side radar LH/RH</li> <li>BSW indicator</li> </ul>	Perform self-diagnosis of side ra- dar Refer to <u>DAS-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	<ul> <li>Harness between BSW control module and BSW switch</li> <li>Harness between BSW switch and ground</li> <li>BSW control module</li> <li>BSW switch</li> </ul>	BSW ON indicator circuit Refer to <u>DAS-73, "Diagnosis Pro-</u> cedure"	
	Buzzer is not sounding	<ul><li>BSW control module</li><li>Combination meter</li></ul>	Meter buzzer circuit Refer to <u>WCS-35, "Component</u> <u>Function Check"</u>	

Ρ

### NORMAL OPERATING CONDITION

### NORMAL OPERATING CONDITION

### Description

INFOID:000000008378375

[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.

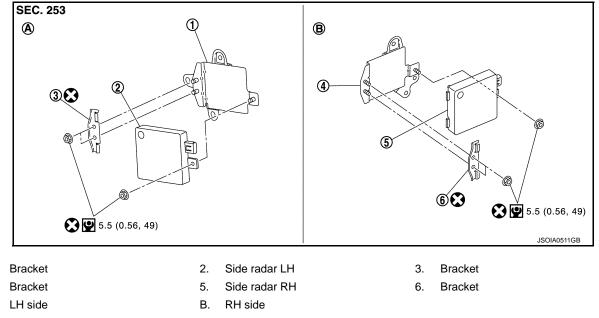
BSW CONTROL MODULE		
< REMOVAL AND INSTALLATION >	[BSW]	
REMOVAL AND INSTALLATION		А
BSW CONTROL MODULE		
Removal and Installation	INFOID:00000008378376	В
<ol> <li>REMOVAL</li> <li>Remove cluster lid C. Refer to <u>IP-13, "Removal and Installation"</u>.</li> <li>Remove mounting bolts from BSW control module.</li> <li>Disconnect BSW control module connector.</li> </ol>		С
4. Remove BSW control module. INSTALLATION		D
Install in the reverse order of removal.		Ε
		F
		G
		Н
		Ι
		J
		Κ
		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

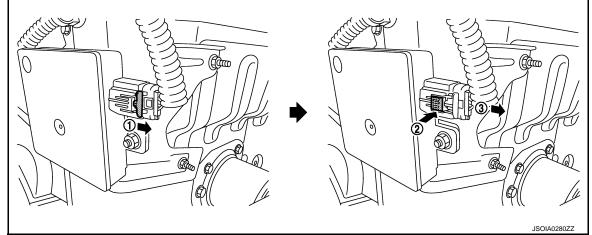
#### Removal

1.

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]

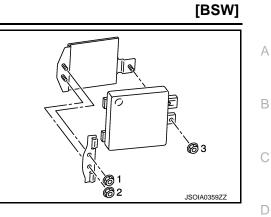
### SIDE RADAR

#### < 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.



Е

F

G

Н

J

Κ

L

Μ

Ν

< REMOVAL AND INSTALLATION >

### **BSW INDICATOR**

### Exploded View

BSW indicator is installed on the door mirror surface. Refer to <u>MIR-31</u>, "GLASS <u>MIRROR</u> : <u>Removal and</u> <u>Installation</u>".

#### NOTE:

Always remove BSW indicator together with glass mirror.

INFOID:000000008378378

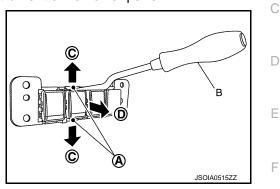
< REMOVAL AND INSTALLATION >

## **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]

INFOID:00000008378379

В

Н

J

Κ

Μ

Ν