# SECTION DAS DRIVER ASSISTANCE SYSTEM

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# PRECAUTIONS

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

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

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, 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 the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

#### Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

#### Precautions For Harness Repair

ITS communication uses a twisted pair line. Be careful when repairing it.

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Bypass connection is never allowed at the repaired area.

# PRECAUTIONS

# [DRIVER ASSISTANCE SYSTEM]

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

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





Precautions for Driver Assistance Systems

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#### **CAUTION:**

NOTE:

line are lost.

< PRECAUTION >

- Turn FEB system OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.
- Do not use or disassemble the distance sensor removed from the vehicle.
- Erase DTC when replacing parts of FCW system, then check the operation of FCW system after sensor alignment, if necessary.
- Do not change FEB initial state ON⇒OFF without consent of the customer.

#### WARNING:

Be cautious of traffic conditions and other vehicles when performing a road test.

Blind Spot Warning/Rear Cross Traffic Alert (RCTA) System Service

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#### **CAUTION:**

Do not use Blind Spot Warning system when driving with free rollers or a chassis dynamometer.

· Do not perform active test while driving.

TO KEEP BLIND SPOT WARNING SYSTEM OPERATING PROPERLY. BE SURE TO OBSERVE THE FOLLOWING ITEMS:

#### System Maintenance

Side radars for Blind Spot Warning system are located near rear bumper.

- · Be sure to keep the area near the side radars clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near side radars.
- Do not strike or damage area around side radars.

# PREPARATION

# PREPARATION

# **Special Service Tool**

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[DRIVER ASSISTANCE SYSTEM]

The actual shape of the tools may differ from those illustrated here.



# **Commercial Service Tools**

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Tool name		Description	L
Spirit level		Uses for distance sensor initial vertical align- ment.	-
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# < system description > SYSTEM DESCRIPTION

# COMPONENT PARTS

**Component Parts Location** 

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A. View with rear bumper fascia removed B. View with glove box assembly removed C. View with front bumper fascia removed

D. View with rear bumper fascia removed E. View of upper brake pedal assembly

No.	Component	Function
1.	Blind spot warning indicator RH	Refer to DAS-12, "Blind Spot Warning Indicator LH/RH".
2.	ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal (wheel speed) to ADAS control unit via CAN communi- cation. Refer to <u>BRC-9</u> , "Component Parts Location" for detailed installation location.
3.	ECM	Transmits engine speed signal to ADAS control unit via CAN communication. Refer to <u>EC-14</u> , "Component Parts Location" for detailed installation location.

# **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

### [DRIVER ASSISTANCE SYSTEM]

No.	Component	Function	^
4.	ТСМ	Transmits the selector lever position signal to ADAS control unit via CAN communication. Refer to <u>TM-12</u> , <u>"CVT CONTROL SYSTEM : Component Parts Location"</u> for detailed instal- lation location.	A
5.	ВСМ	<ul> <li>Transmits the turn indicator signal, stop lamp switch, stop lamp states signal, dimmer signal, and back door switch signal to ADAS control unit via CAN communication.</li> <li>Refer to the following for detailed installation location:</li> <li>With Intelligent Key system: <u>BCS-7</u>, "BODY CONTROL SYSTEM : Component Parts Location".</li> <li>Without Intelligent Key system: <u>BCS-80</u>, "BODY CONTROL SYSTEM : Component Parts Location".</li> </ul>	B
6.	Blind spot warning indicator LH	Refer to DAS-12, "Blind Spot Warning Indicator LH/RH".	D
7.	Steering switches	Refer to DAS-12, "Steering Switches".	
8.	Combination meter	Description: <u>DAS-12, "Combination Meter"</u> . Refer to <u>MWI-6, "METER SYSTEM : Component Parts Location"</u> for detailed installation lo- cation.	E
9.	Warning system switch	Refer to DAS-12, "Warning System Switch".	_
10.	Steering angle sensor	Transmits the steering angle sensor signal to ADAS control unit via CAN communication. Refer to <u>BRC-9</u> , "Component Parts Location" for detailed installation location.	F
11.	Side radar RH	Refer to DAS-12, "Side Radar LH/RH".	0
12.	Warning system buzzer	Refer to DAS-12, "Warning System Buzzer".	G
13.	ADAS control unit	Refer to DAS-11, "ADAS Control Unit".	
14.	Distance sensor	Refer to DAS-11, "Distance Sensor".	Н
15.	Side radar RH	Refer to DAS-12, "Side Radar LH/RH".	
16.	Brake pedal position switch	Pefer to DAS_13 "Brake Pedal Position Switch / Stop Lamp Switch"	
17.	Stop lamp switch		I

# ADAS Control Unit

- ADAS control unit is installed behind the glove box assembly.
- Communicates with each control unit via CAN communication and ITS communication.
- ADAS control unit controls each system, based on ITS communication signals and CAN communication signals from each control unit.



# **Distance Sensor**

- Distance sensor is installed to the back of the front bumper and detects a vehicle ahead by using millimeter waves.
- Distance sensor detects radar reflected from a vehicle ahead by irradiating radar forward and calculates a distance from the vehicle ahead and relative speed, based on the detected signal.
- Distance sensor transmits the presence/absence of vehicle ahead and the distance from the vehicle ahead to the ADAS control unit via CAN communication.



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#### < SYSTEM DESCRIPTION >

#### **Steering Switches**

- · Steering switches are installed in the steering wheel.
- Settings for driver assistance systems are possible.
- Switch is connected to the combination meter and signals are transmitted to the ADAS control unit via CAN communication.



[DRIVER ASSISTANCE SYSTEM]

### Combination Meter

- Receives meter display signal from the ADAS control unit via CAN communication.
- Displays system status according to the signal received from the ADAS control unit.

#### Warning System Buzzer

- Warning system buzzer is installed behind the glove box assembly.
- When a warning buzzer signal is received, the buzzer sounds.



### Blind Spot Warning Indicator LH/RH

- Installed on the front door corner finisher, the blind spot warning indicator warns the driver by lighting/blinking.
- Receives a blind spot warning indicator operation signal from the side radar LH/RH and blinks or turns ON/ OFF the blind spot warning indicator.

### Warning System Switch

- Installed to the back of the instrument lower panel LH, the warning system switch is used to activate/deactivate the driver assistance system.
- Transmits a warning system switch signal to the ADAS control unit.

#### Side Radar LH/RH

- · Installed near the rear bumper, the side radar detects other vehicles beside own vehicle in an adjacent lane.
- · Connected with the ADAS control unit via ITS communication, the side radar transmits a vehicle detection signal.
- Receives a Blind Spot Warning indicator signal and a Blind Spot Warning indicator dimmer signal from the ADAS control unit and transmits an indicator operation signal to the Blind Spot Warning indicator LH/RH.
- Since side radar RH and side radar LH have the same specifications, side radar RH has the right/left switching signal circuit for identification.



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**Revision: September 2015** 

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# **COMPONENT PARTS**

## [DRIVER ASSISTANCE SYSTEM]

#### Brake Pedal Position Switch / Stop Lamp Switch

- Brake pedal position switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.
- Brake pedal position switch is turned OFF when depressing the brake pedal.
- Brake pedal position switch signal is input to ECM. Brake pedal position switch signal is transmitted from ECM to ADAS control unit via CAN communication.
- Stop lamp switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.
- Stop lamp switch is turned ON, when depressing the brake pedal.
- · Stop lamp switch signal is input to ECM and ABS actuator and electric unit (control unit). Stop lamp switch signals are transmitted from ECM and ABS actuator and electric unit (control unit) to ADAS control unit via CAN communication.



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# SYSTEM BSW

# **BSW : System Description**

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#### SYSTEM DIAGRAM



#### ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

ADAS control unit receives signals via CAN communication. It also detects vehicle conditions that are necessary for Blind Spot Warning control.

#### Input Signal Item

Transmit unit	Signal name		Description
ТСМ	CAN communication	Shift selector position signal	Receives a shift selector 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 ON/OFF state of dimmer signal.
Combination meter	CAN communication	System selection signal	Receives a selection state of each item in "Driver Aids" selected with the integral switch.
Side radar LH, RH	ITS communication	Vehicle detection signal	Receives vehicle detection condition of detection zone.

#### **Output Signal Item**

Reception unit	Signal name		Description
Combination meter	CAN communication	BSW indicator signal	Transmits a BSW indicator signal to turn ON the BSW indicator on the combination meter.
Side radar LH, RH	ITS communication	Blind Spot Warning indicator signal	Transmits a Blind Spot Warning indicator signal to turn ON the Blind Spot Warning indicator.
		Blind Spot Warning indicator dimmer signal	Transmits a Blind Spot Warning indicator dimmer sig- nal to dim Blind Spot Warning indicator.
		Vehicle speed signal	Transmits a vehicle speed that is calculated by the ADAS control unit.

#### FUNCTION DESCRIPTION

• The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.

• The BSW system uses side radars installed near the rear bumper to detect vehicles in an adjacent lane.

# SYSTEM

## [DRIVER ASSISTANCE SYSTEM]

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#### < SYSTEM DESCRIPTION >

- The side radars 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 20 MPH (32 km/h).
- If the side radar detects vehicles in the detection zone, the Blind Spot Warning indicator illuminates.



• If the driver then activates the turn signal, a buzzer will sound twice and the Blind Spot Warning indicator will blink.

#### NOTE:

A buzzer sounds if the side radar has detected a vehicle 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 Blind Spot Warning indicator blinks and no buzzer sounds.



#### BLIND SPOT WARNING SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables BSW system.
- The ADAS control unit turns on the BSW system when it is turned ON by the integral switch.
- Side radar detects a vehicle in the adjacent lane and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- ADAS control unit starts the control as follows, based on a vehicle detection signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
- Blind Spot Warning indicator signal and Blind Spot Warning indicator dimmer signal transmission to side radar.
- Side radar transmits an indicator operation signal to the Blind Spot Warning indicator according to Blind Spot Warning indicator signal and Blind Spot Warning indicator dimmer signal.

#### OPERATING CONDITION

- Blind Spot Warning system display (white): ON
- Vehicle speed: Approximately 20 MPH (32 km/h) or more

#### NOTE:

ON/OFF of Blind Spot Warning system is performed with the integral switch.

# **DAS-15**



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# SYSTEM

#### < SYSTEM DESCRIPTION >

- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 18 MPH (29 km/h).
- The Blind Spot Warning system may not function properly, depending on the situation. Refer to <u>DAS-8</u>, <u>"Blind Spot Warning/Rear Cross Traffic Alert (RCTA) System Service"</u>.

#### FCW

# FCW : System Description

#### SYSTEM DIAGRAM



### ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

#### Input Signal Item

Transmit unit	Signal name		Description
ABS actuator and elec- tric unit (control unit)	CAN communication	Wheel speed signal	Receives wheel speed.
Combination meter	CAN communication	System selection signal	Receives a selection state each item in "Driver Aids" se- lected with the steering switch.
Distance sensor	CAN communication	Distance sensor signal	Receives detection results, such as the presence or ab- sence of a leading vehicle and distance from the vehicle.

#### **Output Signal Item**

Reception unit	Signal name			Description
Combination meter	CAN commu- nication	Meter display signal	Vehicle ahead detec- tion indicator signal	Transmits a signal to display a state of the system on the information display.
Distance sen- sor	CAN commu- nication	Vehicle speed signal		Transmits a vehicle speed calculated by the distance sensor.

#### DESCRIPTION

• The Forward Collision Warning (FCW) System alerts the driver by a warning lamp (vehicle ahead detection indicator) and chime when own vehicle is getting close to the vehicle ahead in the traveling lane.

 The FCW system will function when own vehicle is driven at speeds of approximately 10 MPH (15 km/h) and above.

#### FUNCTION DESCRIPTION

The distance from the vehicle ahead and a relative speed are calculated by using the distance sensor signal transmitted to the ADAS control unit via ITS communication. When judging the necessity of warning from the received distance sensor signal, the distance sensor transmits a buzzer signal to the ADAS control unit via ITS communication and the ADAS control unit transmits a warning system buzzer signal to the warning system buzzer.

#### FCW Operating Condition

• Vehicle speed: Approximately 10 MPH (15 km/h) and above.





#### System Display

The BSW systems operate when ON is selected with the combination meter.

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< SYSTEM DESCRIPTION >

# **OPERATION**

#### < SYSTEM DESCRIPTION >

#### [DRIVER ASSISTANCE SYSTEM]

Sustam status	Condition	Display on combination meter			
System status	Condition	Upper part	Middle part		
BSW OFF	_		White Driving Aids		
BSW ON	System ON	White	White Driving Aids		
BSW is malfunction	The BSW system is automati- cally can- celed.	Orange	Orange Driving Aids		
Side radar blocked	The BSW system is automati- cally can- celed.	White (Blink)	White (Blink) Driving Aids		

Display And Warning Operation

# OPERATION

#### < SYSTEM DESCRIPTION >

#### [DRIVER ASSISTANCE SYSTEM]

Vehicle co	tion Action		Vehicle condition/ Driver's opera- tion			А	
Vehicle speed (Approx.)	Turn sig- nal con- dition	Status of vehicle detection within de- tection area	Indication on the BSW indicator	Indication on the Upper part	combination meter Middle part	Buzzer	B
Less than 29 km/h (18 MPH)			OFF	White Unite JSOIA1423ZZ	White Driving Aids	OFF	D
		Vehicle is not de- tected	OFF	White	White Driving Aids	OFF	F
32 km/h (20 MPH) or more	OFF	Vehicle is detected	ON	White Unite Unite USOIA1423ZZ	White Driving Aids	OFF	H I J
	ON (vehicle	Before turn sig- nal oper- ates Vehicle is detected	Blink	White Unite JSOIA1423ZZ	Orange (Blink) Driving Aids	Short continu- ous beeps	K
	direc- tion)	Vehicle is detected after turn signal op- erates	Blink	White	Orange (Blink) Driving Aids	OFF	M N DA

#### NOTE:

• If vehicle speed exceeds approximately 32 km/h (20 MPH), BSW function operates until the vehicle speed becomes lower than approximately 29 km/h (18 MPH).

• Time shown in the figure is approximate time.

FCW

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#### < SYSTEM DESCRIPTION >

# FCW : System Display and Warning

INFOID:000000012421537

[DRIVER ASSISTANCE SYSTEM]

#### INDICATOR LAMP AND WARNING LAMP



No.	Display item	Description
1.	Warning system indicator (FCW)	Indicates that the FCW system is ON.
2.	FCW system indicator "Forward position"	<ul><li>Indicates that the FCW system is ON (white).</li><li>Blinks (white) when the FCW system is activated.</li></ul>
3.	FCW warning	Blinks when approaching vehicle ahead.

#### DISPLAY

Vehicle condition/Driver's operation		Action	Warning systems ON indicator	Indication on the combination meter	Buzzer
Less than Ap- prox. 10 MPH (15 km/h)	Close to vehicle ahead	No action	ON	FCW indicator (white) ON steady	_
Approx. 10 MPH (15 km/ h) or more.	When own vehicle comes close to the vehicle ahead and it is judged that the dis- tance between the vehicles is not sufficient.	<ul> <li>Warning buzz- er sounds</li> <li>FCW indicator blinks (white)</li> </ul>	ON	FCW indicator (white) Blinks	Short con- tinuous beeps

# HANDLING PRECAUTION

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DAS

INFOID:000000012421538

INFOID:000000012775910

# < SYSTEM DESCRIPTION >

# HANDLING PRECAUTION

# Precautions for Forward Collision Warning

- The forward collision warning system is designed to warn the driver before a collision but will not avoid a collision. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- The distance sensor does not detect the following objects:
- Pedestrians, animals, or obstacles in the roadway.
- Oncoming vehicles.
- Crossing vehicles.
- The forward collision warning system does not function when a vehicle ahead is a narrow vehicle, such as a motorcycle.
- The distance sensor may not detect a vehicle ahead in the following conditions:
- Snow or heavy rain.
- Dirt, ice, snow or other material covering the distance sensor.
- Contamination or foreign materials adhere to the distance sensor area of the front bumper.
- The distance sensor area of the front bumper is temporarily fogged.
- Interference by other radar sources.
- Snow or road spray from traveling vehicles is splashed.
- Driving in a tunnel
- When the distance to the vehicle ahead is too close, the beam of the distance sensor is obstructed.
- The distance sensor may not detect a second vehicle when driving on a steep downhill slope or on roads with sharp curves.
- Excessive noise will interfere with the warning tone sound, and it may not be heard.

### Precautions for Blind Spot Warning

#### SIDE RADAR HANDLING

- Side radar for Blind Spot Warning 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 paint work 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.

#### **BLIND SPOT WARNING**

- The Blind Spot Warning system is not a replacement for proper driving procedure and is 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 Blind Spot Warning system.
- The Blind Spot Warning system may not provide the warning for vehicles that pass through the detection zone quickly.
- Excessive noise (for example, 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 Blind Spot Warning 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 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 is 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 (ADAS CONTROL UNIT)**

#### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

# CONSULT Function (ICC/ADAS)

INFOID:000000012731445

[DRIVER ASSISTANCE SYSTEM]

#### APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using ADAS control unit:

Diagnosis mode	Description
Configuration	<ul> <li>The vehicle specification that is written in ADAS control unit can be displayed or stored.</li> <li>The vehicle specification can be written when ADAS control unit is replaced.</li> </ul>
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the ADAS control unit.
Data Monitor	Displays ADAS control unit input/output data in real time.
Active Test	Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load.
ECU Identification	Displays ADAS control unit part number.
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and ITS communication.

#### CONFIGURATION

Configuration includes functions as follows:

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.
Manual Configuration		Allows the writing of the vehicle specification into the ADAS control unit by hand.

#### SELF DIAGNOSTIC RESULT

Refer to DAS-32, "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.
- ODO/TRIP METER (Mileage) and VOLTAGE (IGN voltage) are displayed on FFD (Freeze Frame Data).

#### 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
BRAKE SW [On/Off]	Indicates [ON/OFF] status as judged from brake switch signal (ECM transmits brake switch signal through CAN communication).
STOP LAMP SW [On/Off]	Indicates [ON/OFF] status as judged from stop lamp switch signal (ECM transmits stop lamp switch signal through CAN communication).
IDLE SW [On/Off]	Indicates [ON/OFF] status of idle switch read from ADAS control unit through CAN communication (ECM transmits ON/OFF status through CAN communication).
VHCL SPEED SE [km/h] or [mph]	Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS ac- tuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication].
SET VHCL SPD [km/h] or [mph]	Indicates set vehicle speed memorized in ADAS control unit.
BUZZER O/P [On/Off]	Indicates [ON/OFF] status of warning chime output.

# **DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)**

#### < SYSTEM DESC

ENGINE RPM

[rpm] WIPER SW [OFF/LOW/HIGH] **BA WARNING** 

EM DESCRIPT	ON > [DRIVER ASSISTANCE SYSTEM]
Monitored item [Unit]	Description
E RPM	Indicates engine speed read from ADAS control unit through CAN communication (ECM transmits engine speed signal through CAN communication).
SW OW/HIGH]	Indicates wiper [OFF/LOW/HIGH] status (BCM transmits front wiper request signal through CAN communication).
RNING ]	Indicates [ON/OFF] status of FEB indicator lamp output.
ITION SW	Indicates [ON/OFF] status of "D" or "M" positions read from ADAS control unit through CAN com- munication; ON when position "D" or "M" (TCM transmits shift selector position signal through CAN

[On/Off]	
D POSITION SW [On/Off]	Indicates [ON/OFF] status of "D" or "M" positions read from ADAS control unit through CAN com- munication; ON when position "D" or "M" (TCM transmits shift selector position signal through CAN communication).
NP RANGE SW [On/Off]	Indicates shift selector position signal read from ADAS control unit through CAN communication (TCM transmits shift selector position signal through CAN communication).
PKB SW [On/Off]	Parking brake switch status [ON/OFF] judged from the parking brake switch signal that ADAS con- trol unit receives via CAN communication is displayed (combination meter transmits the parking brake switch signal via CAN communication).
PWR SUP MONI [V]	Indicates ignition voltage input monitored by ADAS control unit.
VHCL SPD AT [km/h] or [mph]	Indicates vehicle speed calculated from CVT vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits CVT vehicle speed sensor signal through CAN communication).
THRTL OPENING [%]	Indicates throttle position read from ADAS control unit through CAN communication (ECM trans- mits accelerator pedal position signal through CAN communication).
GEAR [1, 2, 3, 4, 5, 6, 7]	Indicates CVT gear position read from ADAS control unit through CAN communication (TCM trans- mits current gear position signal through CAN communication).
NP SW SIG [On/Off]	Indicates [ON/OFF] status as judged from park/neutral position switch signal (ECM transmits park/ neutral position switch signal through CAN communication).
SET DISP IND [On/Off]	Indicates [ON/OFF] status of SET switch indicator output.
DISTANCE [m]	Indicates the distance from the vehicle ahead.
RELATIVE SPD [m/s]	Indicates the relative speed of the vehicle ahead.
SIDE G [G]	Indicates lateral G acting on the vehicle. This lateral G is judged from a side G sensor signal read by ADAS control unit via CAN communication. (The ABS actuator and electric unit (control unit) transmits a side G sensor signal via CAN com- munication).
FUNC ITEM (FCW) [On/Off]	Indicates system which can be set to ON/OFF by selecting "Driver Assistance"⇒"Emergency Brake" of the integral switch: Forward Emergency Braking.
FUNC ITEM (BSW) [On/Off]	Indicates system which can be set to ON/OFF by selecting "Driver Assistance"⇒"Blind Spot" of the integral switch: Blind Spot Warning.
FCW SELECT [On/Off]	Indicates an ON/OFF state of the FCW system. The FCW system can be set to ON/OFF by select- ing "Driver Assistance"⇒"Emergency Brake" of the integral switch.
BSW SELECT [On/Off]	Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by select- ing "Driver Assistance"⇒"Blind Spot" of the integral switch.
BSW/BSI WARN LMP [On/Off]	Indicates [ON/OFF] status of Blind Spot Warning malfunction.
BSW SYSTEM ON [On/Off]	Indicates [ON/OFF] status of BSW system.
FCW SYSTEM ON [On/Off]	Indicates [ON/OFF] status of FEB system.
BSW ON INDICATOR [On/Off]	Indicates [ON/OFF] status of BSW system ON display output.

# **DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)**

#### < SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitored item [Unit]	Description
SIDE RADAR BLOCK COND [On/Off]	Indicates [ON/OFF] status of side radar with dirt or foreign materials.
BSW IND BRIGHTNESS [Nothing/Bright/Normal/Dark]	Indicates status of brightness of Blind Spot Warning indicator.
FEB AVAILABLE COND [On/Off]	Indicates [On/Off] available condition of FEB system.
EBA AVAILABLE COND [On/Off]	Indicates [On/Off] available condition of Brake Assist system.

### ACTIVE TEST

#### **CAUTION:**

- Never perform "Active Test" while driving the vehicle.
- The "Active Test" cannot be performed when the following systems malfunction is displayed.
- Blind Spot Warning
- FCW/FĖB
- The "Active Test" cannot be performed when the FEB warning lamp is illuminated.

Test item	Description
METER LAMP	The FEB warning lamp can be illuminated by ON/OFF operation as necessary.
Switch lamp	The warning system ON indicator (on warning system switch) can be illuminated by ON/OFF operation as necessary.

#### METER LAMP

Test item	Operation	Description	FEB warning lamp
	Off	Stops sending the FEB warning lamp signal to exit from the test.	OFF
METER LAMP	On	Transmits the FEB warning lamp signal to the combination meter via CAN communi- cation.	ON

#### SWITCH LAMP

Test item	Operation	Description	Warning system ON indicator
Switch Jamp	Off	Stops transmitting the warning system ON indicator (on warning system switch) signal to end the test.	OFF
owitin tamp	On	Transmits the warning system ON indicator (on warning system switch) signal to start the test.	ON

#### ECU IDENTIFICATION

Displays ADAS control unit part number.

# DIAGNOSIS SYSTEM (DISTANCE SENSOR)

### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (DISTANCE SENSOR)

# CONSULT Function (LASER/RADAR)

# APPLICATION ITEMS

CONSULT performs the following functions via CAN communication with Distance sensor.

Diagnosis mode	Description	(
Self Diagnostic Result	Displays malfunctioning system memorized in Distance sensor.	
Data Monitor	Displays real-time input/output data of Distance sensor.	
Active Test	Distance sensor activates outputs to components.	
Work support	It can monitor the adjustment direction indication in order to perform the radar alignment operation smoothly.	
ECU Identification	Displays Distance sensor part number.	Ľ
CAN Diag Support Monitor	Monitor the reception status of CAN communication viewed from Distance sensor.	

### SELF DIAGNOSTIC RESULT

Refer to <u>BRC-212, "DTC Index"</u>.

#### 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	
VHCL SPEED SE [km/h]	Vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN com- munication.	Ι
YAW RATE [deg/s]	Yaw rate signal received from ABS actuator and electric unit (control unit) via CAN communi- cation.	J
PWR SUP MONI [V]	Indicates IGN voltage input by Distance sensor.	
DISTANCE [m]	Indicates the distance from the vehicle ahead.	K
RELATIVE SPD [m/s]	Indicates the relative speed of the vehicle ahead.	L
LASER OFFSET [m]	NOTE: The item is indicated, but not used.	
LASER HEIGHT [m]	NOTE: The item is indicated, but not used.	Μ
STEERING ANGLE [deg]	The steering angle is displayed.	N
STRG ANGLE SPEED [deg/s]	The steering angle speed is displayed.	
L/R ADJUST [deg]	Indicates a horizontal correction value of the radar.	DA
U/D ADJUST [deg]	Indicates a vertical correction value of the radar.	P
FCW SYSTEM ON [On/Off]	NOTE: The item is indicated, but not used.	I
FCW SELECT [On/Off]	NOTE: The item is indicated, but not used.	
FEB SW [On/Off]	Indicates [On/Off] status of FEB system	

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# **DIAGNOSIS SYSTEM (DISTANCE SENSOR)**

#### < SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitored item [Unit]	Description
FEB SELECT [On/Off]	Indicates an ON/OFF state of the FEB system.
BRAKE SW [On/Off]	Indicates [On/Off] status as judged from brake pedal position switch signal (BCM transmits brake pedal position switch signal through CAN communication)
IDLE SW [On/Off]	Indicates [On/Off] status of idle switch read from distance sensor through CAN communication (ECM transmits On/Off status through CAN communication)
THRTL SENSOR [On/Off]	NOTE: The item is indicated, but not used.
VEHICLE AHEAD DETECT [On/Off]	Indicates [On/Off] status of vehicle ahead detection indicator output
STATIC OBSTACLE DETECT [On/Off]	Indicates [On/Off] status of static obstacle detection
BUZZER O/P [On/Off]	Indicates [On/Off] status of warning chime output
FUNC ITEM (FCW) [Without FCW/With FCW]	NOTE: The item is indicated, but not used.
FUNC ITEM (FEB)	Indicates systems which can be set to ON/OFF by selecting FEB.
PRESS ORDER	Indicates status as judged from brake fluid pressure signal [ABS actuator and electric unit (con- trol unit) transmits brake fluid pressure signal through CAN communication].
Shift position	Indicates shift position read from ADAS control unit through CAN communication (TCM trans- mits shift position signal through CAN communication).
Turn signal	NOTE: The item is indicated, but not used.
ADAS MALF	Indicates [On/Off] status of ADAS malfunction
MILEAGE	Indicates [On/Off] status of ADAS malfunction

#### WORK SUPPORT

Work support items	Description
MILLIWAVE RADAR ADJUST	Outputs millimeter waves, calculates dislocation of the millimeter waves, and indicates adjust- ment direction.
FEB DEFAULT SETTING	Changes the FEB system to default settings.
FEB OPERATION MILEAGE	The mileage information for FEB operation is displayed.

#### ACTIVE TEST

Test item	Description
BRAKE ACTUATOR	Activates the brake by an arbitrary operation
ICC BUZZER	This test is able to check FEB warning chime operation [On/Off] in the combination meter.
METER LAMP	This test is able to check FEB warning indicator operation [On/Off] in the combination meter information display.

#### DIAGNOSIS SYSTEM (SIDE RADAR LH) N > [DRIVER ASSISTANCE SYSTEM]

#### < 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.

Diagnosis 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-35, "DTC Index".

FFD (Freeze Frame Data)

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

Freeze Frame Data item	Description	C
VHCL SP from ADAS	The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed.	
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed.	Н

# 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	J
BSW/CTA WARN STATUS [On/Off]	Indicates [ON/OFF] status of vehicle detection	K
BSW STATUS [On/Off]	Indicates [ON/OFF] status of Blind Spot Warning system	_
VHCL SPD SE [mph]	Indicates vehicle speed [mph]	L
TURN SIGNAL [LH/RH/Off]	Indicates the [LH/RH/OFF] operation of the signal	M
SHIFT POSITION [P/R/N/D]	Indicates position of transmission range switch	_
LUMINANCE (LEFT) [Hi/Lo]	Indicates the left side luminance level of the radar	Ν
LUMINANCE (RIGHT) [Hi/Lo]	Indicates the right side luminance level of the radar	DAS

#### 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 DRIVE	On	Outputs the voltage to illuminate the BSW indicator
	Off	Stops the voltage to illuminate the BSW indicator

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# DIAGNOSIS SYSTEM (SIDE RADAR RH)

## CONSULT Function (SIDE RADAR RIGHT)

INFOID:000000012731456

[DRIVER ASSISTANCE SYSTEM]

#### DESCRIPTION

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

Diagnosis 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-37, "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 ADAS control unit) at the moment a malfunction is detected is displayed.
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed.

# DATA MONITOR **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
BSW/CTA WARN STATUS [On/Off]	Indicates [On/Off] status of vehicle detection
BSW STATUS [On/Off]	Indicates [On/Off] status of Blind Spot Warning system
VHCL SPD SE [mph]	Indicates vehicle speed [mph]
TURN SIGNAL [LH/RH/Off]	Indicates the [LH/RH/OFF] operation of the turn signal
SHIFT POSITION [P/R/N/D]	Indicates position of transmission range switch
LUMINANCE (LEFT) [Hi/Lo]	Indicates the left side luminance level of the radar
LUMINANCE (RIGHT) [Hi/Lo]	Indicates the right side luminance level of the radar

#### 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 ADAS CONTROL UNIT

### **Reference Value**

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

Monitor item		Value/Status	
	Ignition owitch ON	When brake or clutch pedal is depressed.	Off
DRAKE SVV	Ignition Switch ON	When brake or clutch pedal is not depressed.	On
	legities switch ON	When brake pedal is depressed.	On
STOP LAMP SW	Ignition switch ON	When brake pedal is not depressed.	Off
		Idling	On
IDLE SW	Engine running	Except idling (depress accelerator pedal)	Off
VHCL SPEED SE	While driving		Displays the ve- hicle speed cal- culated by ADAS control unit
SET VHCL SPD	While driving	When vehicle speed is set.	Displays the set vehicle speed
BUZZER O/P		<ul><li>When the buzzer of the following system operates:</li><li>FCW system</li><li>FEB system</li></ul>	On
	Engine running	<ul><li>When the buzzer of the following system not operates:</li><li>FCW system</li><li>FEB system</li></ul>	Off
ENGINE RPM	Engine running		Equivalent to ta- chometer read- ing
		Wiper not operating.	Off
WIPER SW	Ignition switch ON	Wiper LO operation.	Low
		Wiper HI operation.	High
BA WARNING	Engine running	<ul><li>FEB OFF indicator lamp ON.</li><li>When FEB system is malfunctioning.</li><li>When FEB system is turned to OFF.</li></ul>	On
		<ul><li>FEB OFF indicator lamp OFF.</li><li>When FEB system is normal.</li><li>When FEB system is turned to ON.</li></ul>	Off
D POSITION SW		When the selector lever is in "D" position or manual mode.	On
		When the selector lever is in any position other than "D" or manual mode.	Off
		When the selector lever is in "N", "P" position.	On
NP RANGE SW	Engine running	When the selector lever is in any position other than "N", "P".	Off
DKB SW	Ignition switch ON	When the parking brake is applied.	On
PKB SW	Ignition switch ON	When the parking brake is released	O#

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# ADAS CONTROL UNIT

#### < ECU DIAGNOSIS INFORMATION >

#### [DRIVER ASSISTANCE SYSTEM]

Monitor item	Condition		Value/Status
PWR SUP MONI	Engine running	Power supply voltage value of ADAS control unit	
VHCL SPD AT	While driving	Value of CVT ve- hicle speed sen- sor signal	
THRTL OPENING	Engine running	Depress accelerator pedal.	Displays the throttle position
GEAR	While driving		Displays the gear position
	Instition quitab ON	When the shift lever is in neutral position.	On
NP SW SIG	Ignition switch ON	When the shift lever is in any position other than neutral.	Off
		SET switch indicator ON.	On
SET DISP IND	Press SET/COAST switch	SET switch indicator OFF.	Off
DISTANCE	Drive the vehicle and activate the FCW/FEB system	When a vehicle ahead is detected.	Displays the dis- tance from the preceding vehi- cle
		When a vehicle ahead is not detected.	0.0
RELATIVE SPD	Drive the vehicle and activate	When a vehicle ahead is detected.	Displays the rel- ative speed.
	the FCVV/FEB system	When a vehicle ahead is not detected.	0.0
		Vehicle turning right.	Negative value
SIDE G	vvnile driving	Vehicle turning left.	Positive value
FUNC ITEM (FCW)	Engine running		On
FUNC ITEM (BSW)	Engine running		On
		"Forward Emergency Braking" set with the integral switch is ON.	On
FOW SELECT	Ignition switch ON	"Forward Emergency Braking" set with the integral switch is OFF.	Off
	Instition quitab ON	"Blind Spot Warning" set with the integral switch is ON.	On
DOW SELECT		"Blind Spot Warning" set with the integral switch is OFF.	Off
		When the BSW system is malfunctioning.	On
DOVIDOI WARIN LIVIP		When the BSW system is normal.	Off
	Ignition switch ON	When the BSW system is ON.	On
BSW STSTEW ON		When the BSW system is OFF.	Off
		When the FEB system is ON.	On
TOW STOTEM ON		When the FEB system is OFF.	Off
		BSW system display ON.	On
B3W ON INDICATOR		BSW system display OFF.	Off
SIDE RADAR BLOCK		Rear bumper or side radar is dirty.	On
COND		Rear bumper or side radar is clean.	Off
		BSW system OFF.	Nothing
BSW IND BRIGHT-	Ignition switch ON	Blind Spot Warning indicator brightness bright.	Bright
NESS		Blind Spot Warning indicator brightness normal.	Normal
		Blind Spot Warning indicator brightness dark.	Dark

# ADAS CONTROL UNIT

#### < ECU DIAGNOSIS INFORMATION >

# [DRIVER ASSISTANCE SYSTEM]

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Monitor item	Condition		Value/Status
FEB AVAILABLE COND	Engine running	When the FEB system is available condition.	On
		When the FEB system is not available condition.	Off
EBA AVAILABLE COND	Engine running	When the Brake Assist system is available condition.	On
		When the Brake Assist system is not available condi- tion.	Off

# TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Value	G	
+	_	Signal name	Input/ Output	Condition		(Approx.)		
1 (B)		Ground	Input		_	0 V	H	
2 (L)		ITS communication-high			_	_	I	
3 (P)		Ignition power supply	Input		Ignition switch ON	Battery voltage		
5 (Y)		ITS communication-low			_		J	
6 (Y)			3rd CAN Low	Input		_	_	K
9 (L)		CAN high	_		_	_		
10 (R)		CAN low	_		_	_	L	
11	Ground	Warning system switch	Input	Ignition	Warning system switch is not pressed	Battery voltage	M	
(W)			F	ON	Warning system switch is pressed	0 V		
12		Memine human signal	Output	Ignition	Warning buzzer operation	Battery voltage	Ν	
(GR)		warning buzzer signal	Output	ON	Warning buzzer not operating	0 V		
17		Warning system switch ON indicator	Output	Ignition	Warning system ON indicator is OFF	Battery voltage	DAS	
(BR)			Output	ON	Warning system ON indicator is ON	0 V	D	
18 (L)		3rd CAN High	Input	_	_	0 V	P	
24 (B)		Warning buzzer ground			_	_		

# Fail-safe (ADAS Control Unit)

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
Forward Emergency Braking (FEB)	High-pitched tone	FEB warning lamp (Yellow)	Cancel
Forward Collision Warning (FCW)	High-pitched tone	FEB warning lamp (Yellow)	Cancel
Blind Spot Warning (BSW)	Low-pitched tone	BSW system warning	Cancel

# **DTC Inspection Priority Chart**

INFOID:000000012797888

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	U1507: LOST COMM (SIDE RDR R)     U1508: LOST COMM (SIDE RDR L)
2	U1000: CAN COMM CIRCUIT     U1321: CONFIGURATION
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>U0126: STRG SEN CAN1</li> <li>U0235: DIST SEN CAN CIRC 1</li> <li>U0402: TCM CAN CIR 1</li> <li>U0415: VDC CAN CIR 1</li> <li>U0428: STRG SEN CAN2</li> <li>U0433: DIST SEN CAN CIRC 2</li> <li>U1503: SIDE RDR L CAN CIR 2</li> <li>U1504: SIDE RDR L CAN CIR 1</li> <li>U1505: SIDE RDR R CAN CIR 2</li> <li>U1506: SIDE RDR R CAN CIR 1</li> </ul>
5	C1A03: VHCL SPEED SE CIRC
6	C1A00: CONTROL UNIT

# DTC Index

INFOID:000000012731468

DTC		Deference
CONSULT	CONSOLT display	Relefence
U1507	LOST COMM (SIDE RDR R)	DAS-105
U1508	LOST COMM (SIDE RDR L)	<u>DAS-106</u>
U1000 <sup>NOTE</sup>	CAN COMM CIRCUIT	DAS-96
U1321	CONFIGURATION	DAS-100
C1B53	SIDE RDR R MALF	<u>DAS-84</u>
C1B54	SIDE RDR L MALF	<u>DAS-85</u>
C1A01	POWER SUPPLY CIR	<u>DAS-76</u>
C1A02	POWER SUPPLY CIR 2	<u>DAS-76</u>
U0121	VDC CAN CIR 2	DAS-88

# ADAS CONTROL UNIT

#### < ECU DIAGNOSIS INFORMATION >

DTC		Deference
CONSULT	CONSOLT display	Reference
U0126	STRG SEN CAN 1	DAS-89
U0235	DIST SEN CAN CIRC 1	DAS-90
U0428	STRG SEN CAN CIR2	DAS-94
U0402	TCM CAN CIR 1	<u>DAS-91</u>
U0415	VDC CAN CIR 1	DAS-93
U0433	DIST SEN CAN CIRC 2	DAS-95
U1503	SIDE RDR L CAN CIR 2	DAS-101
U1504	SIDE RDR L CAN CIR 1	DAS-102
U1505	SIDE RDR R CAN CIR 2	DAS-103
U1506	SIDE RDR R CAN CIR 1	DAS-104
C1A03	VHCL SPEED SE CIRC	<u>DAS-77</u>
C1A00	CONTROL UNIT	<u>DAS-75</u>

#### NOTE:

With the detection of "U1000" some systems do not perform the fail-safe operation.

A system controlling based on a signal received from the control unit performs fail-safe operation when the communication with the ADAS control unit becomes inoperable.

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#### [DRIVER ASSISTANCE SYSTEM]

# SIDE RADAR LH

INFOID:000000012731457

# 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

Monitor Item	Condition	Value/Status
BSW/CTA WARN	BSW system is normal.	On
STATUS	BSW system is malfunctioning.	Off
BSW/ STATUS	BSW system is ON.	Off
DOW OTATOO	BSW system is OFF.	On
VHCL SPD SE	Indicates current vehicle speed	mph
	Left/right turn signal is ON.	On
I DIAN DIGINAL	Left/right turn signal is OFF.	Off
SHIFT POSITION	Shows the position of the transmission range switch	P/R/N/D/L
LUMINANCE(LEFT)	Shows radar left luminance level	Hi/Lo
LUMINANCE (RIGHT)	Shows radar right luminance level	Hi/Lo

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value	
+	_	Signal name	Input/ Output	Condition	(Approx.)	
4 (R)	Ground	Blind Spot Warning indica- tor	Output	Approx. 2 sec. after ignition switch OFF $\Rightarrow$ ON (bulb check)	6 V	
5 (BR)	Ground	Ignition power supply	Input	Ignition switch ON	Battery voltage	
6 (L)		ITS communication high		_	_	
7 (Y)		ITS communication low		_	_	
8 (B)	Ground	Ground	_	_	0 V	

# Fail-safe (Side Radar)

INFOID:000000012731458

FAIL-SAFE CONTROL BY DTC

#### [DRIVER ASSISTANCE SYSTEM]

#### Blind Spot Warning (BSW)

If a malfunction occurs in the side radar, ADAS control unit cancels control and turns ON the Blind Spot Warning indicator (orange) on the combination meter.

#### TEMPORARY DISABLED STATUS AT BLOCKAGE

#### Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily canceled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily canceled:

- 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 IND SHORT CIR</li> <li>C1B52: BSW IND OPEN CIR</li> <li>C1B55: RADAR BLOCKAGE</li> </ul>	

#### **DTC Index**

INFOID:000000012731460

INFOID:000000012731459

#### ×: Applicable

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DTC		Fail-safe	Peference page	
		Blind Spot Warning	Reference page	
C1B50	SIDE RDR MALFUNCTION	×	DAS-79	
C1B51	BSW IND SHORT CIR	×	DAS-80	
C1B52	BSW IND OPEN CIR	×	DAS-82	
C1B55	RADAR BLOCKAGE	×	DAS-86	
U1000	CAN COMM CIRCUIT	×	DAS-97	
U1010	CONTROL UNIT (CAN)	×	DAS-99	
U0104	ADAS CAN CIR1	×	DAS-87	P
U0405	ADAS CAN CIR2	×	DAS-92	I

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#### [DRIVER ASSISTANCE SYSTEM]

# SIDE RADAR RH

INFOID:000000012731461

# 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

Monitor Item	Condition	Value/Status
BSW/CTA WARN	BSW system is normal.	On
STATUS	BSW system is malfunctioning.	Off
BSW/ STATUS	BSW system is ON.	Off
53W 31A103	BSW system is OFF.	On
VHCL SPD SE	Indicates current vehicle speed	mph
TURN SIGNAL	Left/right turn signal is ON.	On
I UNIN DIGINAL	Left/right turn signal is OFF.	Off
SHIFT POSITION	Shows the position of the transmission range switch	P/R/N/D
LUMINANCE(LEFT)	Shows radar left luminance level	Hi/Lo
LUMINANCE (RIGHT)	Shows radar right luminance level	Hi/Lo

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value	
+	_	Signal name	Input/ Output	Condition	(Approx.)	
3 (B)	Ground	Right/Left switching signal	Input	_	0 V	
4 (G)	Ground	Blind Spot Warning indica- tor	Output	Approx. 2 sec. after ignition switch OFF $\Rightarrow$ ON (bulb check)	6 V	
5 (BR)	Ground	Ignition power supply	Input	Ignition switch ON	Battery voltage	
6 (L)	_	ITS communication high	_	_	_	
7 (Y)	—	ITS communication low	_		_	
8 (B)	Ground	Ground	_	_	0 V	
### < ECU DIAGNOSIS INFORMATION > Fail-safe (Side Radar)

INFOID:000000012731462

INFOID:000000012731463

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FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)

If a malfunction occurs in the side radar, ADAS control unit cancels control and turns ON the Blind Spot Warning indicator (orange) on the combination meter.

### TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily canceled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, D the operation may be temporarily canceled:

- 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)	0
1	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	
2	U0104: ADAS CAN CIR 1     U0405: ADAS CAN CIR 2	Н
3	C1B50: SIDE RDR MALFUNCTION	
4	<ul> <li>C1B51: BSW IND SHORT CIR</li> <li>C1B52: BSW IND OPEN CIR</li> <li>C1B55: RADAR BLOCKAGE</li> </ul>	

### **DTC Index**

INFOID:000000012731464

×:	Ap	plica	able

DTC -		Fail-safe	Reference page
		Blind Spot Warning	Reference page
C1B50	SIDE RDR MALFUNCTION	×	<u>DAS-79</u>
C1B51	BSW IND SHORT CIR	×	<u>DAS-80</u>
C1B52	BSW IND OPEN CIR	×	<u>DAS-82</u>
C1B55	RADAR BLOCKAGE	×	DAS-86
U1000	CAN COMM CIRCUIT	×	<u>DAS-97</u>
U1010	CONTROL UNIT (CAN)	×	<u>DAS-99</u>
U0104	ADAS CAN CIR1	×	<u>DAS-87</u>
U0405	ADAS CAN CIR2	×	DAS-92
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< ECU DIAGNOSIS INFORMATION >

### DISTANCE SENSOR

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	Value of vehicle speed signal (wheel speed)	
		Vehicle stopped	0.0
YAW RATE	While driving	Vehicle turning right	Positive value
		Vehicle turning left	Negative value
PWR SUP MONI	Ignition switch ON	Power supply volt- age value of dis- tance sensor	
DISTANCE	Drive the vehicle and ac- tivate the vehicle-to-vehi-		Displays the dis- tance from the pre- ceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and ac- tivate the vehicle-to-vehi-	When a vehicle ahead is detected	Displays the rela- tive speed
	cle distance control mode	When a vehicle ahead is not detected	0.0
LASER OFFSET	<b>NOTE:</b> The item is indicated, but	_	
LASER HEIGHT	<b>NOTE:</b> The item is indicated, but	_	
STEERING ANGLE		When setting the steering wheel in straight-ahead po- sition	0.0
	Ignition switch ON	When turning the steering wheel 90° rightward	+90
		When turning the steering wheel 90° leftward	-90
STRG ANGLE SPEED	Ignition switch ON	At the time of turning the steering wheel	Steering wheel turning speed is displayed
L/R ADJUST	Ignition switch ON	nition switch ON At the completion of radar alignment adjustment	
U/D ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Vertical correction value is displayed
		When the FEB system is ON	On
FUW STOLEWIUN		When the FEB system is OFF	Off
FOW SELECT	Ignition switch ON	FEB system set with the information display is ON	On
I GW SELEGI		FEB system set with the information display is OFF	Off
FEB SW	Engine running	FEB system ON	On
		FEB system OFF	Off
FEB SELECT	Ignition switch ON	FEB system set with the information display is ON	On
		FEB system set with the information display is OFF	Off
BRAKE SW	Ignition switch ON	When brake pedal is depressed	On
	Ignition Switch ON	When brake pedal is not depressed	Off

Revision: September 2015

INFOID:000000012916717

### < ECU DIAGNOSIS INFORMATION >

### [DRIVER ASSISTANCE SYSTEM]

Monitor item Condit		Condition	Value/Status
	lensition envited ON	When brake pedal is depressed	On
STOP LAMP SW	Ignition switch ON	When brake pedal is not depressed	Off
		Idling	On B
IDLE SW		Except idling (depress accelerator pedal)	Off
THRTL SENSOR	<b>NOTE:</b> The item is indicated, but	not used	Off
VEHICLE AHEAD	Drive the vehicle	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
DETECT		When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
STATIC OBSTACLE	Drive the vehicle	When a vehicle static obstacle is detected	On
DETECT	Drive the vehicle	When a vehicle static obstacle is not detected	Off
		When the buzzer of the FEB system operates	On
BUZZER U/P		When the buzzer of the FEB system not operates	Off
		FEB system set with the integral switch ON	On
FUNCTIEW (FCW)		FEB system set with the integral switch OFF	Off
		FEB system set with the integral switch ON	On G
		FEB system set with the integral switch OFF	Off
	When brake pedal is depressed		Approx. 0 bar
FRESS ORDER	When brake pedal is not c	0 – 255 bar	
Shift position	Engine running     While driving		Displays the shift position
Turn signal	urn signal NOTE: The item is indicated, but not used		Off
		ADAS is malfunctioning	On
		ADAS is not malfunctioning	Off
MILEAGE • Engine running • While driving When the FEB system is activated		When the FEB system is activated	Displays the speed at which the FEB system is ac- tivated

### **TERMINAL LAYOUT**



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### PHYSICAL VALUES

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Standard value	Reference val-	
+	_	Signal name	Input/ Output	Condition		ue	
1 (P)	Ground	Ignition power supply	Input	Ignition switch ON	10 - 16 V	Battery voltage	
_	_	_	—	—		_	
3 (W)	_	CAN communication-L	_	_	_	_	
4 (L)		CAN communication-H		_		_	
_	—	_	—	—	—	_	
6 (R)	_	ITS CAN communication-L	_	_	_	_	
7 (L)	_	ITS CAN communication-H	_	_	_	_	
8 (B)	Ground	Ground		Ignition switch ON	0 - 0.1 V	Approx. 0 V	

### Fail-safe (Distance Sensor)

INFOID:000000012916718

INFOID:000000012916719

If a malfunction occurs in the distance sensor cancels control, sounds a beep, and turns ON the FEB system warning and warning lamp.

System	Buzzer	Warning lamp/Indicator lamp	Description
Forward Emergency Braking (FEB)	Веер	<ul><li>FEB system display: Yellow</li><li>FEB warning lamp: On</li></ul>	Cancel

### **DTC Inspection Priority Chart**

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

### < ECU DIAGNOSIS INFORMATION >

### [DRIVER ASSISTANCE SYSTEM]

Priority	Detected items (DTC)	A
1	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	
	C10B7: YAW RATE SENSOR     C1A01: POWER SUPPLY CIR     C1A02: POWER SUPPLY CIR 2     C1A03: VHCL SPEED SE CIRC     C1A04: ABS/TCS/VDC CIRC     C1A05: BRAKE SW/STOP L SW     C1A07: CVT CIRCUIT	C
	<ul> <li>C1A12: LASER BEAM OFF CNTR</li> <li>C1A14: ECM CIRCUIT</li> <li>C1A15: GEAR POSITION</li> <li>C1A16: RADAR STAIN</li> </ul>	D
2	C1A17: ICC SENSOR MALF     C1A18: LASER AIMING INCMP     C1A21: UNIT HIGH TEMP     C1A24: NP RANGE	E
	C1A26: ECD MODE MALF     C1A39: STRG SEN CIR     C1B5D: FEB OPE COUNT LIMIT     U0121: VDC CAN CIP 2	F
	U0126: STRG SEN CAN CIR 1     U0401: ECM CAN CIR 1     U0415: VDC CAN CIR 1	G
	U0428: STRG SEN CAN CIR 2     U1527: CCM CAN CIR 1     U153F: CCM CAN CIR 2	H

### DTC Index

INFOID:000000012916720

DTC		Deference
CONSULT	CONSULI display	Reterence
C10B7	YAW RATE SENSOR	BRC-227, "DTC Logic"
C1A01	POWER SUPPLY CIR	BRC-228, "DTC Logic"
C1A02	POWER SUPPLY CIR 2	BRC-229, "DTC Logic"
C1A03	VHCL SPEED SE CIRC	BRC-229, "DTC Logic"
C1A04	ABS/TCS/VDC CIRC	BRC-231, "DTC Logic"
C1A05	BRAKE SW/STOP L SW	BRC-232, "DTC Logic"
C1A07	CVT CIRCUIT	BRC-234, "DTC Logic"
C1A12	LASER BEAM OFF CNTR	BRC-235, "DTC Logic"
C1A14	ECM CIRCUIT	BRC-236, "DTC Logic"
C1A15	GEAR POSITION	BRC-237, "DTC Logic"
C1A16	RADAR STAIN	BRC-239, "DTC Logic"
C1A17	ICC SENSOR MALF	BRC-241, "DTC Logic"
C1A18	LASER AIMING INCMP	BRC-242, "DTC Logic"
C1A21	UNIT HIGH TEMP	BRC-243, "DTC Logic"
C1A24	NP RANGE	BRC-244, "DTC Logic"
C1A26	ECD MODE MALF	BRC-246, "DTC Logic"
C1A39	STRG SEN CIR	BRC-247, "DTC Logic"
C1A50	ADAS MALFUNCTION	BRC-248, "DTC Logic"
C1A0C	ADAS CIRCUIT CIR1	BRC-250, "DTC Logic"
C1B5D	FEB OPE COUNT LIMIT	BRC-250, "DTC Logic"

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### [DRIVER ASSISTANCE SYSTEM]

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DTC		Reference	
CONSULT			
U0121	VDC CAN CIR 2	BRC-251, "DTC Logic"	
U0126	STRG SEN CAN CIR 1	BRC-252, "DTC Logic"	
U0401	ECM CAN CIR 1	BRC-253, "DTC Logic"	
U0415	VDC CAN CIR 1	BRC-254, "DTC Logic"	
U0428	STRG SEN CAN CIR 2	BRC-255, "DTC Logic"	
U1000	CAN COMM CIRCUIT	BRC-256, "DTC Logic"	
U1010	CONTROL UNIT (CAN)	BRC-257, "DTC Logic"	
U1527	CCM CAN CIR 1	BRC-258, "DTC Logic"	
U153F	CCM CAN CIR 2	BRC-259, "DTC Logic"	

### [DRIVER ASSISTANCE SYSTEM]

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INFOID:000000012421551

## WIRING DIAGRAM DRIVER ASSISTANCE SYSTEMS

Wiring Diagram



**Revision: September 2015** 



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### [DRIVER ASSISTANCE SYSTEM]



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< WIRING DIAGRAM >



	M30	COMBINATION SWITCH	(SPIHAL CABLE)	WHITE	
	Connector No.	Connector Name		Connector Color	
1	M27	JOINT CONNECTOR-M13	WHITE		7 6 5 4 3 2 1
20   L	Connector No.	Connector Name	Connector Color		

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Signal Name	I	I	I	
Color of Wire	SB	SB	Ь	
Terminal No.	-	2	5	



Signal Name I. I LA/BR WIFe LA/R 9  $\sim$ 



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### [DRIVER ASSISTANCE SYSTEM]



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	< WIRING DIAGRAM >	[DRIVER ASSISTANCE SYSTEM
	Connector No.     M65       Connector Name     JOINT CONNECTOR-M26       Connector Name     JOINT CONNECTOR-M26       Connector Color     WHITE       Image: Signal Name     1       Image: Signal Name     Signal Name       Image: Signal Name     -	Connector No.         M69           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Color         WHITE           Mile         State           Mile         State           Wile         State           State         State           State         State           Mile         State           State         State           State         State           State         State           State         State           State         State           State         State           Mile         State           State
	Connector No.     M56       Connector Name     STEERING ANGLE SENSOR       Connector Name     STEERING ANGLE SENSOR       Connector Color     GRAY       Image: Sense state	Connector No.     M68       Connector Name     FUSE BLOCK (J/B)       Connector Color     BROWN       Image: State of the state o
AAOIA0399GB	Connector No.     M44       Connector Name     FUSE BLOCK (J/B)       Connector Name     FUSE PLOCK (J/B)       Th     Th       TP     Y       RP     Connector Name       13P     LA/G       LA/G     Connector Name	Connector No.       M67         Connector Name       JOINT CONNECTOR-M27         Line       Joint         Joint       Joint       Joint         Joint       Joint       Joint       Joint         Joint       Joint       Joint       Joint         Joint

### DRIVER ASSISTANCE SYSTEMS [DRIVER ASSISTANCE SYSTEM]

Revision: September 2015

Connector No.       M77         Connector Name       COMBINATION METER         Connector Name       COMBINATION METER         Connector Name       COMBINATION METER         Connector Color       WHITE         Main       Connector Color         VHITE       Main         Main       Connector Color         Virial       Main         42       P       Can-H         43       La/G       BaT         52       B       G1	Connector No.         M91           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Solor         WHITE           Image: Solor         M111           Image: Solor         M111           Image: Solor         M111           Image: Solor         M111           Image: Solor         M1112           Image: Solor         M1112           Image: Solor         M1112           Image: Solor         Solor         Solor           Image: Solor         Solor         Solor         Solor	A B C D E F
Connector No.         M76           Connector Name         COMBINATION METER           Connector Color         WHITE           Terminal No.         Color of Wire         Signal Name           1         B         GND	Connector No.     M90       Connector Name     COMBINATION SWITCH       Connector Name     COMBINATION SWITCH       (SPIRAL CABLE)     (SPIRAL CABLE)       Connector Color     WHITE       Image: Spiral spiral spiral spiral spiral name     (SPIRAL CABLE)       26     GR     -       27     V     -	G H J
Connector No.         M71           Connector Name         JOINT CONNECTOR-M03           Mise         Joint           Mise         Signal Name           1         L         -           12         R         -           12         R         -           14         R         -           14         R         -	Connector No.     M79       Connector Name     VDC OFF SWITCH       Connector Color     BLACK       Eminal No.     Color of Wire       6     BR       8     B	K L M N

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< WIRING DIAGRAM >

erminal No. Color of Signal Name	10 R CAN-L	11 W SW1	12 GR SPEAKER_DRIVE(+)	13	14	15	16	17   BR   LED1	18 L CAN-H	19 – – –	20	21 – – –	22 – –	23	24 B SPEAKER_DRIVE(-)		Connector No. M167	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.
Connector No. M148				H C 12 11 10 9 8 7 6 5 4 3 2 1			Terminal No. Color of Signal Name	- GND	2 L ITS CAN-H	3 ICN	4	5 Y ITS CAN-L	6 Y CAN-L	2	ι ι	9 L CAN-H	Connector No. M150	Connector Name JOINT CONNECTOR-M07	Connector Color GREEN	H.S.
Connector No. M97				H C			Terminal No. Color of Signal Name Wire	-	۔ س	7 B -							Connector No. M149	Connector Name WARNING SYSTEM BUZZER	Connector Color WHITE	H.S.

Signal Name Т

Terminal No. Color of Wire

Signal Name

Color of Wire

Terminal No.

Signal Name I. Т

Terminal No. Color of Wire 2 B

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Connector No. M168 Connector Name WIRE TO WIRE Connector Color WHITE		inector No inector Na inector Co	M193 me JOINT or WHITE	CONNECTOR-M18		Connector N Connector N Connector C	o. M25 ame WIF. olor WHI	51 RE TO WIRE ITE		
H.S.	E	<u>vi</u>	8765			品 H.S.	9 10 11	1 12 13 14 15 16		
Terminal No. Color of Signal Name 11 R	Terr	aninal No. 3	Color of Wire GR GR	Signal Name		Terminal No 3 12 12	Color of Wire B BG	Signal Name		
					_	<u></u>	H	1		
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Terminal No. Color of Signal Name	Terr	ninal No.	Color of Wire	Signal Name		Terminal No.	Color of Wire	Signal Name		
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DRIVER ASSISTANCE SYSTEMS

### [DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

E29	BCM (BODY CONTROL	MODULE)	BLACK	1301/22/1281/221/1281/221/1281/221/121 14214114401:391/381/371/261/331/341/33
Connector No.	Connector Name		Connector Color	(112/131) H.S.
Connector No. E28	Connector Name FUSE BLOCK (J/B)	Connector Color WHITE		H.S.
Connector No. E21	Connector Name DISTANCE SENSOR	Connector Color BLACK		H.S.

Signal Name	IGN	T	CAN-L	CAN-H	I	ITS CAN-L	ITS CAN-H	GND	
Color of Wire	Ь	I	Μ	Γ	Ι	н	Γ	в	
Terminal No.	٣	2	3	4	5	9	7	8	

Signal Nam	I	I	I	I	I	I	I	Ι	I
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CTOB-F01									





Signal Name	I	I	I	I
Color of Wire	>	ГG	L	M
Terminal No.	Ţ	2	3	4

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I BRAKE SW2 I BRAKE SW1

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125 126

Signal Name

Color of Wire

Terminal No.

Signal Name I

Color of Wire >

Terminal No. 5M

#### < WIRING DIAGRAM >

Signal Name	I	I	I	I	I	I	I	I	I	I								BLOCK (J/B)			05040		Signal Name	I			
Color of Wire	œ	_	BR	J	В	Ъ	BR	٩	۵.	_							B30	ne FUSE	or WHITI		80706		Color of Wire	BR			
Terminal No.	33J	34J	38J	41J	44J	45J	46J	50J	60J	61J							Connector No.	Connector Nan	Connector Colo		H.S.		Terminal No.	2Q			
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Connector No	Connector Co		f	H.S.													Connector No	Connector Na	Connector Co		品.S.H		Terminal No.	153	158	2	
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	IC UNIT (CONTRO					32 31 30 29 28 27 26 0 19 18 17 16 15 14	3 7 6 5 4 3 2			Signal Name	CAN-L	VDC OFF	CAN-H					DY CONTROL				0 69 68 67 66 65 64 6	Signal Name	CAN-H	D STOP LAMP3	CAN-L	
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< WIRING DIAGRAM >

## **DRIVER ASSISTANCE SYSTEMS**

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Connector Name JOINT CONNECTOR-B06

B36

Connector No.

Connector No.

BLUE

Connector Color

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< WIRING DIAGRAM >









Connector Name JOINT CONNECTOR-B01

B63

Connector No.

Connector Color GRAY



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Signal Name ī I I Т Color of Wire ٩ ٩ \_ \_ Terminal No. 4  $\sim$ ო ω





**DRIVER ASSISTANCE SYSTEMS** 

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Connector Color WHITE

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## BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:000000012752037 B

[DRIVER ASSISTANCE SYSTEM]



### DETAILED FLOW

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

It is important to clarify the customer's concerns before starting the inspection. Interview the customer about the concerns carefully and understand the symptoms fully.

### **DAS-57**

### **DIAGNOSIS AND REPAIR WORK FLOW**

#### < BASIC INSPECTION >

### [DRIVER ASSISTANCE SYSTEM]

#### NOTE:

The customers are not professionals. Never assume that "maybe the customer means..." or "maybe the customer mentioned this symptom".

>> GO TO 2.

2.self-diagnosis with consult

#### CONSULT

- 1. Perform "All DTC Reading" mode.
- 2. Check if the DTC is detected in the "Self Diagnostic Result" of the following:
- "ICC/ADAS"
- "LASER/RADAR"
- "SIDE RADAR LEFT"
- "SIDE RADAR RIGHT"

#### Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 3.

**3.**ACTION TEST

- 1. Perform the system action test to check the operation status of the following:
- BSW: Refer to <u>DAS-14</u>, "BSW : System Description".
- 2. Check if any other malfunctions occur.

>> GO TO 4.

### **4.**SYMPTOM DIAGNOSIS

Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to <u>DAS-117, "Symptom</u> <u>Table"</u>.

### >> GO TO 6.

### **5.**TROUBLE DIAGNOSIS BY DTC

CONSULT

- 1. Check the DTC in the "Self Diagnostic Result".
- 2. Perform trouble diagnosis for the following detected DTC:
- "ICC/ADAS": Refer to DAS-32, "DTC Index"
- "LASER/RADAR": Refer to BRC-212, "DTC Index"
- "SIDE RADAR LEFT": Refer to DAS-35, "DTC Index".
- "SIDE RADAR RIGHT": Refer to DAS-35, "DTC Index".

#### NOTE:

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

### >> GO TO 6.

**6.**MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

### >> GO TO 7.

7.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

- 1. Erase "Self Diagnostic Result".
- 2. Perform "All DTC Reading" mode after repairing or replacing the specific items.
- 3. Check if any DTC is detected in self-diagnosis results of the following:
- "ICC/ADAS
- "LASER/RADAR"
- "SIDE RADAR LEFT"
- "SIDE RADAR RIGHT"

Is any DTC detected?

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

### [DRIVER ASSISTANCE SYSTEM]

YES >> GO TO 5. NO >> GO TO 8.	А
8.REPAIR CHECK (ACTION TEST)	
Perform the following system action test. Check that the malfunction symptom is solved or no other symptoms occur. • BSW: Refer to DAS-14, "BSW : System Description".	В
Is there a malfunction symptom?	0
YES >> GO TO 4.	C
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### ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT < BASIC INSPECTION > [DRIVER ASSISTANCE SYSTEM]

### ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT

### Description

Always perform the ADAS control unit configuration after replacing the ADAS control unit.

### Work Procedure

INFOID:000000012760347

INFOID:000000012760346

### 1. ADAS CONTROL UNIT CONFIGURATION

#### 

Perform the ADAS control unit configuration. Refer to <u>DAS-61, "Description"</u>.

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

#### CONSULT

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" mode of "ICC/ADAS".
- 3. Check DTC.

#### Is DTC detected?

- YES >> Perform the trouble diagnosis for the detected DTC. Refer to <u>DAS-32, "DTC Index"</u>.
- NO >> Inspection End.

# CONFIGURATION (ADAS CONTROL UNIT)

#### < BASIC INSPECTION >

## CONFIGURATION (ADAS CONTROL UNIT)

### Description

- Since vehicle specifications are not included in the ADAS control unit after replacement, it is required to write vehicle specifications using CONSULT.
- Configuration has three functions as follows:

Func	tion	Description					
Pood/Write Configuration	Before ECU	Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT.					
Read/white Configuration	After ECU replacement	Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.	L				
Manual Configuration		Allows the writing of the vehicle specification into the ADAS control unit by hand.	F				

### Work Procedure

INFOID:000000012760349

INFOID:000000012760348

### CAUTION:

• Use "Manual Configuration" only when "TYPE ID" of ADAS control unit cannot be read.

### • If an error occurs during configuration, start over from the beginning.

### **1.**CHECKING TYPE ID (1)

Use FAS	ST (service parts catalogue) to search ADAS control unit of the applicable vehicle and find "Type ID".	
<u>ls "Type</u>	e ID" displayed?	
YES	>> Print out "Type ID" and GO TO 2.	ŀ
NO	>> "Configuration" is not required for ADAS control unit. Replace in the usual manner. Refer to DAS-	
	121, "Removal and Installation".	

### **2.**CHECKING TYPE ID (2)

CONSULT Configuration	_
1. Select "Before Replace ECU" of "Read/Write Configuration".	
<ol><li>Check that "Type ID" is displayed on the CONSULT screen.</li></ol>	0
s "Type ID" displayed?	
YES >> GO TO 3.	K

NO >> GO TO 7.

**3.** VERIFYING TYPE ID (1)

CONSULT Configuration

Compare a "Type ID" displayed on the CONSULT screen with the one searched by using FAST (service parts catalogue) to check that these "Type ID" agree with each other. **NOTE:** 

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 4.
4.SAVING TYPE ID
CONSULT Configuration
Save "Type ID" on CONSULT.
>> GO TO 5.

**5**.REPLACING ADAS CONTROL UNIT (1)

Replace ADAS control unit. Refer to DAS-121, "Removal and Installation".

>> GO TO 6.

**6**.WRITING (AUTOMATIC WRITING)

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#### CONFIGURATION (ADAS CONTROL UNIT) DISTRICT: [DRIVER ASSISTANCE SYSTEM]

### < BASIC INSPECTION >

- CONSULT Configuration
   Select "After Replace ECU" of "Re/programming, Configuration" or that of "Read / Write Configuration".
- Select the "Type ID" agreeing with the one stored on CONSULT and the one searched by using FAST (service parts catalogue) to write the "Type ID" into the ADAS control unit.
  - NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 9.

**7**. REPLACING ADAS CONTROL UNIT (2)

Replace ADAS control unit. Refer to DAS-121, "Removal and Installation".

>> GO TO 8.

**8.**WRITING (MANUAL WRITING)

CONSULT Configuration

- 1. Select "Manual Configuration".
- 2. Select the "Type ID" searched by using FAST (service parts catalogue) to write the "Type ID" into the ADAS control unit.

### NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 9.

**9.**VERIFYING TYPE ID (2)

Compare "Type ID" written into the ADAS control unit with the one searched by using FAST (service parts catalogue) to check that these "Type ID" agree with each other. **NOTE:** 

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

### >> GO TO 10.

**10.**RESTART ADAS BY IGN OFF/IGN ON

- 1. Turn the ignition switch OFF.
- 2. Turn the ignition switch ON.

>> GO TO 11.

### 11.PERFORMING SUPPLEMENTARY WORK

1. Perform "Self Diagnostic Result" of all systems.

2. Erase "Self Diagnostic Result".

>> End of work.

#### ADDITIONAL SERVICE WHEN REPLACING DISTANCE SENSOR [DRIVER ASSISTANCE SYSTEM] < BASIC INSPECTION > ADDITIONAL SERVICE WHEN REPLACING DISTANCE SENSOR А Description INFOID:000000012815298 В Always perform the following after removing and installing or replacing the distance sensor: 1. Distance sensor initial vertical alignment 2. Distance sensor alignment С Refer to DAS-63, "Work Procedure". **CAUTION:** The system does not operate normally unless the distance sensor is aligned properly. D Work Procedure INFOID:000000012815299 1. DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT Е Perform the distance sensor initial vertical alignment. Refer to DAS-64, "Description". F >> GO TO 2. 2. DISTANCE SENSOR ALIGNMENT Perform the distance sensor alignment. Refer to DAS-64, "Description". >> Work End. Н

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### DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT

#### < BASIC INSPECTION >

### DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT

### Description

INFOID:000000012815300

[DRIVER ASSISTANCE SYSTEM]

#### WARNING:

Radio waves could adversely affect electric medical equipment. Those who use a pacemaker should contact the electric medical equipment manufacturer for the possible influences before use.

OUTLINE OF DISTANCE SENSOR INITIAL ALIGNMENT PROCEDURE

• Always perform the Distance sensor initial vertical alignment after removing and installing or replacing the Distance sensor.

#### CAUTION:

The system does not operate normally unless the Distance sensor is aligned properly.

- 1. Required tools, refer to DAS-64, "Required Tools".
- 2. Preparation, refer to DAS-64, "Preparation".
- 3. Distance sensor initial vertical alignment, refer to DAS-65. "Distance Sensor Initial Vertical Alignment".

## CAUTIONARY POINT FOR DISTANCE SENSOR ALIGNMENT PROCEDURE

- For Distance sensor alignment procedure, choose a level location with a few feet of working space in front and surrounding the vehicle.
- Vehicle must be stationary and unoccupied during the whole alignment procedure.
- Never enter the vehicle during distance sensor alignment.
- For proper system operation and adjustment, all vehicle wheels must be the original factory size.

The Distance sensor requires alignment whenever the Distance sensor is removed and reinstalled and whenever front end structural repairs are performed. Distance sensor alignment consists of performing the mechanical vertical alignment (Distance sensor initial vertical alignment) described in the following procedure, followed by the electronic horizontal alignment (Distance sensor alignment) that is performed using CONSULT and the appropriate special service tools.

### **Required Tools**

INFOID:000000012815301

The following tool is necessary to perform the Distance sensor initial vertical alignment:

Carpenters level.



### Preparation

INFOID:000000012815302

### 1. PREPARATION FOR DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT PROCEDURE

- 1. Verify correct vehicle suspension height. Refer to FSU-28, "Wheelarch Height (Unladen\*)".
- 2. Repair or replace any damaged body components.
- 3. Verify proper tire inflation pressures. Refer to WT-82. "Tire Air Pressure".
- 4. Remove any accumulations of mud, snow or ice from the vehicle underbody.
- 5. Verify that there is no load in the vehicle (cargo or passenger).
- 6. Place the vehicle on a known level horizontal surface such as a wheel or frame alignment rack to achieve satisfactory sensor vertical alignment results.
- 7. Remove front fascia. Refer to EXT-17, "Removal and Installation".

< BASIC INSPECTION >

>> Refer to DAS-65, "Distance Sensor Initial Vertical Alignment".

**Distance Sensor Initial Vertical Alignment** 

### NOTE:

The Distance sensor initial vertical alignment procedure must be performed anytime the Distance sensor is removed and reinstalled.

1. The Distance sensor (1) is located near the right front head lamp behind the front bumper fascia.

2. Place the carpenters level (2) against the face of the Distance sensor (1).

3. Turn the Distance sensor adjustment screw (3) to level the sensor.

- 4. Ensure the Distance sensor electrical connector located on the bottom of the sensor is connected.
- 5. Reinstall the front bumper fascia.
- 6. Perform the Distance sensor alignment procedure. Refer to <u>DAS-66, "Description"</u>.









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INFOID:000000012815303

### DISTANCE SENSOR ALIGNMENT

< BASIC INSPECTION >

### DISTANCE SENSOR ALIGNMENT

### Description

INFOID:000000012815304

[DRIVER ASSISTANCE SYSTEM]

#### WARNING:

## Radio waves could adversely affect electric medical equipment. Those who use a pacemaker should contact the electric medical equipment manufacturer for the possible influences before use.

#### OUTLINE OF RADAR ALIGNMENT PROCEDURE

- A 4-wheel vehicle alignment must be performed before proceeding with radar alignment procedure.
- Always perform the radar alignment after removing and installing or replacing the Distance sensor.
- If the Distance sensor was removed and installed or replaced, first perform Distance Sensor Initial Vertical Alignment, refer to <u>DAS-64</u>, "<u>Description</u>".

#### **CAUTION:**

#### The system does not operate normally unless the Distance sensor is aligned properly.

- 1. Required tools, refer to <u>DAS-66, "Required Tools"</u>.
- 2. Preparation, refer to DAS-67, "Preparation".
- 3. Vehicle set up, refer to DAS-68, "Vehicle Set Up".
- 4. Setting the Distance sensor target board, refer to DAS-70, "Setting The Distance Sensor Target Board".
- 5. Distance sensor adjustment, refer to DAS-71, "Distance Sensor Adjustment".

#### CAUTIONARY POINT FOR RADAR ALIGNMENT PROCEDURE

#### CAUTION:

- For radar alignment procedure, choose a level location with a few feet of working space in front and surrounding the vehicle.
- Vehicle must be stationary and unoccupied during the whole alignment procedure.
- Any slight vibration during the alignment procedure can cause the test to fail. If this happens, you will have to restart the alignment process.
- The ignition switch must be in the ON position.
- The battery voltage must not fall below 12 volts during the whole alignment procedure. Failure to maintain adequate battery voltage will cause the test to fail. If this happens, you will have to restart the alignment process.
- The Distance sensor target board must be set in front of the vehicle facing the sensor.
- Adjust the radar alignment with CONSULT. (The radar alignment procedure cannot be adjusted without CONSULT.)
- Never enter the vehicle during radar alignment.
- Never block the area between the radar and the Distance sensor target board at any time during the alignment process.
- Never break the laser beam between the laser assembly and front Distance sensor target board or rear reflector at any time during alignment.
- Accurate steering wheel setting is crucial. Once set, do not disturb the steering wheel for the remainder of the alignment procedure.
- To avoid physical damage, the Distance sensor adjustment screw must not be forced to either clockwise or counter-clockwise limit. For proper adjustment procedure, follow the directions of the CON-SULT exactly as instructed.
- For proper system operation and adjustment, all vehicle wheels must be of the same size.

### **Required Tools**

INFOID:000000012815305

- Distance sensor alignment kit 1-20-2851-1 in addition to one of the following:
  - a) Hunter self-centering wheel adapter (Hunter wheel alignment tool)
  - b) Special Service Tool kit 1-20-2722-1 (kit SCA W/Tire Clamp-ICC Aiming)

The following Distance sensor alignment kit (1-20-2851-1) is necessary to perform the Distance sensor alignment:

### DISTANCE SENSOR ALIGNMENT

< BASIC INSPECTION >

• Distance sensor target board (1).

Hunter self-centering wheel adapter (1) [shown with laser assembly (2) installed] (Hunter alignment rack head may be substituted).
 NOTE:
 Dealers that are not equipped with a Hunter self-centering wheel

adapter will require the following kit:

Part No. 1-20-2722-1-IF (kit SCA W/Tire Clamp-Distance Sensor Aiming)

- Laser assembly (with bi-directional laser beam) as shown in the illustration.
- Tightening knob (1)
- Power ON/OFF button (2)
- Front laser beam opening (3)
- Rear laser beam opening (4)
- Attaching shaft (5)
- Stationary target as shown in the illustration.
- Stationary target (1)
- Laser signal reception plate (2)



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• Distance chain (not shown).

### Preparation

### **1**.ADVANCE PREPARATION FOR RADAR ALIGNMENT PROCEDURE

1. Adjust all tire pressures to the specified value.

- 2. Empty the vehicle. (Remove any luggage from the passenger compartment, luggage room, etc.)
- 3. Shift the selector lever to "P" position, and release the parking brake.
- 4. Fully fill the fuel tank, and then check that the coolant and oils are filled up to correct level.
- Clean off the right front side of the fascia in front of the Distance sensor.

### **DAS-67**

2016 Rogue NAM

INFOID:000000012815306

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#### < BASIC INSPECTION >

#### NOTE:

The Distance sensor is located behind the fascia and it is not exposed to the elements. Therefore it should not require any cleaning.

- 1 : Distance sensor
  - >> Refer to DAS-68, "Vehicle Set Up".



[DRIVER ASSISTANCE SYSTEM]

### Vehicle Set Up

INFOID:000000012815307

### DESCRIPTION

Accurate adjustment of the radar alignment requires that the Distance sensor target board, wheel adapter, laser assembly, and stationary target be properly positioned.

#### CAUTION:

If the radar alignment is adjusted with the Distance sensor target board, wheel adapter, laser assembly, or stationary target in the incorrect position, the Distance system will not function properly or the alignment procedure may not be completed successfully.

**1.**PREPOSITION TARGET BOARD

#### NOTE:

- The center of the distance sensor (A).
  - B : Up-down direction adjusting screw





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• Initial distance sensor target board setting must be in the center position.

### DISTANCE SENSOR ALIGNMENT

#### < BASIC INSPECTION >

- 1. Position the distance sensor target board in front facing the right front side of the vehicle:
- Using the full length of the supplied chain for distance, place the marked center of the distance sensor target board (1) 1375 mm (54.1 in.)  $\pm$  625 mm(24.6 in) facing the distance sensor.
- Adjust the height of the distance sensor target board using the adjustable nut (2) to achieve the proper height. The up/down tolerance is  $\pm$  80 mm (3.15 in).
- Adjust the distance sensor target board lateral position aligning the marked center of the board horizontally with the center of the distance sensor front. The right/left tolerance is  $\pm$  80 mm (3.15 in).
- 2. Extend the machined arm of the distance sensor target board exposing the reflective surface (3) to the right front side of the vehicle.
- 3. Place one side of the laser assembly (2) flush against the center of the distance sensor target board (1) to assist in the positioning.



- 4. Turn the laser assembly ON (3) allowing the laser beam to emit through the opening of the laser assembly toward the center of the distance sensor.
- 5. Move the distance sensor target board (1) as necessary so that center of distance sensor target board aligns with center of distance sensor.
- 6. Turn the laser assembly OFF when done.

Are you using Hunter alignment equipment?

YES >> Refer to Hunter's equipment instructions for complete vehicle set up and distance sensor target board setting. Then, refer to <u>DAS-71, "Distance Sensor Adjustment"</u>.

NO >> GO TO 2.

2.INSTALLING LASER ASSEMBLY

### NOTE:

- Insure the steering wheel is positioned in the center straight forward position.
- Insure all 4 vehicle wheels do not contain any physical damage.
- 1. Install the wheel adapter (1) on the right front wheel.

2. Mount the laser assembly (2) to the wheel adapter (1) as shown in the figure.

#### NOTE:

When the power switch is turned ON, the front laser signal (A) will be emitted toward the front distance sensor target board, and the rear laser signal (B) will be emitted toward the rear of the vehicle.

>> GO TO 3.

 $\mathbf{3}.$ setting up stationary target





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### DISTANCE SENSOR ALIGNMENT

### < BASIC INSPECTION >

- 1. Place the stationary target next to the right rear tire as shown in the figure.
- 2. Turn the laser assembly ON allowing the laser beam to be emitted through the front and rear laser assembly openings.
- 3. Measure and record the distance (Dr) between the edge of the right rear wheel and the laser beam (1) on the stationary target (horizontal line).
- 4. Measure and record the height (Hr) between the laser beam (1) on the stationary target and ground level (vertical line).
- 5. Measure and record the distance (Df) between the edge of the right front wheel and the laser beam signal/opening (1) on the laser assembly (horizontal line).
- Measure and record the height (Hf) between the laser beam signal/opening (1) on the laser assembly and ground level (vertical line).

#### NOTE:

- Horizontal adjustment [front distance (Df) and rear distance (Dr)] is accomplished by slowly turning the steering wheel until the 2 distances are the same.
- Vertical adjustment [front height (H<sub>f</sub>) and rear height (H<sub>r</sub>)] is accomplished by rotating the laser assembly around its axis until the two heights are the same.
- Directional arrows (A) and (B) are shown to illustrate the direction of the laser assembly beams.
- 7. Adjust laser beam as necessary until the two distances match and the two heights match. **NOTE:**

You will have to verify both horizontal and vertical adjustments anytime one adjustment is made.

### >> Refer to DAS-70, "Setting The Distance Sensor Target Board".

### Setting The Distance Sensor Target Board

INFOID:000000012815308

### DESCRIPTION

Accurate adjustment of the radar alignment requires that the distance sensor target board be accurately positioned.

### CAUTION:

If the radar alignment is adjusted with the distance sensor target board in the incorrect position, the distance system will not function properly or the alignment procedure may not be completed successfully.

**1**. DISTANCE SENSOR TARGET BOARD FINAL SETTING

 With the distance sensor target board arm extended, the laser beam (1) emitted by the laser assembly (A) will be reflected back (B) toward the laser assembly. NOTE:

When adjusted properly, reflected laser beam (B) must align with emitted laser beam (A) and the two laser beams will be seen as one.

- 2. Rotate the distance sensor target board to achieve the necessary horizontal adjustment.
- 3. Adjust the distance sensor target board leveling screws to achieve the necessary vertical adjustment.





**IDRIVER ASSISTANCE SYSTEM1** 



### DISTANCE SENSOR ALIGNMENT [DRIVER ASSISTANCE SYSTEM]

#### < BASIC INSPECTION >

4. The figure shown illustrates the laser beam (A) emitted by the laser assembly (1) and its reflection (B) off of the distance sensor target board arm.



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>> GO TO 2.

## 2. CHECK THE POSITION OF THE DISTANCE SENSOR TARGET BOARD

Do not place anything other than the distance sensor target board in the space shown in front of the vehicle (view from top).

			1 E		B —4	) ALQIA0050ZZ	G
	1	Distance sensor target board arm	2	Distance sensor target board	з	Distance sensor	I
	4.	Vehicle	<u>А</u> .	Distance between front wheel and la- ser beam (Df)	в.	Distance between rear wheel and laser beam (Dr)	J
	C.	Height between front laser beam and ground (Hf)	D.	Height between rear laser beam and ground (Hr)	E.	Distance sensor target board center position (Position 2)	
	L.	1 - 1.5 m (39.3 - 59 in.)					K
	tor	>> Refer to <u>DAS-71. "Distar</u>	<u>1ce S</u>	Sensor Adjustment".			L
DES	SCF	RIPTION				INFOID:000000012815309	M
The CAI	rad JTIC	lar alignment is performed au DN:	toma	tically with CONSULT.			
Per dur	forr e. If	n all necessary work for rad the procedure does not co	lar a mplo	lignment until the adjustment ete, the FCW system is inoper	con able	npletes as shown in the proce-	Ν
1.F	PER	FORM RADAR ALIGNMENT					
1. 2.	Sta Co	rt the engine. nnect CONSULT and select "\	Worł	support" of "LASER/RADAR".			DAS
3.	Sel NO	ect "MILLIWAVE RADAR AD、 I <b>TE</b> :	JUS	T after the "Work support" scree	en is	displayed.	D
	Co	nfirm the following items;					P
	•   • T	he target should be accurate he vehicle should be stopped	y pla	iced.			
4.	Sel CA	ect "Start" after the "MILLIWA	VE F	RADAR ADJUST" screen is disp	laye	d.	
-	Ne	ver select "Start" when the	targ	et is not accurately placed.			
э. 6.	Sel	ect "Next" after the "Starting a	align	ment." screen is displayed.			

**Revision: September 2015** 

### **DAS-71**

< BASIC INSPECTION >

#### NOTE:

If the radar is in alignment at this time, "Alignment in progress" is displayed. It may take several 10s of seconds until the result is displayed.

- 7. Confirm the displayed item.
- "Alignment completed.": Go to 8.
- Except "Alignment completed.": Perform the following services.

Displayed item	Possible cause	Service procedure
Alignment condition is not ready.	<ul> <li>DTC is detected (Except C1A12).</li> <li>The position of the Distance sensor target board is not correct.</li> <li>Vehicle is moving.</li> </ul>	Check the vehicle condition and perform ra- dar alignment again.
Alignment condition is not ready. (Stop the vehicle.)	Vehicle is moving.	Stop the vehicle and perform radar alignment again.
Target is not detected.	<ul> <li>A target is not-yet-placed. (The Distance sensor cannot detect target)</li> <li>The position of the Distance sensor target board is not correct.</li> <li>The position of the Distance sensor is not correct.</li> </ul>	Check the target board condition and per- form radar alignment again.
Sensor malfunction.	Distance sensor malfunction.	Check the vehicle condition and perform ra- dar alignment again.

#### NOTE:

Replace Distance sensor if "Sensor malfunction." is repeatedly indicated.

8. Confirm displayed value.

Displayed item	Monitor item	Reference value
	FACTORY AIM L/R	Less than 3.00 deg
Alignment completed	FACTORY AIM U/D	Less than 3.00 deg
Alghment completed.	AIMING VALUE L/R	Less than 3.00 deg
	AIMING VALUE U/D	Less than 3.00 deg

- Within reference value: Go to 9.
- Outside of reference value: Check the target board condition and perform radar alignment again.

### NOTE:

- Check the condition of the Distance sensor installation.
- Check the vehicle for damage.
- Replace Distance sensor if it is outside the reference value, even when Distance sensor installation is
  installed normally and the vehicle is not damaged.
- 9. Select "OK" after the "No error detected." is displayed.
- 10. Select "OK" after the "End of alignment." is displayed.

CAUTION:

Once "MILLIWAVE RADAR ADJUST" is started with CONSULT, always continue the work until the horizontal radar alignment is completed successfully. If the job is stopped midway, the radar alignment is not adjusted and the FCW system cannot operate.

>> RADAR ALIGNMENT END
## **ACTION TEST**

## [DRIVER ASSISTANCE SYSTEM]

ACTION TEST	А
BSW : Description	D
Always perform the Blind Spot Warning system action test to check that the system operates normally after replacing the side radar LH/RH, or repairing any Blind Spot Warning system malfunction. WARNING: Be careful of traffic conditions and safety around the vehicle when performing road test.	С
<ul> <li>Fully understand the following items well before the road test;</li> <li>Precautions: Refer to <u>DAS-8</u>, "<u>Blind Spot Warning/Rear Cross Traffic Alert (RCTA) System Service</u>".</li> <li>System description for Blind Spot Warning: Refer to <u>DAS-14</u>, "<u>BSW : System Description</u>".</li> <li>Normal operating condition: Refer to <u>DAS 120</u>, "<u>Description</u>".</li> </ul>	D
BSW : Inspection Procedure	Ε
WARNING: Be careful of traffic conditions and safety around the vehicle when performing road test.	F
<ul> <li>Fully understand the following items well before the road test;</li> <li>Precautions: Refer to <u>DAS-8</u>, "<u>Blind Spot Warning/Rear Cross Traffic Alert (RCTA) System Service</u>".</li> <li>System description for Blind Spot Warning: Refer to <u>DAS-14</u>, "<u>BSW</u>: <u>System Description</u>".</li> <li>Normal operating condition: Refer to <u>DAS-120</u>, "<u>Description</u>".</li> </ul>	G
1. CHECK BSW SYSTEM SETTING	Н
<ol> <li>Start the engine.</li> <li>Check that the BSW system setting can be enabled/disabled on the integral switch.</li> <li>Turn OFF the ignition switch and wait for 5 seconds or more.</li> <li>Check that the previous setting is saved when the engine starts again.</li> </ol>	I
>> GO TO 2. 2.BSW SYSTEM ACTION TEST	J

- 1. Enable the setting of the BSW system on the integral switch.
- 2. Check BSW operation according to the following table:

Vehicle condition/ Driver's operation				Action			1
Vehicle speed (Approx.)	Turn sig- nal condi- tion	Status of vehicle de- tection within detection area	Indication on the Blind Spot Warning indicator	Indication on the combination meter	Indicator color	Buzzer	
Less than approx. 18 MPH (29 km/h)	—	—	OFF	ON	White	OFF	IV
	—	Vehicle is absent	OFF	ON	White	OFF	N
	OFF	Vehicle is detected	ON	ON	White	OFF	P
Approx. 20 MPH (32 km/h) or more	ON (vehicle	Before turn signal op- erates Vehicle is detected	Blink	Blink	Yellow (Blink)	Short con- tinuous beeps	DA
	direction)	Vehicle is detected af- ter turn signal operates	Blink	Blink	Yellow (Blink)	OFF	-

>> Inspection End.

## FCW

FCW : Description

< BASIC INSPECTION >

• Perform action test to verify the customer's concern.

INFOID:000000012421573

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• Perform action test and check the system operation after system diagnosis.

## FCW : Inspection Procedure

INFOID:000000012421574

# 1. CHECK FEB SYSTEM SETTING

### 1. Start the engine.

- 2. Check that the FEB system setting can be enabled/disabled on the vehicle information display.
- 3. Turn OFF the ignition switch and wait for 30 seconds or more.
- 4. Check that the previous setting is saved when the engine starts again.

>> GO TO 2.

# 2.CHECK FEB SYSTEM

- 1. Enable the setting of the FEB system on the vehicle information display.
- 2. Check FEB warning lamp is OFF.

>> Inspection End.

# DTC/CIRCUIT DIAGNOSIS C1A00 CONTROL UNIT

DTC Logic

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[DRIVER ASSISTANCE SYSTEM]

## DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
C1A00	CONTROL UNIT	ADAS control unit internal malfunction	ADAS control unit
TC CONF	IRMATION PROCEDU	IRE	
.PERFOR	M DTC CONFIRMATION	I PROCEDURE	
. Start the . Perform . Check if s "C1A00" c	e engine. "ALL DTC Reading" with the "C1A00" is detected letected as the current m	CONSULT. as the current malfunction in "Self Dia alfunction?	agnostic Result" of "ICC/ADAS".
YES >> NO >>	Refer to <u>DAS-75, "Diagno</u> Inspection End.	<u>osis Procedure"</u> .	
Diagnosis	Procedure		INFOID:000000012767574
	SELF-DIAGNOSIS RESU	ILTS	
Check if any	DTC other than "C1A00"	is detected in "Self Diagnostic Resul	t" of "ICC/ADAS".
s any DTC o	detected?		
YES >>	Perform diagnosis on the DAS-32, "DTC Index".	e detected DTC and repair or replace	the malfunctioning parts. Refer to
NO >>	Replace the ADAS control	ol unit. Refer to <u>DAS-121, "Removal a</u>	nd Installation".

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

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

## DTC Logic

INFOID:000000012767575

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

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

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

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

- YES >> Refer to DAS-107, "ADAS CONTROL UNIT : Diagnosis Procedure".
- NO >> Refer to GI-45, "Intermittent Incident".

## Diagnosis Procedure

INFOID:000000012767576

# 1. CHECK ADAS CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ADAS control unit. Refer to <u>DAS-107, "ADAS CONTROL UNIT :</u> <u>Diagnosis Procedure"</u>.

### Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.
- NO >> Repair or replace the malfunctioning parts.

# C1A03 VEHICLE SPEED SENSOR

# DTC Logic

INFOID:000000012767577

DTC DETEC	CTION LOGIC		
DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
C1A03	VHCL SPEED SE CIRC	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) and the CVT vehicle speed sensor signal (output shaft revolution signal) from TCM, received by the ADAS control unit via CAN communication, are inconsistent	<ul> <li>Wheel speed sensor</li> <li>ABS actuator and electric unit (control unit)</li> <li>Vehicle speed sensor CVT (output speed sensor)</li> <li>TCM</li> <li>ADAS control unit</li> </ul>
NOTE: If DTC "C1A0 • Refer to DA	03" is detected alon AS-96, "ADAS CON	g with DTC "U1000", first diagnose the D <u>TROL UNIT : DTC Logic"</u> for DTC "U100	DTC "U1000". 00".
DTC CONFI	RMATION PROC	EDURE	
1.PERFORM	M DTC CONFIRMA	TION PROCEDURE	
1. Start the 2. Drive the CAUTIO Always	engine. e vehicle at 30 km/h N: drive safely.	(19 MPH) or more.	
<ol> <li>Stop the</li> <li>Perform</li> <li>Check if</li> <li><u>Is "C1A03" de</u></li> </ol>	venicle. "All DTC Reading" v the "C1A03" is dete etected as the curre	with CONSULT. ected as the current malfunction in "Self I ent malfunction?	Diagnostic Result" of "ICC/ADAS".
NO >> F	Refer to <u>DAS-77, D</u> Refer to <u>GI-45, "Inte</u>	rmittent Incident".	
Diagnosis	Procedure		INFOID:000000012767578
- 1.снеск s	ELF-DIAGNOSIS F	RESULTS	
Check if "U1	000" is detected oth	ner than "C1A03" in "Self Diagnostic Res	ult" of "ICC/ADAS".
Is any DTC d YES >> F NO >> 0	<u>etected?</u> Perform diagnosis c <u>DAS-32, "DTC Inde</u> GO TO 2.	on the detected DTC and repair or repla <u>&lt;"</u> .	ce the malfunctioning parts. Refer to
2.CHECK D	ATA MONITOR		
<ol> <li>Start the</li> <li>Drive the</li> <li>Check th MONITO</li> </ol>	engine. • vehicle. • at the value of "VH •R" of "ICC/ADAS".	CL SPD AT" is almost the same as the $v$	value of "VHCL SPEED SE" in "DATA
Be careful o	f the vehicle spee	d.	
Is the inspect	tion result normal?		
YES >> F NO >> (	Replace the ADAS of GO TO 3.	control unit. Refer to <u>DAS-121, "Remova</u>	l and Installation".
<b>3.</b> CHECK T	CM SELF-DIAGNO	SIS RESULTS	
<ol> <li>Perform</li> <li>Check if</li> </ol>	"All DTC Reading". any DTC is detecte	d in "Self Diagnostic Result" of "TRANSI	MISSION".

## **C1A03 VEHICLE SPEED SENSOR**

### < DTC/CIRCUIT DIAGNOSIS >

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>TM-63, "DTC Index"</u>.
- NO >> GO TO 4.

**4.**CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

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

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>BRC-57. "DTC Index"</u>.
- NO >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

# **C1B50 SIDE RADAR MALFUNCTION**

### < DTC/CIRCUIT DIAGNOSIS >

# **C1B50 SIDE RADAR MALFUNCTION**

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DICLOGI			INFOID:000000012781886			
DTC DETEC	TION LOGIC					
DTC	Trouble diagnosis name	DTC detecting condition	Possible causes			
C1B50	SIDE RDR MALFUNCTION	Side radar malfunction	Side radar			
DTC CONFIE 1.PERFORM	RMATION PROCEDURE DTC CONFIRMATION PF	ROCEDURE				
<ol> <li>Start the e</li> <li>Perform "/</li> <li>Check if the RIGHT/LE</li> </ol>	<ol> <li>Start the engine.</li> <li>Perform "All DTC Reading" with CONSULT.</li> <li>Check if the "C1B50" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".</li> </ol>					
<u>Is the "C1B50'</u> YES >> Re NO >> In	<u>' detected as the current m</u> efer to <u>DAS-79, "Diagnosis</u> spection End.	<u>alfunction?</u> Procedure".				
Diagnosis F	Procedure		INFOID:000000012781887			
1.CHECK SE	ELF-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 >> Pe <u>37</u> NO >> Re	erform diagnosis on the de <u>7, "DTC Index"</u> (SIDE RAD eplace the side radar. Refe	tected DTC and repair or replace the AR RIGHT) or <u>DAS-35, "DTC Index"</u> ( r to <u>DAS-124, "Removal and Installati</u>	malfunction part. Refer to <u>DAS-</u> SIDE RADAR LEFT). ion".			

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[DRIVER ASSISTANCE SYSTEM]

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### C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT < DTC/CIRCUIT DIAGNOSIS > [DRIVER ASSISTANCE SYSTEM]

# C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT

## DTC Logic

INFOID:000000012781888

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B51	BSW IND SHORT CIR	Short circuit in Blind Spot Warning indicator circuit is detected. (Over current is detected)	<ul> <li>Blind Spot Warning indicator circuit</li> <li>Blind Spot Warning indicator</li> <li>Side radar</li> </ul>

### DTC CONFIRMATION PROCEDURE

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

#### 1. Start the engine.

- 2. Perform "All DTC Reading" with CONSULT.
- 3. Check if the "C1B51" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B51" detected as the current malfunction?

YES >> Refer to <u>DAS-80</u>, "Diagnosis Procedure".

NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012781889

Regarding Wiring Diagram information, refer to <u>DAS-43, "Wiring Diagram"</u>.

# 1. CHECK BLIND SPOT WARNING INDICATOR CIRCUIT FOR OPEN

- 1. Turn ignition switch OFF.
- 2. Disconnect side radar harness connector and Blind Spot Warning indicator harness connector.
- 3. Check continuity between side radar harness connector and Blind Spot Warning indicator harness connector.

Side radar		Blind Spot Wa	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
B35 (LH)	Δ	D28 (LH)	1	Vec
B105 (RH)	4	D115 (RH)		165

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connector.

 $\mathbf{2}$ .CHECK BLIND SPOT WARNING INDICATOR GROUND CIRCUIT FOR OPEN

Check continuity between Blind Spot Warning indicator harness connector and ground.

Side radar			Continuity
Connector	Terminal	Ground	Continuity
B35 (LH)		Ves	
B105 (RH)			105

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

## C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

**3.**CHECK SIDE RADAR VOLTAGE OUTPUT А 1. Connect side radar harness connector. 2. Check voltage between Blind Spot Warning indicator harness connector and ground. В Blind Spot Warning indicator Voltage Condition (Approx.) Connector Terminal Ground С D28 LH Ignition switch 6 V 1  $\mathsf{OFF} \Rightarrow \mathsf{ON}$ D115 RH (Approx. 2 sec.) Is the inspection result normal? D YES >> Replace Blind Spot Warning indicator. Refer to DAS-125, "Removal and Installation". NO >> Replace side radar. Refer to DAS-124, "Removal and Installation". Е F Н Κ L Μ Ν DAS

### C1B52 BLIND SPOT WARNING INDICATOR OPEN CIRCUIT < DTC/CIRCUIT DIAGNOSIS > [DRIVER ASSISTANCE SYSTEM]

## C1B52 BLIND SPOT WARNING INDICATOR OPEN CIRCUIT

## DTC Logic

INFOID:000000012781890

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B52	BSW IND OPEN CIR	Open circuit in Blind Spot Warning indicator circuit is detected.	<ul> <li>Blind Spot Warning indi- cator circuit.</li> <li>Blind Spot Warning indi- cator.</li> <li>Side radar.</li> </ul>

### DTC CONFIRMATION PROCEDURE

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

- 1. Start the engine.
- 2. Perform "All DTC Reading" with CONSULT.
- 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-82, "Diagnosis Procedure".
- NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012781891

Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".

## 1. CHECK BLIND SPOT WARNING INDICATOR CIRCUIT FOR OPEN

- 1. Turn ignition switch OFF.
- 2. Disconnect side radar harness connector and Blind Spot Warning indicator harness connector.
- Check continuity between side radar harness connector and Blind Spot Warning indicator harness connector.

Side radar		Blind Spot Warning indicator		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B35 (LH)	1	D28 LH	1	Vec
B105 (RH)	4	D115 RH		165

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connector.

2.CHECK BLIND SPOT WARNING INDICATOR GROUND CIRCUIT FOR OPEN

Check continuity between Blind Spot Warning indicator harness connector and ground.

Side	radar		Continuity
Connector	Terminal	Cround	Continuity
B35 (LH)	1	Ground	Vac
B105 (RH)	4		185

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

## **C1B52 BLIND SPOT WARNING INDICATOR OPEN CIRCUIT**

# [DRIVER ASSISTANCE SYSTEM]

Voltage

(Approx.)

6 V

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< DTC/CIRCUIT DIAGNOSIS > **3.**CHECK SIDE RADAR VOLTAGE OUTPUT 1. Connect side radar harness connector. 2. Check voltage between Blind Spot Warning indicator harness connector and ground. Blind Spot Warning indicator Condition Connector Terminal Ground D28 LH Ignition switch 1  $\mathsf{OFF} \Rightarrow \mathsf{ON}$ D115 RH (Approx. 2 sec.) Is the inspection result normal? YES >> Replace Blind Spot Warning indicator. Refer to DAS-125, "Removal and Installation". NO >> Replace side radar. Refer to DAS-124, "Removal and Installation".

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#### C1B53 SIDE RADAR RIGHT MALFUNCTION IOSIS > [DRIVER ASSISTANCE SYSTEM]

## < DTC/CIRCUIT DIAGNOSIS >

# C1B53 SIDE RADAR RIGHT MALFUNCTION

# DTC Logic

INFOID:000000012767579

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

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

- 1. Start the engine.
- 2. Perform "All DTC Reading" with CONSULT.
- 3. Check if the "C1B53" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".
- Is "C1B53" detected as the current malfunction?
- YES >> Refer to <u>DAS-84, "Diagnosis Procedure"</u>.
- NO >> Refer to GI-45, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000012767580

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

Check if "U1000" is detected other than "C1B53" in "Self Diagnostic Result" of "ICC/ADAS". <u>Is "U1000" detected?</u>

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-96, "ADAS CONTROL UNIT : 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 DAS-35. "DTC Index" (SIDE RADAR LH), DAS-37. "DTC Index" (SIDE RADAR RH).
- NO >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

# C1B54 SIDE RADAR LEFT MALFUNCTION

## < DTC/CIRCUIT DIAGNOSIS >

# C1B54 SIDE RADAR LEFT MALFUNCTION

# DTC Logic

[DRIVER ASSISTANCE SYSTEM]

INFOID:000000012767581

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DTC DETECTION LOGIC	

DIC	Trouble diagnosis name	DTC detecting condition	Possible cause
C1B54	SIDE RDR L MALF	ADAS control unit detects that side radar LH has a malfunction.	Side radar LH
DTC CON	FIRMATION PROCED	URE	
1.PERFC	ORM DTC CONFIRMATIO	N PROCEDURE	
<ol> <li>Start t</li> <li>Perfor</li> <li>Check</li> </ol>	he engine. m "All DTC Reading" with c if the "C1B54" is detected	CONSULT. I as the current malfunction in "Self Diagn	ostic Result" of "ICC/ADAS".
<u>s "C1B54'</u>	" detected as the current n	nalfunction?	
YES > NO >	> Refer to <u>DAS-85, "Diagr</u> > Refer to GI-45, "Intermit	<u>nosis Procedure"</u> . tent Incident".	
Diagnos	is Procedure		INFOID:00000001276758
<b>1</b> .CHECK	SELF-DIAGNOSIS RESI	ULTS	
Check if "l	J1000" is detected other the	nan "C1B54" in "Self Diagnostic Result" of	"ICC/ADAS".
<u>s "U1000"</u>	<u>detected?</u>		
YES >	Perform the CAN comm Refer to <u>DAS-96, "ADAS</u>	nunication system inspection. Repair or re <u>S CONTROL UNIT : DTC Logic"</u> .	eplace the malfunctioning parts
NO >	> GO TO 2.		
CHECK	SELF-DIAGNOSIS RES	ULTS	
Check if a	ny DTC is detected in "Sel	f Diagnostic Result" of "SIDE RADAR LEF	-T".
<u>s any DT(</u>	C detected?		
YES >	Perform diagnosis on the <u>DAS-35, "DTC Index"</u> (States)	e detected DTC and repair or replace the SIDE RADAR LH), <u>DAS-37, "DTC Index"</u> (	e malfunctioning parts. Refer to SIDE RADAR RH).
NO >	> Replace the ADAS cont	rol unit. Refer to <u>DAS-121, "Removal and</u>	Installation".

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## C1B55 RADAR BLOCKAGE

### < DTC/CIRCUIT DIAGNOSIS >

C1B55 RADAR BLOCKAGE

## DTC Logic

INFOID:000000012781893

[DRIVER ASSISTANCE SYSTEM]

### 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:000000012781894

# **1.**CHECK THE REAR BUMPER

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

### >> GO TO 2.

## 2.CHECK THE SIDE RADAR

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

### >> GO TO 3.

# $\mathbf{3}$ . CHECK THE SIDE RADAR INSTALLATION CONDITION

Check side radar installation condition (installation position, properly tightened or 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.

#### Are 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.

# U0104 ADAS CAN 1

# DTC Logic

INFOID:000000012768188

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[DRIVER ASSISTANCE SYSTEM]

## DTC DETECTION LOGIC

	Trouble diagnosis name	DTC detecting condition	Possible cause
U0104	ADAS CAN CIR1	Side radar detected an error of ITS communication signal that was received from ADAS control unit.	ADAS control unit
NOTE:			
If DTC "U (SIDE RA	0104" is detected along with DTC DAR LH), <u>DAS-97, "SIDE RADAR</u>	"U1000", first diagnose the DTC "U1000". Refer to <u>DAS-97, "</u> <u>LH : DTC Logic"</u> (SIDE RADAR RH).	SIDE RADAR LH : DTC Logic
DTC CO	ONFIRMATION PROCED	URE	
1.PER	FORM DTC CONFIRMATIC	N PROCEDURE	
1. Star 2. Turr 3. Per 4. Che	rt the engine. n the BSW system ON. form "All DTC Reading" with eck if "U0104" is detected	n CONSULT as the current malfunction in "Self Diagnostic R	esult" of "SIDE RADAR
Is the D	TC "U0104" detected?		
YES NO	<ul> <li>Refer to <u>DAS-87, "Diag</u></li> <li>Refer to <u>GI-45, "Interm</u></li> </ul>	nosis Procedure". ttent Incident".	
Diagno	osis Procedure		INFOID:00000001276818
<b>1</b> .CHE	CK SELF-DIAGNOSIS RES	SULTS	
Check if	f "U1000" is detected other t	han "U0104" in "Self Diagnostic Result" of "SIDE	RADAR RIGHT/LEFT".
<u>ls "U100</u>	00" detected?		
YES	>> Perform the CAN com Refer to <u>DAS-97, "SIDE</u>	nunication system inspection. Repair or replace t <u>ERADAR LH : DTC Logic"</u> (SIDE RADAR LH), <u>DA</u>	the malfunctioning parts <u>S-97, "SIDE RADAR RH</u>
NO	<u>: DTC LOGIC</u> (SIDE RA	DAR RH).	
NO <b>2</b> out	>> GO TO 2.		
NO <b>2</b> .сне	>> GO TO 2. CK ADAS CONTROL UNIT	SELF-DIAGNOSIS RESULTS	
NO 2.CHE	SO TO 2. CK ADAS CONTROL UNIT f any DTC is detected in "Second control of the second control	SELF-DIAGNOSIS RESULTS If Diagnostic Result" of "ICC/ADAS".	
NO 2.CHE Check if Is any D	>> GO TO 2. CK ADAS CONTROL UNIT f any DTC is detected in "Se DTC detected?	SELF-DIAGNOSIS RESULTS elf Diagnostic Result" of "ICC/ADAS".	
NO 2.CHE Check if Is any D YES	<ul> <li>&gt; GO TO 2.</li> <li>CK ADAS CONTROL UNIT</li> <li>f any DTC is detected in "Se</li> <li><u>DTC detected?</u></li> <li>&gt; Perform diagnosis on t</li> <li><u>DAS-32, "DTC Index"</u>.</li> </ul>	SELF-DIAGNOSIS RESULTS of Diagnostic Result" of "ICC/ADAS". he detected DTC and repair or replace the malfu	nctioning parts. Refer to
NO 2.CHE Check if Is any D YES NO	<ul> <li>&gt; GO TO 2.</li> <li>CK ADAS CONTROL UNIT</li> <li>f any DTC is detected in "Se</li> <li><u>DTC detected?</u></li> <li>&gt;&gt; Perform diagnosis on t</li> <li><u>DAS-32, "DTC Index"</u>.</li> <li>&gt;&gt; Replace side radar LH</li> </ul>	DAR RH). SELF-DIAGNOSIS RESULTS If Diagnostic Result" of "ICC/ADAS". he detected DTC and repair or replace the malfu or RH. Refer to <u>DAS-124, "Removal and Installati</u>	nctioning parts. Refer to on".

## U0121 VDC CAN 2

DTC Logic

INFOID:000000012768152

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0121	VDC CAN CIR2	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	ABS actuator and electric unit (control unit)

#### NOTE:

If DTC "U0121" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to DAS-96, "ADAS CONTROL UNIT : DTC Logic".

### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2.
- Turn the BSW system ON. Perform "All DTC Reading" with CONSULT. 3.
- 4. Check if "U0121" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U0121" detected as the current malfunction?

YES >> Refer to DAS-88, "Diagnosis Procedure".

>> Refer to GI-45, "Intermittent Incident". NO

### Diagnosis Procedure

INFOID:000000012768153

## 1.CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U0121" in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to DAS-96, "ADAS CONTROL UNIT : DTC Logic".

NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

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

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-57, "DTC Index".
- >> Replace the ADAS control unit. Refer to DAS-121, "Removal and Installation". NO

### U0126 STRG SEN CAN 1 [DRIVER ASSISTANCE SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

# U0126 STRG SEN CAN 1

# DTC Logic

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INFOID:000000001276815

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## DTC DETECTION LOGIC

DIC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0126	STRG SEN CAN CIR1	If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication	Steering angle sensor
<b>VOTE:</b> f DTC "U0126 CONTROL UN	' is detected along wit <u>IT : DTC Logic"</u> .	h DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-96. "ADAS</u>
DTC CONFIR	MATION PROCED	URE	
1.PERFORM	DTC CONFIRMATIO	N PROCEDURE	
2. Turn the B 3. Perform "A 4. Check if " s "U0126" deternormous  YES >> Re NO >> Re	SW system ON. II DTC Reading" with U0126" is detected as ected as the current m afer to <u>DAS-89, "Diagr</u> afer to <u>GI-45, "Intermit</u>	CONSULT. the current malfunction in "Self Diagnon <u>nalfunction?</u> <u>nosis Procedure"</u> . tent Incident".	ostic Result" of "ICC/ADAS".
Diagnosis F	Procedure		INFOID:0000000127681
<b>1</b> .CHECK SE	LF-DIAGNOSIS RESI	ULTS	
Check if "U100	0" is detected other th	nan "U0126" in "Self Diagnostic Result"	of "ICC/ADAS".
<u>s "U1000" dete</u>	ected?		
YES >> Pe Re NO >> G(	erform the CAN comm efer to <u>DAS-96, "ADAS</u> O TO 2.	nunication system inspection. Repair of <u>S CONTROL UNIT : DTC Logic"</u> .	r replace the malfunctioning parts
2. СНЕСК АВ	S ACTUATOR AND E	LECTRIC UNIT (CONTROL UNIT) SE	LF-DIAGNOSIS RESULTS
	TC is detected in "Sel	f Diagnostic Result" of "ABS".	
Check if any D	TO IS DELECTED IT DEL	- 3	
Check if any D s any DTC de	tected?		
Check if any D s any DTC de YES >> Pe	tected? erform diagnosis on th	e detected DTC and repair or replace	the malfunctioning parts. Refer to

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## U0235 DIST SEN CAN CIRC 1

## DTC Logic

INFOID:000000012768158

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0235	DIST SEN CAN CIR1	If ADAS control unit detects an error signal that is received from distance sensor via ITS communication	Distance sensor

#### NOTE:

If DTC "U0235" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-96, "ADAS</u> <u>CONTROL UNIT : DTC Logic"</u>.

### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the FEB system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if "U0235" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U0235" detected as the current malfunction?

YES >> Refer to DAS-90, "Diagnosis Procedure".

NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

### **Diagnosis** Procedure

INFOID:000000012768159

## 1. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U0235" in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-96, "ADAS CONTROL UNIT : DTC Logic"</u>.
- NO >> GO TO 2.

**2.**CHECK DISTANCE SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LASER/RADAR".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-41, "DTC Index"</u>.
- NO >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

## U0402 TCM CAN 1

## < DTC/CIRCUIT DIAGNOSIS >

# U0402 TCM CAN 1

# DTC Logic

INFOID:000000012768144

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0402	TCM CAN CIRC1	If ADAS control unit detects an error signal that is re- ceived from TCM via CAN communication	ТСМ
OTE: DTC "U0402' CONTROL UN	' is detected along ' IT : DTC Logic''.	with DTC "U1000", first diagnose the DTC "U1	000". Refer to <u>DAS-96, "ADAS</u>
TC CONFIR	MATION PROCE	DURE	
.PERFORM	DTC CONFIRMAT	ION PROCEDURE	
. Start the e . Turn the B . Perform "A . Check if "U <u>s "U0402" dete</u> YES >> Re NO >> Re	ngine. SW system ON. Il DTC Reading" w J0402" is detected ected as the curren efer to <u>DAS-91, "Dia</u> efer to <u>GI-45, "Intern</u>	ith CONSULT. as the current malfunction in "Self Diagnostic <u>t malfunction?</u> agnosis Procedure". <u>mittent Incident"</u> .	Result" of "ICC/ADAS".
iagnosis F	Procedure		INFOID:00000001276814
.CHECK SE	LF-DIAGNOSIS RE	ESULTS	
heck if "U100	0" is detected othe	r than "U0402" in "Self Diagnostic Result" of "	ICC/ADAS".
<u>s "U1000" dete</u>	ected?		
YES >> Pe Re NO >> G(	erform the CAN cor efer to <u>DAS-96, "AD</u> D TO 2.	nmunication system inspection. Repair or rep DAS CONTROL UNIT : DTC Logic".	place the malfunctioning parts
СНЕСК ТС	M SELF-DIAGNOS	IS RESULTS	
heck if any D	TC is detected in "S	Self Diagnostic Result" of "TRANSMISSION".	
any DTC det	tected?		
YES >> Pe	rform diagnosis or	the detected DTC and repair or replace the	malfunctioning parts. Refer to

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# U0405 ADAS CAN 2

## DTC Logic

INFOID:000000012768192

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
U0405	ADAS CAN CIR2	Side radar detected an error of ITS communication signal that was received from ADAS control unit.	ADAS control unit.

#### NOTE:

If DTC "U0405" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-97</u>, "<u>SIDE RADAR LH</u> : <u>DTC Logic</u>" (SIDE RADAR LH), <u>DAS-97</u>, "<u>SIDE RADAR RH</u> : <u>DTC Logic</u>" (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 "U0405" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

### Is the DTC "U0405" detected?

- YES >> Refer to DAS-92, "Diagnosis Procedure".
- NO >> Refer to GI-45, "Intermittent Incident".

## Diagnosis Procedure

INFOID:000000012768193

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

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

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-97, "SIDE RADAR LH : DTC Logic"</u> (SIDE RADAR LH), <u>DAS-97, "SIDE RADAR RH</u> <u>: DTC Logic"</u> (SIDE RADAR RH).
- NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-32. "DTC Index"</u>.
- NO >> Replace side radar LH or RH. Refer to DAS-124. "Removal and Installation".

## U0415 VDC CAN 1

## < DTC/CIRCUIT DIAGNOSIS >

# U0415 VDC CAN 1

DTC Logic

INFOID:000000012768146

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DTC DETECTION LOGIC	
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DIC	I rouble diagnosis name	DTC detecting condition	Possible causes
U0415	VDC CAN CIR1	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	ABS actuator and electric unit (control unit)
NOTE:			
	5" is detected along with	th DTC "U1000", first diagnose the DTC	; "U1000". Refer to <u>DAS-96, "ADAS</u>
	<u>INIT . DTC LOGIC .</u>		
	IRMATION PROCED	URE	
I.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
I. Start the	engine.		
2. Turn the	BSW system ON.	CONCLUT	
5. Periorm 1. Check if	"I 0415" is detected as	the current malfunction in "Self Diagoc	ostic Result" of "ICC/ADAS"
e "H0/15" d	etected as the current r	nalfunction?	Stie Result of TOORDAD.
YES >>	Refer to DAS-93 "Diag	nosis Procedure"	
YES >> NO >>	Refer to <u>DAS-93, "Diag</u> Refer to GI-45, "Intermi	nosis Procedure". ttent Incident".	
<u>3 00413 d</u> YES >> NO >>	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermi</u>	nosis Procedure". ttent Incident".	
YES >> NO >> Diagnosis	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermit</u> <b>Procedure</b>	nosis Procedure". ttent Incident".	INFOID:0000000127681
YES >> NO >> Diagnosis	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES	nosis Procedure". ttent Incident". ULTS	INFOID:0000000127681
YES >> NO >> Diagnosis 1.CHECK S	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES	nosis Procedure". ttent Incident". ULTS han "U0415" in "Self Diagnostic Result"	INFOID:0000000127681.
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermit</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected?	nosis Procedure". ttent Incident". ULTS han "U0415" in "Self Diagnostic Result"	INFCID:0000000127681-
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >>	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm	nosis Procedure". ttent Incident". ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o	INFOID:0000000127681. ' of "ICC/ADAS". or replace the malfunctioning parts
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >>	Refer to <u>DAS-93</u> , " <u>Diag</u> Refer to <u>GI-45</u> , " <u>Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the <u>etected?</u> Perform the CAN comm Refer to <u>DAS-96</u> , "ADA	nosis Procedure". ttent Incident". ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> .	INFOID:0000000127681 ' of "ICC/ADAS". or replace the malfunctioning parts
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 <u>s "U1000" d</u> YES >>	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADA</u> GO TO 2.	nosis Procedure". ttent Incident". ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> .	INFOID:0000000127681 ? of "ICC/ADAS". or replace the malfunctioning parts
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >> NO >> 2.CHECK A	Refer to <u>DAS-93</u> , "Diag Refer to <u>GI-45</u> , "Intermit <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADA</u> GO TO 2. BS ACTUATOR AND E	Nanction: <u>nosis Procedure</u> ". <u>ttent Incident</u> ". ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair of <u>S CONTROL UNIT : DTC Logic</u> ". ELECTRIC UNIT (CONTROL UNIT) SE	INFOID:0000000127681 of "ICC/ADAS". or replace the malfunctioning parts SLF-DIAGNOSIS RESULTS
YES         >>           NO         >>           Diagnosis         1.CHECK S           1.CHECK IF "U1         S"U1000" d           S "U1000" d         YES           NO         >>           2.CHECK IF any         Check if any	Refer to <u>DAS-93, "Diag</u> Refer to <u>GI-45, "Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADA</u> GO TO 2. BS ACTUATOR AND E DTC is detected in "Se	ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> . ELECTRIC UNIT (CONTROL UNIT) SE	<sup>INFOID:0000000127681</sup> of "ICC/ADAS". or replace the malfunctioning parts SLF-DIAGNOSIS RESULTS
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >> NO >> 2.CHECK A Check if any s any DTC o	Refer to <u>DAS-93</u> , "Diag Refer to <u>GI-45</u> , "Intermit <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96</u> , "ADA GO TO 2. BS ACTUATOR AND E DTC is detected in "Se <u>letected?</u>	ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic</u> ". ELECTRIC UNIT (CONTROL UNIT) SE	<sup>7</sup> of "ICC/ADAS". or replace the malfunctioning parts SLF-DIAGNOSIS RESULTS
YES >> NO >> Diagnosis 1.CHECK S Check if "U1 s "U1000" d YES >> NO >> 2.CHECK A Check if any s any DTC o YES >>	Refer to <u>DAS-93</u> , " <u>Diag</u> Refer to <u>GI-45</u> , " <u>Intermi</u> <b>Procedure</b> ELF-DIAGNOSIS RES 000" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96</u> , "ADA GO TO 2. BS ACTUATOR AND E DTC is detected in "Se <u>letected?</u> Perform diagnosis on the <u>BRC-57, "DTC Index"</u> .	ULTS han "U0415" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> . ELECTRIC UNIT (CONTROL UNIT) SE If Diagnostic Result" of "ABS". ne detected DTC and repair or replace	of "ICC/ADAS". or replace the malfunctioning parts LF-DIAGNOSIS RESULTS

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[DRIVER ASSISTANCE SYSTEM]

# U0428 STRG SEN CAN 2

## DTC Logic

INFOID:000000012768148

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0428	STRG SEN CAN CIR2	If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication	Steering angle sensor

#### NOTE:

If DTC "U0428" is detected along with DTC "U1000", first diagnose the DTC "U1000". Refer to <u>DAS-96, "ADAS</u> <u>CONTROL UNIT : DTC Logic"</u>.

### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Perform "All DTC Reading" with CONSULT.
- 3. Check if "U0428" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

### Is "U0428" detected as the current malfunction?

- YES >> Refer to DAS-94, "Diagnosis Procedure".
- NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

### Diagnosis Procedure

INFOID:000000012768149

### 1.CHECK SELF-DIAGNOSIS RESULTS

Check if "U1000" is detected other than "U0428" in "Self Diagnostic Result" of "ICC/ADAS". <u>Is "U1000" detected?</u>

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-96, "ADAS CONTROL UNIT : DTC Logic"</u>.

NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

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

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>BRC-57. "DTC Index"</u>.
- NO >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

## U0433 DIST SEN CAN CIRC 2

### < DTC/CIRCUIT DIAGNOSIS >

# U0433 DIST SEN CAN CIRC 2

# DTC Logic

[DRIVER ASSISTANCE SYSTEM]

INFOID:000000012768184

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DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U0433	DIST SEN CAN CIR2	ADAS control unit received invalid data from distance sensor via ITS communication	Distance sensor
OTE: DTC "U043 ONTROL L	3" is detected along wit INIT : DTC Logic".	h DTC "U1000", first diagnose the DTC	"U1000". Refer to <u>DAS-96, "ADAS</u>
TC CONF	IRMATION PROCED	URE	
.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
. Start the	engine.		
. Turn the	FEB system ON.	CONSULT	
. Check if	"U0433" is detected as	the current malfunction in "Self Diagno	ostic Result" of "ICC/ADAS".
<u>s "U0433" d</u>	etected as the current m	nalfunction?	
YES >> I	Refer to <u>DAS-95, "Diagr</u>	nosis Procedure".	
11117		tent Incident"	
)iagnosis	Procedure	tent Incident".	INECID-00000001276818
)iagnosis	Procedure	tent Incident".	INFOID:00000001276818
)iagnosis	DAS CONTROL UNIT	tent Incident". SELF-DIAGNOSIS RESULTS	INFOID:00000001276818
)iagnosis .CHECK A	DAS CONTROL UNIT	<u>tent Incident"</u> . SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result"	INFOID:00000001276818 of "ICC/ADAS".
Diagnosis	Procedure DAS CONTROL UNIT S DOO" is detected other the etected?	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result"	of "ICC/ADAS".
Diagnosis .CHECK A heck if "U10 <u>s "U1000" do</u> YES >> F	Procedure DAS CONTROL UNIT 3 D00" is detected other the etected? Perform the CAN comm Refer to DAS-96, "ADAS	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o S CONTROL UNIT : DTC Logic".	INFOID:00000001276818 of "ICC/ADAS". r replace the malfunctioning parts
Diagnosis .CHECK A heck if "U10 <u>s "U1000" de</u> YES >> F NO >> (	Procedure DAS CONTROL UNIT S DOO" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADAS</u> GO TO 2.	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o S CONTROL UNIT : DTC Logic".	of "ICC/ADAS".
Diagnosis .CHECK A heck if "U10 <u>s "U1000" da</u> YES >> F NO >> C	Procedure DAS CONTROL UNIT S DOO" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADAS</u> GO TO 2.	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> .	of "ICC/ADAS".
Diagnosis .CHECK A heck if "U10 s "U1000" do YES >> F YES >> F NO >> 0 .CHECK D	Procedure DAS CONTROL UNIT S DOO" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADAS</u> GO TO 2. DISTANCE SENSOR SE DTC is detected in "Sel	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> . ELF-DIAGNOSIS RESULTS f Diagnostic Result" of "LASER/RADAF	of "ICC/ADAS". r replace the malfunctioning parts
Diagnosis .CHECK A heck if "U10 3 "U1000" du YES >> I NO >> 0 .CHECK D heck if any 3 any DTC o	Procedure DAS CONTROL UNIT S DOO" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADAS</u> GO TO 2. DISTANCE SENSOR SE DTC is detected in "Sel letected?	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> . ELF-DIAGNOSIS RESULTS If Diagnostic Result" of "LASER/RADAF	of "ICC/ADAS". r replace the malfunctioning parts
Diagnosis .CHECK A Check if "U10 .CHECK A .CHECK D .CHECK D .CHECK If any .CHECK IF A .CHECK IF (CHECK IF A) .CHECK IF A) .CHECK IF (CHECK IF A) .CHECK I	Procedure DAS CONTROL UNIT S DOO" is detected other the etected? Perform the CAN comme Refer to <u>DAS-96, "ADAS</u> GO TO 2. DISTANCE SENSOR SE DTC is detected in "Sel letected? Perform diagnosis on the DAS-41, "DTC Index".	SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> . ELF-DIAGNOSIS RESULTS If Diagnostic Result" of "LASER/RADAF ne detected DTC and repair or replace	of "ICC/ADAS". r replace the malfunctioning parts R".
Diagnosis .CHECK A Check if "U10 S "U1000" do YES >> I NO >> C .CHECK D CHECK I any S any DTC C YES >> I NO >> I NO >> I	Procedure DAS CONTROL UNIT S D00" is detected other the etected? Perform the CAN comm Refer to <u>DAS-96, "ADAS</u> GO TO 2. DISTANCE SENSOR SE DTC is detected in "Sel letected? Perform diagnosis on the DAS-41, "DTC Index". Replace the ADAS contri	tent Incident". SELF-DIAGNOSIS RESULTS nan "U0433" in "Self Diagnostic Result" nunication system inspection. Repair o <u>S CONTROL UNIT : DTC Logic"</u> . ELF-DIAGNOSIS RESULTS If Diagnostic Result" of "LASER/RADAF ne detected DTC and repair or replace rol unit. Refer to <u>DAS-121, "Removal a</u>	of "ICC/ADAS". r replace the malfunctioning parts R <sup>*</sup> . the malfunctioning parts. Refer to <u>nd Installation"</u> .

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# U1000 CAN COMM CIRCUIT ADAS CONTROL UNIT

## ADAS CONTROL UNIT : Description

INFOID:000000012768178

[DRIVER ASSISTANCE SYSTEM]

### 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-36, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

### ITS COMMUNICATION

- ITS 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.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

## ADAS CONTROL UNIT : DTC Logic

INFOID:000000012768179

## DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1000	CAN COMM CIRCUIT	If ADAS control unit is not transmitting or receiv- ing CAN communication signal or ITS communi- cation signal for 2 seconds or more	<ul><li>CAN communication system</li><li>ITS communication system</li></ul>

### NOTE:

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

### ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:000000012768180

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

- 1. Turn the ignition switch ON.
- 2. Turn the BSW system ON, and then wait for 30 seconds or more.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

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

- YES >> Refer to LAN-20, "Trouble Diagnosis Flow Chart".
- NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

## SIDE RADAR LH

## SIDE RADAR LH : Description

INFOID:000000012768172

### 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-36</u>, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

### ITS COMMUNICATION

• ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting plural units with 2 communication lines.

## U1000 CAN COMM CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

### • ITS 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
U1000	CAN COMM CIRCUIT	If Side radar LH is not transmitting or receiving ITS communication signal for 2 seconds or more	ITS 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 30 seconds or more.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if "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-20, "Trouble Diagnosis Flow Chart".
- NO >> Refer to <u>GI-45, "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 <u>LAN-36</u>, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

### ITS COMMUNICATION

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

## SIDE RADAR RH : DTC Logic

#### INFOID:0000000012768176

INFOID:00000001276817

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### DTC DETECTION LOGIC

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

## SIDE RADAR RH : Diagnosis Procedure

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

1. Start the engine.

- 2. Turn the BSW system ON, and then wait for 30 seconds or more.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if "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-20, "Trouble Diagnosis Flow Chart".

### **DAS-97**

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INEOID-000000012768173

INFOID:000000012768174

INFOID:000000012768175

## **U1000 CAN COMM CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

## **U1010 CONTROL UNIT (CAN)**

## < DTC/CIRCUIT DIAGNOSIS > U1010 CONTROL UNIT (CAN)

# SIDE RADAR LH

## SIDE RADAR LH : Description

CAN controller controls the communication of ITS 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 R	RADAR LH : Diagno	sis Procedure	INFOID:000000012781898
<b>1.</b> CHEC	K SELF-DIAGNOSIS RE	SULT	
<ol> <li>Turn</li> <li>Perfo</li> <li>Cheo</li> <li>LEFT</li> </ol>	the BSW system ON system Wall DTC Reading" w orm "All DTC Reading" w ck if "U1010" is detected T".	stem ON. ith CONSULT. I as the current malfunction in "Self Diagnostic R	esult" of "SIDE RADAR
<u>ls "U101(</u>	0" detected as the curren	t malfunction?	
NO	>> Inspection End.		
SIDE F	RADAR RH		
SIDE R	RADAR RH : Descri	otion	INFOID:000000012781899
CAN con	troller controls the comm	unication of ITS communication signal and the erro	r detection.
SIDE R	RADAR RH : DTC L	ogic	INFOID:000000012781900
DTC DE	TECTION 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 R	RADAR RH : Diagno	sis Procedure	INFOID:000000012781901
1.снес	CK SELF-DIAGNOSIS RE	SULT	
1. Turn 2. Perfo 3. Cheo	the BSW system ON. orm "All DTC Reading" w	ith CONSULT. Las the current malfunction in "Self Diagnostic R	esult" of "SIDE RADAR

Is "U1010" detected as the current malfunction?

YES >> Replace the side radar RH. Refer to DAS-124, "Removal and Installation".

NO >> Inspection End.

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INFOID:000000012781897

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## **U1321 CONFIGURATION**

### < DTC/CIRCUIT DIAGNOSIS >

## **U1321 CONFIGURATION**

## DTC Logic

INFOID:000000012768186

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1321	NOT CONFIGURED	ADAS is not configured

### DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.

2. Perform "All DTC Reading" with CONSULT.

3. Check if "U1321" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS". <u>Is "U1321" detected as the current malfunction?</u>

YES >> Refer to <u>DAS-100</u>, "Diagnosis Procedure".

NO >> Inspection End.

## Diagnosis Procedure

INFOID:000000012768187

# 1.PERFORM CONFIGURATION OF ADAS CONTROL UNIT

Perform configuration of ADAS control unit when DTC "U1321" is detected.

>> Perform configuration of ADAS control unit. Refer to <u>DAS-60, "Work Procedure"</u>.

### U1503 SIDE RDR L CAN 2 [DRIVER ASSISTANCE SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

# U1503 SIDE RDR L CAN 2

# DTC Logic

INFOID:000000012768160

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## DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1503	SIDE RDR L CAN CIR 2	ADAS control unit detects an error signal that is re- ceived from side radar LH via ITS communication	Side radar LH
NOTE: If DTC "U150 • Refer to <u>D</u> • Refer to <u>D</u>	03" is detected along with I <u>AS-96, "ADAS CONTROL</u> <u>AS-106, "DTC Logic"</u> for D	DTC "U1000", or "U1508", first diagnose the I <u>UNIT : DTC Logic"</u> for DTC "U1000". TC "U1508".	DTC "U1000" or "U1508".
DTC CONF	IRMATION PROCEDUR	E	
<b>1</b> .PERFOR	M DTC CONFIRMATION F	PROCEDURE	
<ol> <li>Start the</li> <li>Turn the</li> <li>Perform</li> <li>Check if</li> </ol>	engine. BSW system ON. "All DTC Reading" with CO "U1503" is detected as the	DNSULT. e current malfunction in "Self Diagnostic Resi	ult" of "ICC/ADAS".
<u>ls "U1503" d</u>	etected as the current malf	unction?	
YES >>	Refer to DAS-101, "Diagno	sis Procedure".	
NO >>	Refer to <u>GI-45, "Intermitten</u>	<u>t Incident"</u> .	
Diagnosis	Procedure		INFOID:00000001276816
<b>1.</b> CHECK 8	ELF-DIAGNOSIS RESUL	ſS	
Check if "U1	000" or "U1508" is detected	d other than "U1503" in "Self Diagnostic Res	ult" of "ICC/ADAS".
<u>ls "U1000" o</u>	r "U1508" detected?		
YES-1 >>	U1000 detected: Perform t functioning parts. Refer to [	he CAN communication system inspection. I DAS-96, "ADAS CONTROL UNIT : DTC Log	Repair or replace the mal i <u>c"</u> .
YES-2 >>	U1508 detected: Refer to	DAS-101, "DTC Logic".	_
	DIDE RADAR LH SELF-DIA	AGNOSIS RESULTS	
Check if any	DTC is detected in "Self D	iagnostic Result" of "SIDE RADAR LEFT".	
IS ANY DIC O	<u>letected?</u>		functioning name
1EO >>	Perform diagnosis on the d	detected DIC and repair or replace the main	iunctioning parts. Refer to
ļ	DAS-35, "DTC Index".		

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## U1504 SIDE RDR L CAN 1

### < DTC/CIRCUIT DIAGNOSIS >

## U1504 SIDE RDR L CAN 1

## DTC Logic

INFOID:000000012768162

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1504	SIDE RDR L CAN CIR 1	ADAS control unit detects an error signal that is re- ceived from side radar LH via ITS communication	Side radar LH

#### NOTE:

- If DTC "U1504" is detected along with DTC "U1000", or "U1508", first diagnose the DTC "U1000" or "U1508".
- Refer to DAS-96, "ADAS CONTROL UNIT : DTC Logic" for DTC "U1000".
- Refer to DAS-106, "DTC Logic" for DTC "U1508".

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Turn the Blind Spot Intervention system ON.
- 3. Perform "All DTC Reading" with CONSULT.
- 4. Check if "U1504" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

### Is "U1504" detected as the current malfunction?

- YES >> Refer to <u>DAS-102</u>, "Diagnosis Procedure".
- NO >> Refer to GI-45. "Intermittent Incident".

## Diagnosis Procedure

INFOID:000000012768163

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

Check if "U1000" or "U1508" is detected other than "U1504" in "Self Diagnostic Result" of "ICC/ADAS".

### <u>Is "U1000" or "U1508" detected?</u>

- YES-1 >> U1000 detected: Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-96, "ADAS CONTROL UNIT : DTC Logic"</u>.
- YES-2 >> U1508 detected: Refer to DAS-106, "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-35. "DTC Index"</u>.
- NO >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

### U1505 SIDE RDR R CAN 2 [DRIVER ASSISTANCE SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

# U1505 SIDE RDR R CAN 2

# DTC Logic

INFOID:000000012768164

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## DTC DETECTION LOGIC

DIC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1505	SIDE RDR R CAN CIR 2	ADAS control unit detects an error signal that is re- ceived from side radar RH via ITS communication	Side radar RH
NOTE: If DTC "U1505 • Refer to DAS • Refer to DAS	5" is detected along with D S-96, "ADAS CONTROL I S-105, "DTC Logic" for D	DTC "U1000", or "U1507", first diagnose the I <u>UNIT : DTC Logic"</u> for DTC "U1000". IC "U1507".	DTC "U1000" or "U1507".
DTC CONFIF	RMATION PROCEDUR	E	
1.PERFORM	DTC CONFIRMATION F	ROCEDURE	
<ol> <li>Start the e</li> <li>Turn the E</li> <li>Perform "<i>i</i></li> <li>Check if "</li> </ol>	engine. 3SW system ON. All DTC Reading" with CC U1505" is detected as the	DNSULT. e current malfunction in "Self Diagnostic Resu	Ilt" of "ICC/ADAS".
<u>ls "U1505" det</u>	ected as the current malf	unction?	
YES >> R	efer to <u>DAS-103</u> , "Diagno	sis Procedure". t. Incident"	
	Drocedure		
			INFOID:00000001276816
1.CHECK SE	LF-DIAGNOSIS RESULT	ſS	
Check if "U100	00" or "U1507" is detected	d other than "U1505" in "Self Diagnostic Resເ	It" of "ICC/ADAS".
<u>ls "U1000" or '</u> YES-1 >> U fu	<u>'U1507" detected?</u> 1000 detected: Perform tl nctioning parts. Refer to <u>□</u> 1507 detected: Refer to <u>□</u>	he CAN communication system inspection. F DAS-96, "ADAS CONTROL UNIT : DTC Logi DAS-105, "DTC Logic".	Repair or replace the mal <u>c"</u> .
YES-2 >> U NO >> G	O TO 2.		
YES-2 >> U NO >> G <b>2.</b> CHECK SII	O TO 2. DE RADAR RH SELF-DIA	AGNOSIS RESULTS	
YES-2 >> U NO >> G 2.CHECK SII	O TO 2. DE RADAR RH SELF-DIA DTC is detected in "Self D	AGNOSIS RESULTS iagnostic Result" of "SIDE RADAR RIGHT".	
YES-2 $>> U$ NO $>> G$ <b>2.</b> CHECK SII Check if any E Is any DTC de	O TO 2. DE RADAR RH SELF-DIA DTC is detected in "Self D stected?	AGNOSIS RESULTS iagnostic Result" of "SIDE RADAR RIGHT".	

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## U1506 SIDE RDR R CAN 1

### < DTC/CIRCUIT DIAGNOSIS >

## U1506 SIDE RDR R CAN 1

## DTC Logic

INFOID:000000012768166

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1506	SIDE RDR R CAN CIR 1	ADAS control unit detects an error signal that is re- ceived from side radar RH via ITS communication	Side radar RH

#### NOTE:

If DTC "U1506" is detected along with DTC "U1000", or "U1507", first diagnose the DTC "U1000" or "U1507".

- Refer to DAS-96, "ADAS CONTROL UNIT : DTC Logic" for DTC "U1000".
- Refer to DAS-105, "DTC Logic" for DTC "U1507".

### 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 "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1506" detected as the current malfunction?

YES >> Refer to <u>DAS-104</u>, "Diagnosis Procedure".

NO >> Refer to GI-45, "Intermittent Incident".

### Diagnosis Procedure

INFOID:000000012768167

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

Check if "U1000" or "U1507" is detected other than "U1506" in "Self Diagnostic Result" of "ICC/ADAS".

### <u>Is "U1000" or "U1507" detected?</u>

- YES-1 >> U1000 detected: Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>DAS-96, "ADAS CONTROL UNIT : DTC Logic"</u>.
- YES-2 >> U1507 detected: Refer to DAS-105, "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".

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to <u>DAS-37. "DTC Index"</u>.
- NO >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

### U1507 LOST COMM(SIDE RDR R) <sub>5 ></sub> [DRIVER ASSISTANCE SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

# U1507 LOST COMM(SIDE RDR R)

# DTC Logic

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INFOID:000000012768168

## DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1507	LOST COMM(SIDE RDR R)	ADAS control unit cannot receive ITS commu- nication signal from side radar RH for 2 sec- onds or more	<ul> <li>Side radar RH right/left switching signal circuit</li> <li>ITS communication system</li> <li>Side radar RH</li> </ul>
<b>NOTE:</b> DTC "U1507	" is detected along with	DTC "U1000", first diagnose the DTC "	U1507".
DTC CONF	IRMATION PROCED	URE	
1.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
<ol> <li>Start the</li> <li>Turn the</li> <li>Perform</li> </ol>	engine. BSW system ON. "All DTC Reading" with	CONSULT.	
4. Check if <u>Is "U1507" de</u> YES >> I	the "U1507" is detected etected as the current n Refer to <u>DAS-105, "Diac</u>	d as the current malfunction in "Self Dia nalfunction? gnosis Procedure".	gnostic Result" of "ICC/ADAS".
NO >>	Refer to GI-45, "Intermit	ttent Incident".	
Diagnosis	Procedure		INFOID:000000012768168
1. СНЕСК Р	RIGHT/LEFT SWITCHIN	NG SIGNAL CIRCUIT	
Check right/l	eft switching signal circ tion result normal?	uit. Refer to <u>DAS-111, "Diagnosis Proce</u>	dure".
YES >> I	Perform the CAN comn Refer to <u>LAN-36, "CAN</u>	nunication system inspection. Repair or COMMUNICATION SYSTEM : CAN Co	r replace the malfunctioning parts ommunication Signal Chart".
NU >>1	Repair right/left switchin	ig signal circuit.	

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## U1508 LOST COMM(SIDE RDR L)

### < DTC/CIRCUIT DIAGNOSIS >

# U1508 LOST COMM(SIDE RDR L)

## DTC Logic

INFOID:000000012768170

[DRIVER ASSISTANCE SYSTEM]

### DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition	Possible causes
U1508	LOST COMM(SIDE RDR L)	ADAS control unit cannot receive ITS commu- nication signal from side radar LH for 2 sec- onds or more	<ul><li>Side radar LH harness connector</li><li>ITS communication system</li><li>Side radar LH</li></ul>

#### NOTE:

DTC "U1508" is detected along with DTC "U1000", first diagnose the 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 "U1508" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

#### Is "U1508" detected as the current malfunction?

- YES >> Refer to DAS-106, "Diagnosis Procedure".
- NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

### Diagnosis Procedure

INFOID:000000012768171

# 1. CHECK SIDE RADAR HARNESS CONNECTOR

- 1. Turn the ignition switch OFF.
- 2. Check the terminals and connectors of the side radar LH for damage, bend and short (unit side and connector side).

#### Is the inspection result normal?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to <u>LAN-20</u>, "Trouble Diagnosis Flow Chart".
- NO >> Repair the terminal or connector.

COTCICRCUIT DIAGNOSIS >       DRIVER ASSISTANCE SYSTEM]         POWER SUPPLY AND GROUND CIRCUIT         ADAS CONTROL UNIT         ADAS CONTROL UNIT : Diagnosis Procedure         ADAS CONTROL UNIT : Diagnosis Procedure         ADAS CONTROL UNIT : Diagnosis Procedure         Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".         1. CHECK FUSES         Check that the following fuse is not blown:		POWER SUP	PLY AND	GROL	JND CIRC	UIT	
POWER SUPPLY AND GROUND CIRCUIT ADAS CONTROL UNIT         ADAS CONTROL UNIT : Diagnosis Procedure         Regarding Wiring Diagram information, refer to DAS-43. "Wiring Diagram".         1. CHECK FUSES         Check that the following fuse is not blown:	< DTC/CIRCUIT DIA	GNOSIS >			[DRIV	ER ASSI	STANCE SYSTEM]
ADAS CONTROL UNIT       Diagnosis Procedure       Descention of the procession of the procesion of the procession of the proc	POWER SUPPI	_Y AND GROU	IND CIRC	UIT			
ADAS CONTROL UNIT : Diagnosis Procedure  Regarding Wiring Diagram information, refer to <u>DAS-43. "Wiring Diagram</u> ".  A.CHECK FUSES  Deck that the following fuse is not blown:	ADAS CONTRO	L UNIT					
Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".         1.CHECK FUSES         Check that the following fuse is not blown:         ignition power supply       30 (10 A)         sthe fuse blown?         YES       >> Replace the blown fuse after repairing the affected circuit.         NO       >> Condition         Vector ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         (*)       (*)	ADAS CONTROL	. UNIT : Diagnos	is Procedu	re			INFOID:000000012731524
Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".         1. CHECK FUSES         Check that the following fuse is not blown:         ignition power supply         30 (10 A)         as the fuse blown?         YES       >> Replace the blown fuse after repairing the affected circuit.         NO       >> GOTO 2.         2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the fuse blown fuse after repairing the affected circuit.         NO       >> GotTo 2.         2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> Go To 3.         NO       >> Repair the ADAS control unit power supply circuit.         3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconcet the ADAS control unit connector.         3. Check for continuity between ADAS control unit terminal foround foround.         Image: the inspection result normal?         YES       >> Control unit         1       1       Yes         2. Disconcet the ADAS control unit ground circuit.         SIDE RADAR LH       1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
1. CHECK FUSES         Check that the following fuse is not blown:         ignition power supply       30 (10 A)         is the fuse blown?         YES       >> Replace the blown fuse after repairing the affected circuit.         NO       >> GO TO 2.         2. CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> Go TO 3.         NO       >> Battery voltage         is the inspection result normal?         YES       >> GO TO 3.         NO       >> Battery voltage         Scheck ADAS Control unit connector.         1. Turn the ignition switch OFF.         0. Scheck ADAS Control Unit GROUND CIRCUIT         1. Turn the ignition switch OFF.         3. Check ADAS Control Unit GROUND CIRCUIT         1. Turn the ignition switch OFF.         3. Check ADAS Control Unit GROUND CIRCUIT         1. Turn the ignition switch OFF.         3. Check ADAS Control Unit GROUND CIRCUIT         1. Turn the ignition switch OFF.         3. Check ADAS Control Unit GROUND CIRCUIT         3. Check for continuity between ADAS control unit tornector:         3. Soe sepair the ADAS control unit ground circuit.         Soe spair	Regarding Wiring Diag	ram information, refe	er to <u>DAS-43, '</u>	"Wiring [	<u>Diagram"</u> .		
Check that the following fuse is not blown:							
Signal name       Fuse No.         is the fuse blown?       30 (10 A)         Ste fuse blown?       YES         YES       >> Replace the blown fuse after repairing the affected circuit.         NO       >> GO TO 2.         2. CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT         M148       3         Image: the inspection result normal?         YES       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> Inspection Field.         0       >> Repair the ADAS control unit ground circuit.         Sible inspection Field.       Oron         No       >> Repair the ADAS control unit ground circuit.         Sible RADAR LH       Diagnosis Procedure         M148       1       Yes         Sible RADAR LH	Check that the followin	a fues is not blown:					
Signal name       Fuse No.         Ignition power supply       30 (10 A)         s the fuse blown?       30 (10 A)         Signal name       YES         VES       >> Replace the blown fuse after repairing the affected circuit.         NO       >> GO TO 2.         2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT       Ignition switch         (ADAS control unit       (-)       Condition         (ADAS control unit       Ground       OFF       0 V         M148       3       ON       Battery voltage         s.the inspection result normal?       YES       >> Repair the ADAS control unit power supply circuit.         3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT       Immediate the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.       Immediate the ADAS control unit formation.         2. Disconnect the ADAS control unit ground circuit.       Ground       Continuity         M148       1       Yes       State inspection Fed.         NO       >> Repair the ADAS control unit ground circuit.       SIDE RADAR LH	Check that the following	ig luse is not blown.					
Ignition power supply       30 (10 A)         s the fuse blown?         YES       > Seplace the blown fuse after repairing the affected circuit.         NO       >> GO TO 2.         2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit power supply circuit.         3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit power supply circuit.         3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1.Turr the ignition switch OFF:         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       > GO TO 3.         NO       >> Repair the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       > Image: the ADAS control unit ground circuit.         Sible inspection result normal?       Yes         YES       NO         NO       >> Repair the ADAS		Signal name				Fuse No.	
sthe lise blown?         YES       >> Replace the blown fuse after repairing the affected circuit.         NO       >> GO TO 2.         2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit forwards         Image: the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit power supply circuit.         3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         Image: the inspection result normal?         YES       > Go ond         YES       > Image: the ADAS control unit formal diage: the ADAS control unit formal diage: the ADAS control unit ground circuit.         Sible RADAR LH       1         SIDE RADAR LH       Diagnosis Procedure	Ign	ition power supply			:	30 (10 A)	
NO       >> GO TO 2.         2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the image of the	<u>Is the fuse blown?</u>	ne blown fuse after re	nairing the aff	ected ci	cuit		
2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT         Check voltage between ADAS control unit harness connector and ground.         Image: the content of the transmission of transmission	NO >> GO TO 2.	le blown fuse aller re	pairing the an	ected cil	cuit.		
Terminal       Condition       Voltage (Approx.)         Condition       Voltage (Approx.)         Connector       Terminal       Ground       Orff       O V         M148       3       OFF       O V         M148       3       OFF       O V         M148       3       OFF       0       Voltage (Approx.)         State inspection result normal?       State inspection result normal?         YES       > GO TO 3.       NO       >> Sepair the ADAS control unit ground CIRCUIT         1       1       1       Turn the ignition switch OFF.       0       <	2. CHECK ADAS CON	NTROL UNIT POWE	R SUPPLY CI	RCUIT			
Terminal       Condition       Voltage (Approx.)         ADAS control unit       Ignition switch       Ignition switch         M148       3       OFF       0 V         st the inspection result normal?       Statery voltage       Statery voltage         St the inspection result normal?       YES       >> GO TO 3.       Statery voltage         NO       >> Repair the ADAS control unit power supply circuit.       Scheck ADAS CONTROL UNIT GROUND CIRCUIT       Scheck for continuity between ADAS control unit connector.         1.       Turn the ignition switch OFF.       Disconnect for ADAS control unit connector.       Continuity         2.       Connector       Terminal       Ground       Continuity         M148       1       Yes       St the inspection result normal?       Yes         St the inspection result normal?       Yes       Yes       St the inspection result normal?         YES       >> Inspection End.       Yes       Yes       Yes         SIDE RADAR LH       Diagnosis Procedure       Woocconceptions       Yes         SIDE RADAR LH       Diagnosis Procedure       Woocconceptions       Moocconceptions         Store Regarding Wiring Diagram information, refer to DAS-43. "Wiring Diagram".       No       Yes	Check voltage betwee	n ADAS control unit h	narness conne	ector and	ground.		
Lerritinal     Condition     Voltage (Approx.)       ADAS control unit     Ground     Ignition switch       M148     3     OFF     0 V       St the inspection result normal?     William (Approx.)     ON     Battery voltage       YES     >> GO TO 3.     ON     >> Repair the ADAS control unit power supply circuit.       3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT     1     Image: Continuity (Connector ADAS control unit connector.       3. CHECK ADAS control unit connector.     3. Check for continuity between ADAS control unit harness connector and ground.     Continuity       M148     1     Yes     Yes       St the inspection result normal?     Yes     Yes       St the inspection result normal?     St the inspection result normal?     Yes       YES     > Inspection End.     Yes       St the inspection result normal?     Yes       YES     > Inspection result normal?       YES     > Inspection End.       NO     > Repair the ADAS control unit ground circuit.       SIDE RADAR LH     Diagnosis Procedure							
ADAS control unit       Ignition switch       Voltage (Approx.)         M148       3       Ground       OFF       0 V         M148       3       OFF       0 V         St the inspection result normal?       YES       >> GO TO 3.       NO       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT       1       Turn the ignition switch OFF.       States of the ADAS control unit connector.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT       1       Turn the ignition switch OFF.       States of the ADAS control unit connector.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT       1       Continuity       Continuity         1. Turn the ignition switch OFF.       3       Check for continuity between ADAS control unit harness connector and ground.         M148       1       Continuity       Continuity         M148       1       Yes       State inspection result normal?         YES       >> Inspection End.       NO       >> Repair the ADAS control unit ground circuit.         SIDE RADAR LH       Diagnosis Procedure       Mediacodocort273522         Regarding Wiring Diagram information, refer to DAS-43. "Wiring Diagram".       Mediacodocort273522	(+		(-)		Conditio	on	
Connector       Terminal       Ground       Ignition switch         M148       3       OFF       0 V         St the inspection result normal?       YES       >> GO TO 3.         NO       >> Repair the ADAS control unit power supply circuit.       ON       Battery voltage         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT       1.       Turn the ignition switch OFF.       ON       Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit at an ess connector and ground.       Continuity       Continuity         M148       1       Yes       Yes       Yes         s the inspection result normal?       Yes       Yes       Yes         St the inspection result normal?       Yes       Yes       Yes         St the inspection result normal?       Yes       Yes       Yes         St the inspection result normal?       Yes       Yes       Yes         SIDE RADAR LH       Diagnosis Procedure       Meoneconcentrants       Meoneconcentrants         Regarding Wiring Diagram information, refer to DAS-43. "Wiring Diagram".       Meoneconcentrants       Meoneconcentrants	ADAS co	ntrol unit					Voltage (Approx.)
M148       3       Ground       OFF       0 V         Is the inspection result normal?       ON       Battery voltage         YES       >> GO TO 3.       ON       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT       Interview of the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         ADAS control unit       Ground       Continuity         Image: Connector       Terminal       Ground       Continuity         M148       1       Yes       Stee inspection result normal?       Yes         Image: State inspection result normal?       Yes       Stee inspection End.       Yes         SIDE RADAR LH       Diagnosis Procedure       MFORE CONSECUTE 2000000000000000000000000000000000000	Connector	Terminal			Ignition sv	vitch	
Image       S       ON       Battery voltage         s the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground. <ul> <li>M148</li> <li>M148</li> <li>M148</li> <li>Yes</li> </ul> s the inspection result normal?         YES       >> Inspection End.         NO       >> Repair the ADAS control unit ground circuit.         SIDE RADAR LH       Diagnosis Procedure	M148	3	Ground	d	OFF		0 V
is the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.	W140	5			ON		Battery voltage
YES       >> Go TO 3.         NO       >> Repair the ADAS control unit power supply circuit.         3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground. <ul> <li>ADAS control unit</li> <li>Connector</li> <li>Terminal</li> <li>Ground</li> <li>Yes</li> </ul> <ul> <li>ADAS control unit</li> <li>Ground</li> <li>Yes</li> </ul> <ul> <li>M148</li> <li>Yes</li> </ul> <ul> <li>St the inspection result normal?</li> </ul> YES <li>Sepair the ADAS control unit ground circuit.</li> SIDE RADAR LH             SIDE RADAR LH : Diagnosis Procedure           Miring Diagram information, refer to DAS-43, "Wiring Diagram". <ul> <li>Augusta and augusta and aug</li></ul>	Is the inspection result	<u>: normal?</u>					
3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT         1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         Image: ADAS control unit connector         Image: ADAS control unit ground circuit.         Sible RADAR LH         SiDE RADAR LH : Diagnosis Procedure         Image: ADAS control unit ground circuit.         Regarding Wiring Diagram information, refer to DAS-43. "Wiring Diagram".	NO >> Repair the	ADAS control unit po	ower supply ci	ircuit.			
1. Turn the ignition switch OFF.         2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         ADAS control unit         Connector       Terminal         M148       1         Yes         s the inspection result normal?         YES       >> Inspection End.         NO       >> Repair the ADAS control unit ground circuit.         SIDE RADAR LH       Diagnosis Procedure         NPOID.commont, refer to DAS-43, "Wiring Diagram".	3. CHECK ADAS CON		ND CIRCUIT				
2. Disconnect the ADAS control unit connector.         3. Check for continuity between ADAS control unit harness connector and ground.         ADAS control unit       Continuity         M148       1         St the inspection result normal?         YES       > Inspection End.         NO       >> Repair the ADAS control unit ground circuit.         SIDE RADAR LH       Diagnosis Procedure         Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".	1. Turn the ignition s	witch OFF.					
ADAS control unit       Continuity         ADAS control unit       Ground         M148       1         YES       >> Inspection End.         NO       >> Repair the ADAS control unit ground circuit.         SIDE RADAR LH       SIDE RADAR LH         SIDE RADAR LH       Diagnosis Procedure         Image: Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".	2. Disconnect the AE	)AS control unit connective between ADAS con	ector. ntrol unit harm	ess conr	nector and arc	hund	
ADAS control unit       Continuity         Connector       Terminal       Ground       Continuity         M148       1       Yes         Is the inspection result normal?       Yes       Yes         YES       >> Inspection End.       NO       >> Repair the ADAS control unit ground circuit.       SIDE RADAR LH       Important of the ADAS control unit ground circuit.       SIDE RADAR LH : Diagnosis Procedure       Important of the ADAS control unit ground circuit.         SIDE RADAR LH : Diagnosis Procedure       Important of the ADAS control unit ground circuit.       Important of the ADAS control unit ground circuit.       Important of the ADAS control unit ground circuit.         SIDE RADAR LH : Diagnosis Procedure       Important of the ADAS control unit ground circuit.       Important of the ADAS control unit ground circuit.         SIDE RADAR LH : Diagnosis Procedure       Important of the ADAS control unit ground circuit.       Important of the ADAS control unit ground circuit.         Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".       Important of the ADAS control unit ground circuit.				000 0011	lootor arra gre	, and a	
Connector       Terminal       Ground       Ground </td <td colspan="2">ADAS control unit</td> <td></td> <td></td> <td>Continuity</td>	ADAS control unit				Continuity		
M148       1       Yes         Is the inspection result normal?       YES       >> Inspection End.         NO       >> Repair the ADAS control unit ground circuit.       SIDE RADAR LH         SIDE RADAR LH : Diagnosis Procedure       INFOID:00000012731522         Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".       Infoid: 000000012731522	Connector	Tern	erminal Ground				
YES >> Inspection Fesult normal? YES >> Inspection End. NO >> Repair the ADAS control unit ground circuit. SIDE RADAR LH SIDE RADAR LH : Diagnosis Procedure Regarding Wiring Diagram information, refer to <u>DAS-43</u> , "Wiring Diagram".	M148		1		Yes		Yes
NO >> Repair the ADAS control unit ground circuit. SIDE RADAR LH SIDE RADAR LH : Diagnosis Procedure Regarding Wiring Diagram information, refer to <u>DAS-43, "Wiring Diagram"</u> .	YES >> Inspection	<u>. normal ?</u> i End					
SIDE RADAR LH SIDE RADAR LH : Diagnosis Procedure Regarding Wiring Diagram information, refer to <u>DAS-43, "Wiring Diagram"</u> .	NO >> Repair the	ADAS control unit gr	round circuit.				
SIDE RADAR LH : Diagnosis Procedure	SIDE RADAR LF	ł					
Regarding Wiring Diagram information, refer to <u>DAS-43, "Wiring Diagram"</u> .	SIDE RADAR LH	: Diagnosis Proc	cedure				INFOID:000000012731522
Regarding Wiring Diagram information, refer to <u>DAS-43, "Wiring Diagram"</u> .		-					
1 augusting many plagram mornation, for to <u>brite to, winnig plagram</u> .	Regarding Wiring Diac	aram information refe	er to DAS-43	"Wirina F	)iagram"		
					<u></u> .		
I.CHECK FUSES	1.CHECK FUSES						

Check that the following fuse is not blown:

## POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Signal name	Fuse No.
Ignition power supply	30 (10 A)

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

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.

Terminal			Condition		
(+)		(-)	Condition	Voltage (Approx.)	
Side radar LH			lapition switch		
Connector	Terminal	Ground	Ignition Switch		
B35	5	Giodila	OFF	0 V	
			ON	Battery voltage	

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 connector and ground.

Side ra	adar LH		Continuity
Connector	Terminal	Ground	Continuity
B35	8	*	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair the side radar LH ground circuit.

#### SIDE RADAR RH

### SIDE RADAR RH : Diagnosis Procedure

INFOID:000000012731523

Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".

## 1.CHECK FUSES

Check that the following fuse is not blown:

Signal name	Fuse No.
Ignition power supply	30 (10 A)

#### Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect the side radar RH connector.

3. Check voltage between side radar RH harness connector and ground.
## POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

(				Condition		
<b>A</b> 1 ·	+)	(-)			Voltage	
Side ra Connector	adar RH Terminal		-i	gnition switch	(Approx.)	
D105	F	Ground		OFF	0 V	
B105	5			ON	Battery voltage	
YES >> GO TO NO >> Repair CHECK GROU	3. the side radar ND CIRCUIT etween side rad	RH power supp lar RH harness	ly circuit. connector and (	ground.		
	Side radar RH					
Connector		Terminal			Continuity	
		3		Ground		
B105		8			Yes	
			10 TO. WINNER	Diautani		
Theck if any of the	S. following fuses	are blown:	to to, wining t	Diagram		
Dheck if any of the	5. following fuses Signal name	are blown:		Fuse	No.	
Dheck if any of the	5. following fuses Signal name Ignition power sup	are blown:		Fuse 31	No. 0	
I. CHECK FUSES         Check if any of the         s the inspection re         YES         YES         NO         S. CHECK DISTAI         Check voltage betw	5. following fuses Signal name Ignition power sup esult normal? O 2. Ce the blown fus NCE SENSOR ween distance s	are blown: ply se after repairing POWER SUPPL sensor harness o	g the affected ci _Y CIRCUIT connector and g	Fuse Fuse 30 rcuit if a fuse is blo ground.	No. 0 own.	
I. CHECK FUSES         Check if any of the         s the inspection re         YES       >> GO TO         NO       >> Replace         2. CHECK DISTAI         Check voltage betw	5. following fuses Signal name Ignition power sup sult normal? O 2. ce the blown fus NCE SENSOR ween distance s Term (+)	are blown: ply se after repairing POWER SUPPL sensor harness of inal	g the affected ci _Y CIRCUIT connector and g	Fuse Fuse 30 rcuit if a fuse is blo ground.	No. 0 Dwn.	
I. CHECK FUSES         Check if any of the         s the inspection re         YES         YES         YES         CHECK DISTAI         Check voltage betw         Dist	5. following fuses Signal name Ignition power sup esult normal? O 2. Ce the blown fus NCE SENSOR ween distance s Term (+) ance sensor	are blown: ply se after repairing POWER SUPPL sensor harness of inal	g the affected ci _Y CIRCUIT connector and g (-)	Fuse 30 rcuit if a fuse is blo ground. Condition	Voltage (Approx.)	
I. CHECK FUSES Check if any of the S the inspection re YES >> GO T( NO >> Replace CHECK DISTAN Check voltage betw	5. following fuses Signal name Ignition power sup esult normal? 0 2. ce the blown fus NCE SENSOR ween distance sensor (+) ance sensor Term	are blown:	g the affected ci _Y CIRCUIT connector and g	Fuse Fuse 30 rcuit if a fuse is blo ground. - Condition Ignition switch	No. 0 Dwn. 	
CHECK FUSES Check if any of the  Sthe inspection re YES >> GO TC NO >> Replac CHECK DISTAI Check voltage betv Dist Connector E21	5. following fuses Signal name Ignition power sup esult normal? O 2. ce the blown fus NCE SENSOR ween distance s Term (+) ance sensor Term	are blown:	g the affected ci _Y CIRCUIT connector and g 	Fuse Fuse 30 rcuit if a fuse is blo ground. Condition Ignition switch OFF	No. 0 0 0 0 0 0 0 0 Voltage (Approx.)	
CHECK FUSES Check if any of the Sthe inspection re YES >> GO TC NO >> Replac CHECK DISTAI Check voltage betv Dist Connector E21	5. following fuses Signal name Ignition power sup sult normal? O 2. ce the blown fus NCE SENSOR ween distance s Term (+) ance sensor Term	are blown:	g the affected ci _Y CIRCUIT connector and g 	Fuse Fuse 30 rcuit if a fuse is blo ground. Condition Ignition switch OFF	No. 0 own. voltage (Approx.) 0 V	

Revision: September 2015

2. Disconnect the distance sensor connector.

# POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### 3. Check for continuity between distance sensor harness connector and ground.

Distanc	e sensor		Continuity
Connector Terminal		Ground	Continuity
E21	8		Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair the distance sensor ground circuit.

R	IGHT/LEFT SWITCH	IING SIGNAL CIRCU	ЛТ
< DTC/CIRCUIT DIAGNO	SIS >	[DRIVE	R ASSISTANCE SYSTEM]
<b>RIGHT/LEFT SWIT</b>	CHING SIGNAL C	IRCUIT	
Diagnosis Procedure			INFOID:000000012742359
Regarding Wiring Diagram	information, refer to DAS-4	3. "Wiring Diagram".	
1.CHECK CONNECTOR			
<ol> <li>Turn the ignition switch</li> <li>Check the terminals ar nector side).</li> <li><u>Is the inspection result norr</u> YES &gt;&gt; GO TO 2.</li> </ol>	n OFF. Ind connectors of the side ra <u>mal?</u>	idar RH for damage, bend	and short (unit side and con-
NO >> Repair the term 2.CHECK CONTINUITY (	ninal or connector. )F RIGHT/LEFT SWITCHIN	NG SIGNAL CIRCUIT	
<ol> <li>Disconnect side radar</li> <li>Check continuity between</li> </ol>	RH connector. een side radar RH harness	connector and ground.	
Side ra	adar RH		Continuity
Connector	Terminal	Ground	Conundity
B105	3		Yes
YES >> Inspection End NO >> Repair harness	l. s or connector.		
			Ę

#### < DTC/CIRCUIT DIAGNOSIS >

# WARNING SYSTEM SWITCH CIRCUIT

#### Diagnosis Procedure

INFOID:000000012421671

[DRIVER ASSISTANCE SYSTEM]

Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".

# 1. CHECK WARNING SYSTEM SWITCH SIGNAL INPUT

- 1. Turn the ignition switch ON.
- 2. Check voltage between ADAS control unit harness connector and ground.

	Terminals				
(+)		(-)	(-)		
ADAS co	ADAS control unit		Warning systems switch	(Approx.)	
Connector	Terminal	Ground	Warning Systems Switch		
M149	M140 11		Pressed	0 V	
IVI 140	11		Released	Battery voltage	

#### Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

NO >> GO TO 2.

2. CHECK WARNING SYSTEM SWITCH

- 1. Turn ignition switch OFF.
- 2. Remove warning system switch.

3. Check warning system switch. Refer to <u>DAS-113</u>, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the warning system switch. Refer to DAS-126, "Removal and Installation".

#### ${f 3}.$ CHECK WARNING SYSTEM SWITCH GROUND CIRCUIT

Check continuity between warning system switch harness connector and ground.

Warning sy	vstem switch		Continuity
Connector Terminal		Ground	Continuity
M255	2	*	Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

**4.**CHECK WARNING SYSTEM SWITCH SIGNAL INPUT CIRCUIT FOR OPEN

- 1. Disconnect the ADAS control unit connector.
- 2. Check continuity between the ADAS control unit harness connector and warning system switch harness connector.

ADAS co	ontrol unit	Warning sy	stem switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M148	11	M255	1	Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harness or connector.

 ${f 5}.$ CHECK WARNING SYSTEM SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

# WARNING SYSTEM SWITCH CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [DRIVER ASSISTANCE SYSTEM]

Check continuity between the ADAS control unit harness connector and ground. А ADAS control unit Continuity Connector Terminal Ground В M148 11 No Is the inspection result normal? YES >> Replace the ADAS control unit. Refer to DAS-121, "Removal and Installation". С NO >> Repair the harness or connector. Component Inspection INFOID:000000012421672 D 1. CHECK WARNING SYSTEM SWITCH Check continuity of warning system switch. Е Warning system switch Continuity Terminals Condition F When warning system switch is pressed Yes 2 1 When warning system switch is released No Is the inspection result normal? YES >> Inspection End. NO >> Replace the warning system switch. Refer to DAS-126, "Removal and Installation". Н Κ L Μ Ν DAS Ρ

## WARNING SYSTEMS ON INDICATOR CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# WARNING SYSTEMS ON INDICATOR CIRCUIT

#### Diagnosis Procedure

INFOID:000000012421673

[DRIVER ASSISTANCE SYSTEM]

Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".

# 1. CHECK WARNING SYSTEM ON INDICATOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect warning system switch harness connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between warning system switch harness connector and ground.

(·	+)	(-)	Voltage
Warning system switch			(Approx.)
Connector	Terminal	Ground	
M255	5		Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harness or connector.

# 2. CHECK WARNING SYSTEMS ON INDICATOR SIGNAL FOR OPEN

1. Turn ignition switch OFF.

2. Disconnect the ADAS control unit harness connector.

3. Check continuity between the ADAS control unit harness connector and warning system switch harness connector.

ADAS c	ontrol unit	Warning sy	stem switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M148	17	M255	6	Yes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

# $\mathbf{3}$ . CHECK WARNING SYSTEMS ON INDICATOR SIGNAL CIRCUIT FOR SHORT

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

ADAS co	ontrol unit		Continuity	
Connector Terminal		Ground	Continuity	
M148	17		No	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness or connector.

**4.**CHECK WARNING SYSTEMS ON INDICATOR

Check the warning systems ON indicator. Refer to DAS-115. "Component Inspection".

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u>.

NO >> Replace warning system switch. <u>DAS-126, "Removal and Installation"</u>.

#### WARNING SYSTEMS ON INDICATOR CIRCUIT GNOSIS > [DRIVER ASSISTANCE SYSTEM]

# < DTC/CIRCUIT DIAGNOSIS >

# **Component Inspection**

INFOID:000000012421674

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# 1. CHECK WARNING SYSTEMS ON INDICATOR

Apply battery voltage to warning system switch terminals 3 and 5, and then check if the warning system ON indicator illuminates.

Terminals         Condition         Warning system switch ON indicator           5         6         When the battery voltage is applied         On           Is the inspection result normal?         When the battery voltage is not applied         Off           YES         >> Inspection End.         NO         >> Replace the warning system switch. Refer to DAS-126. "Removal and Installation".			Warning system switch	
(*)       (*)       Constant       Product of the induction of the inductin of the inductina of the induction of the i	Tern	ninals	Condition	Warning system switch ON indicator
5       6       When the battery voltage is not applied       On         Is the inspection result normal?       Is a hypection of the battery voltage is not applied       Off         YS       >> Inspection result.       NO       >> Replace the warning system switch. Refer to DAS-126, "Removal and Installation".	(+)	(-)		
When the battery voltage is not applied         Off           Is the inspection result normal?         YES         >> Inspection End.           NO         >> Replace the warning system switch. Refer to DAS-126, "Removal and Installation".	5	6	When the battery voltage is applied	On
Is the inspection result normal? YES >> Inspection End. NO >> Replace the warning system switch. Refer to <u>DAS-126. "Removal and Installation"</u> .			When the battery voltage is not applied	Off
YES >> Inspection End. NO >> Replace the warning system switch. Refer to <u>DAS-126, "Removal and Installation"</u> .	Is the inspe	ction result	t normal?	
	YES >> NO >>	Inspection Replace the	n End. he warning system switch. Refer to <u>DAS-126, "R</u>	emoval and Installation".
				-

#### < DTC/CIRCUIT DIAGNOSIS >

# WARNING BUZZER CIRCUIT

# Component Function Check

# **1.**CHECK WARNING BUZZER

- 1. Turn the ignition switch ON.
- 2. Select "ICC BUZZER" in "Active Test" of "LASER/RADAR" using CONSULT.
- 3. Check the warning system buzzer operation.

#### Does the warning system buzzer sound?

- YES >> Inspection End.
- NO >> Refer to DAS-116, "Diagnosis Procedure".

# **Diagnosis** Procedure

INFOID:000000012421676

INFOID:000000012421675

Regarding Wiring Diagram information, refer to DAS-43, "Wiring Diagram".

# 1. CHECK WARNING SYSTEM BUZZER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect warning system buzzer connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between warning system buzzer harness connector and ground.

	Terminals		
(	+)	(-)	Voltage
Warning system buzzer			(Approx.)
Connector	Terminal	Ground	
M149	1		Battery voltage
	10		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harness or connector.

# 2. CHECK WARNING SYSTEM BUZZER CONTROL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the ADAS control unit harness connector.
- 3. Check continuity between the ADAS control unit harness connector and warning system buzzer harness connector.

ADAS co	ADAS control unit		Warning system buzzer	
Connector	Terminal	Connector	Terminal	Continuity
M148	24	M149	2	Yes

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

ADAS control unit			Continuity
Connector	Terminal	Ground	Continuity
M148	24		No

Is the inspection result normal?

YES >> Replace warning system buzzer switch. Refer to <u>DAS-127. "Removal and Installation"</u>.

NO >> Repair or replace harness or connector.

# [DRIVER ASSISTANCE SYSTEM]

# SYMPTOM DIAGNOSIS DRIVER ASSISTANCE SYSTEM SYMPTOMS

# Symptom Table

INFOID:000000012421679

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Symptom	Confirmation item		Inspection item/Reference page
FCW/FEB/BSW indicators do	All of driver assistance indicators do not illuminate.		System cannot be turned ON/ OFF using the integral switch. Refer to <u>DAS-118, "Description"</u> .
not murminate.	Other information display is not illuminated.		Combination meter. Refer to <u>MWI-19, "Description"</u> .
FEB/FCW/BSW warning display	Information display is functioning normally.		ADAS control unit. Refer to <u>DAS-32, "DTC Index"</u> .
does not illuminate (Buzzer is functioning normally)	Information display is not functioning normally.		Perform On Board Diagnosis of Combination meter. Refer to <u>MWI-19, "Description"</u> .
FEB/FCW/BSW warning buzzer is not sounding (Warning display is functioning normally)	FEB/FCW/BSW warning buzzer does not sound.		Chime does not sound. Refer to <u>DAS-116, "Component</u> <u>Function Check"</u> .
FCW/FEB is not activated	FCW and FEB are not acti-	System misidentifies a vehicle even though there is no vehicle ahead.	Perform radar alignment. Refer to <u>BRC-217, "Descrip-</u>
	System misidentifies a vehicle in the next lane.		tion".

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# SYSTEM SETTINGS CANNOT BE TURNED ON/OFF IN VEHICLE INFORMATION DISPLAY

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

# SYSTEM SETTINGS CANNOT BE TURNED ON/OFF IN VEHICLE INFOR-MATION DISPLAY

# Description

INFOID:000000012421680

The system setting cannot be turned ON/OFF in the combination meter information display using the steering switch.

# Diagnosis Procedure

INFOID:000000012421681

1. CHECK DRIVER ASSISTANCE SYSTEM SETTING

1. Ignition On.

2. Check that the driver assistance system setting can be turned ON/OFF in the combination meter information display using the steering switch.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK STEERING SWITCH CIRCUIT

Check the steering switch. Refer to <u>MWI-71, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

**3.**CHECK STEERING SWITCH RESISTANCE

Check the steering switch resistance. Refer to MWI-71, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-84, "Removal and Installation"</u>.

NO >> Replace steering switch. Refer to <u>AV-73, "Removal and Installation"</u>.

# SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

# < SYMPTOM DIAGNOSIS > [DRIVER ASSISTANCE SYSTEM] SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

Description	INFOID:000000012421682	A
The switch does not turn ON <ul> <li>The driver assistance system does not turn On when the warning system switch is pressed.</li> </ul>		В
<ul><li>The switch does not turn OFF</li><li>The driver assistance system does not turn Off when the warning system switch is pressed.</li></ul>		С
Diagnosis Procedure	INFOID:000000012421683	
1. CHECK WARNING SYSTEM SWITCH CIRCUIT		D
Check the warning system switch circuit. Refer to <u>DAS-112, "Diagnosis Procedure"</u> . Is the inspection result normal?		E
YES >> GO TO 2. NO >> Repair or replace harness or connector. <b>2.</b> CHECK WARNING SYSTEM SWITCH		F
Check the warning system switch. Refer to <u>DAS-113, "Component Inspection"</u> . <u>Is the inspection result normal?</u> YES >> Replace the ADAS control unit. Refer to <u>DAS-121, "Removal and Installation"</u> .		G
NO >> Replace the warning system switch. Refer to DAS-126, "Removal and Installation"		Н

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# NORMAL OPERATING CONDITION

## Description

PRECAUTIONS FOR FORWARD COLLISION WARNING (FCW)

- The Forward Collision Warning system is designed to warn the driver before a collision, but will not avoid a collision. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- The radar sensor does not detect the following objects:
- Pedestrians, animals, or obstacles in the roadway.
- Oncoming vehicles.Crossing vehicles.
- The Forward Collision Warning system does not function when a vehicle ahead is a narrow vehicle, such as a motorcycle.
- The radar sensor may not detect a vehicle ahead in the following conditions:
- Snow or heavy rain.
- Dirt, ice, snow or other material covering the radar sensor.
- Interference by other radar sources.
- Snow or road spray from traveling vehicles is splashed.
- Driving in a tunnel.
- The radar sensor may not detect a vehicle when the vehicle ahead is being towed.
- When the distance to the vehicle ahead is too close, the beam of the radar sensor is obstructed.
- The radar sensor may not detect a vehicle when driving on a steep downhill slope or on roads with sharp curves.
- Excessive noise will interfere with the warning tone sound, and it may not be heard.

#### PRECAUTIONS FOR BLIND SPOT WARNING

- The Blind Spot Warning 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 Blind Spot Warning system.
- The Blind Spot Warning system may not provide the warning or the control for vehicles that pass through the detection zone quickly.
- Excessive noise (for example, 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 Blind Spot Warning 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 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 is 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.

[DRIVER ASSISTANCE SYSTEM]

# REMOVAL AND INSTALLATION ADAS CONTROL UNIT

Removal and Installation

#### REMOVAL

#### NOTE:

Before replacing ADAS control unit, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to <u>DAS-60</u>, "<u>Description</u>".

- 1. Remove glove box. Refer to IP-24, "Removal and Installation".
- 2. Remove screws from ADAS control unit (1) bracket.



3.	Disconnect harness connector from ADAS control unit and remove ADAS control unit.	ŀ
INS	STALLATION	
Ins	tallation is in the reverse order of removal.	
CA Be wh	Sure to perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" ien replacing ADAS control unit. Refer to <u>DAS-60, "Description"</u> .	I
Be DA	sure to perform "Configuration (ADAS control unit)" when replacing ADAS control unit. Refer to <u>S-61, "Description"</u> .	U
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# DISTANCE SENSOR

**Exploded View** 

INFOID:000000012421687

[DRIVER ASSISTANCE SYSTEM]



4. Distance sensor harness connector 5. Clip

## **Removal and Installation**

INFOID:000000012421688

Refer to INSTALLATION

Α.

#### REMOVAL

- 1. Remove front bumper fascia. Refer to EXT-16, "Exploded View".
- 2. Disconnect harness connector from distance sensor.
- Remove bolts and remove distance sensor from distance sensor bracket.
   CAUTION:
   Do not drop or shock distance sensor.
- 4. If necessary, remove bolts and remove distance sensor bracket from front bumper reinforcement.

#### INSTALLATION

<sup>↓</sup> Front

## **DISTANCE SENSOR**

#### < REMOVAL AND INSTALLATION >

specification in sequence shown.

Distance sensor

bracket bolts

#### [DRIVER ASSISTANCE SYSTEM]

1. Install distance sensor bolts finger-tight, then tighten to specification in sequence shown.





3. Install remaining components in the reverse order of removal.

: 10.0 N·m (1.0 kg-m, 7 ft-lb)

#### **CAUTION:**

- · Always perform distance sensor alignment and check operation after removal, installation, or replacement of distance sensor. Refer to DAS-64, "Description".
- Do not touch distance sensor face.
- Do not drop or shock distance sensor.
- Make sure distance sensor harness is installed without any twists.

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# SIDE RADAR

Exploded View

INFOID:000000012568967



- Rear fender (LH)
   Rear fender (RH)
- Side radar (LH)
   LH side
- 3. Side radar (RH)
- B. RH side

## <⊐ Front

## Removal and Installation

#### REMOVAL

- 1. Remove rear bumper fascia. Refer to EXT-20, "Exploded View".
- 2. Disconnect harness connector from side radar.
- 3. Remove nuts and remove side radar.

#### INSTALLATION

Installation is in the reverse order of removal.

#### CAUTION:

Perform side radar action test after side radar installation is complete. Refer to <u>DAS-73, "BSW :</u> <u>Description"</u>

#### Do not use side radar if lens has flaws.

NOTE:

Do not touch side radar lens and keep lens area clean.

INFOID:000000012568968

# BSW INDICATOR

#### Removal and Installation

#### REMOVAL

- 1. Remove the front door finisher. Refer to <u>INT-15, "Removal and Installation"</u>.
- 2. Release the door mirror corner finisher using suitable tool. Refer to MIR-22, "Exploded View".
- 3. Disconnect the harness connector (A), release the harness clip and remove the door mirror corner finisher (1).
- 4. Remove screws and the blind spot warning indicator (2).



INSTALLATION Installation is in the reverse order of removal. А

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INFOID:000000012421690

# WARNING SYSTEMS SWITCH

# **Exploded View**

INFOID:000000012421693



- Instrument lower panel LH 8. (if equipped)
  - 11. VDC OFF switch

equipped)

INFOID:000000012421694

#### REMOVAL

7.

10. Sport mode switch

**Removal and Installation** 

- 1. Remove instrument lower panel LH. Refer to IP-23, "Removal and Installation".
- 2. Remove screws and upper switch carrier, then remove screws and lower switch carrier.
- 3. Release pawls using suitable tool, then remove warning systems switch from the lower switch carrier. (): Pawl



**INSTALLATION** Installation is in the reverse order of removal.

## WARNING SYSTEMS BUZZER

## < REMOVAL AND INSTALLATION >

WARNING SYSTEMS BUZZER

# **Exploded View**

INFOID:000000012421695

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[DRIVER ASSISTANCE SYSTEM]



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## < PRECAUTION >

# PRECAUTION PRECAUTIONS

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

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

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, 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 the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

#### Precaution for Work

INFOID:000000012421705

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

# PRECAUTIONS

# [CHASSIS CONTROL]

INFOID:000000012421706

INFOID:000000012421707

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# **Revision: September 2015**

# Precautions for Harness Repair

< PRECAUTION >

NOTE:

line are lost.

- Solder the repaired area and wrap tape around the soldered area. NOTE:
  - A fray of twisted lines must be within 110 mm (4.33 in).

Bypass connection is never allowed at the repaired area.





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

## Precautions for Chassis control

- Do not disassemble the chassis control module.
- Do not reuse if the chassis control module has been dropped.
- · Do not perform ACTIVE TEST while driving the vehicle.
- · Slight vibrations are felt on the brake pedal and the operation noises occur, when Active Trace Control and Κ Active Ride Control function operates. This is not a malfunction because it is caused by the functions that are normally operated.
- Tachometer will rise and engine noise may be noticeable during Active Engine Brake function operation. This is not a malfunction because it is caused by the function that is normally operated.
- Active Trace Control, Active Ride Control and Active Engine Brake are not always activated in any driving conditions.

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# < PREPARATION > PREPARATION

# PREPARATION

# Special Service Tool

INFOID:000000012421708

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description
 (J-46534) Trim Tool Set	AWJIA0483ZZ	Removing trim components

# **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION **COMPONENT PARTS**

**Component Parts Location** 

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No.	Component parts	Function
1.	Steering angle sensor	BRC-14, "System Description"
2.	Data link connector	LAN-29, "CAN COMMUNICATION SYSTEM : System Description"
3.	Combination meter	MWI-8, "METER SYSTEM : System Description"

E Rear of battery

**Revision: September 2015** 

Front of engine compartment LH

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# **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

## [CHASSIS CONTROL]

No.	Component parts	Function
4.	Vehicle information display	MWI-15, "INFORMATION DISPLAY : System Description"
5.	Chassis control module	DAS-132. "Chassis Control Module"
6.	ABS actuator and electric unit (control unit)	BRC-14, "System Description"
7.	Engine control module	EC-31, "ENGINE CONTROL SYSTEM : System Description"
8.	Transmission control module	TM-31, "CVT CONTROL SYSTEM : System Description"

## Chassis Control Module

Chassis control module controls the following systems based on the signals from each sensor, switch, and control unit:

- Active engine brake
- Active ride control
- Active trace control



INFOID:000000012421710

## System Description - Chassis Control

- · Chassis control to integrally control the driving system was adopted.
- Chassis control module inputs the necessary information for control from CAN communication and each switch and integrally controls each system. Refer to the following table for systems controlled and input/output signals.

System	Reference page
Active Engine Brake	DAS-133. "System Description - Active Engine Brake"
Active Ride Control	DAS-134. "System Description - Active Ride Control"
Active Trace Control	DAS-134, "System Description - Active Trace Control"

#### SYSTEM DIAGRAM



# System Description - Active Engine Brake

INFOID:000000012421712

Active Engine Brake function can be switched ON/OFF through the "Chassis Control" settings on the vehicle <sup>K</sup> information display.

 Assist at corners - to lessen the workload of adjusting speed with brake pedal operations at corners. Active Engine Brake function adds small amount of deceleration by controlling the CVT gear ratio depending on the steering input and various sensors. This benefits to easier traceability at corners.



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#### < SYSTEM DESCRIPTION >

balance.

Assist at breaking - To enhance braking feel, Active Engine Brake adds deceleration by shifting the CVT gear ratio to lower side depending on the driver's brake pedal operation.

System Description - Active Ride Control

• Brake control - Enhances ride comfort by restraining upper body movement with small amount of brake control when driving on bumpy roads.

# System Description - Active Trace Control

Active Trace Control function controls the braking utilizing the ABS actuator and electric unit (control unit), depending on cornering condition calculated from driver's steering input and plural sensors. Active Trace Control function is aimed to enhance traceability at corners and smooth the vehicle movement to provide confident driving.

The Active Ride Control function can be turned ON/OFF by turning the VDC OFF switch ON/OFF.

· Engine control - Enhances handling by adding/subtracting engine torque in an effort to control the front and rear wheel load balance.

· Engine control - Enhances ride comfort by adding/subtracting engine torque in an effort to control the front and rear wheel load



[CHASSIS CONTROL]

INFOID:000000012421713

Pitch motion Pitch from contro Engine torque control ALOIA0210GE



INFOID:000000012421714







#### < SYSTEM DESCRIPTION >

Active Trace Control function can be switched ON/OFF through the "Chassis Control" settings on the vehicle information display. When the Active Trace Control is selected OFF, some functions will be kept ON to assist driver (for example, avoidance condition).

When the VDC OFF switch is used to turn OFF the VDC system, the Active Trace Control system is also completely turned OFF.

· Steady cornering - The change of forward and lateral acceleration is smoothened by applying the necessary amount of brake pressure.

 Transient steering input - Reduces lag of yaw rate against steering operation.

· Acceleration at corners - Restrains understeer by applying the necessary amount of brake pressure to the inner wheels.

· Quick lane change - achieves stable vehicle behavior at quick steering operation by applying the necessary amount of brake pressure to the appropriate wheels.

 When chassis control module detects an error in the chassis control system architecture (including other system components), the master warning lamp turns ON and an interrupt is displayed on the information display of the combination meter. Please check the DTCs and investigate the cause of error.

**DAS-135** 









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#### < SYSTEM DESCRIPTION >

DTC	Vehicle condition
C1B92-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control</li> <li>Active Engine Brake</li> </ul>
C1B93-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> <li>Active Engine Brake</li> </ul>
C1B94-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>
C1B95-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (brake)</li> </ul>
C1B99-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control</li> <li>Active Engine Brake</li> </ul>
C1BA0-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (brake)</li> </ul>
C1BA2-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>
C1BA5-00	Normal control
C1BAB-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>
C1BB2-00	
C1BB3-00	Active Trace Control
C1BB4-00	Active Ride Control
C1BB5-00	Active Engine Brake
C1BB6-00	Normal control
C1BB7-00	
C1BB8-00	The following functions are suspended:
C1BB9-00	Active Trace Control     Active Ride Control
C1BBA-00	Active Engine Brake
C1BBB-00	
C1BBC-00	Normal control
C1BBD-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control</li> <li>Active Engine Brake</li> </ul>
C1BC0-00	
C1BC1-00	The following functions are suspended:
C1BC2-00	Active Trace Control     Active Ride Control
C1BC3-00	1
C1BC4-00	The following function is suspended: • Active Ride Control (brake)
C1BC5-00	The following function is suspended: • Active Trace Control

#### < SYSTEM DESCRIPTION >

Vehicle condition	
The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (brake)</li> </ul>	- A
The following functions are suspended:	В
Active Trace Control     Active Ride Control	
Active Engine Brake	C
Normal control	- 0
The following functions are suspended: • Active Trace Control • Active Ride Control (brake) • Active Engine Brake	D
The following functions are suspended:	- F
<ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>	
The following functions are suspended:	_
Active Trace Control     Active Ride Control	F
Active Engine Brake	
The following function is suspended: • Active Ride Control	G
	Vehicle condition         The following functions are suspended:         • Active Ride Control (brake)         The following functions are suspended:         • Active Ride Control         • Active Engine Brake         Normal control         The following functions are suspended:         • Active Trace Control         • Active Ride Control (brake)         • Active Ride Control (brake)         • Active Ride Control (brake)         • Active Ride Control (congine)         The following functions are suspended:         • Active Trace Control         • Active Trace Control         • Active Ride Control (engine)         The following functions are suspended:         • Active Ride Control (engine)         The following functions are suspended:         • Active Ride Control         • Active Ride

# **INFORMATION DISPLAY (COMBINATION METER)**

# INFORMATION DISPLAY (COMBINATION METER) : Chassis Control Display

INFOID:000000012421716

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#### DESIGN/PURPOSE

- The warning message is displayed on the vehicle information display when chassis control module detects an error in the chassis control system architecture. Please check the DTCs and investigate the cause of error.
- Each chassis control system information is displayed on the vehicle information display.

#### Warning Message

Design	Warning Message
_	Chassis Control System Error See Owner's Manual

#### System Information

Design	Description	
Chassis Control	Active Engine Brake inactive. Active Ride Control inactive. Active Trace Control inactive.	N DAS
Chassis Control	Active Engine Brake (assist at corners). Active Trace Control is active. (Steering angle is less than the specified angle).	

#### < SYSTEM DESCRIPTION >

#### [CHASSIS CONTROL]

Design	Description
Chassis Control	Active Engine Brake (assist at corner). Active Trace Control assist is active. (Steering angle is the specified angle or more in the leftward direction).
Chassis Control	Active Engine Brake (assist at corner). Active Trace Control assist is active. (Steering angle is the specified angle or more in the rightward direction).
Chassis Control	Active Ride Control is active (assist).

Indicator operating

- Active Engine Brake: Refer to <u>DAS-133</u>. "System Description Active Engine Brake".
  Active Ride Control: Refer to <u>DAS-134</u>, "System Description Active Ride Control".
  Active Trace Control: Refer to <u>DAS-134</u>, "System Description Active Trace Control".

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## < SYSTEM DESCRIPTION > HANDLING PRECAUTION

# Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)

	R
CHASSIS CONTROL	D
• Chassis Control will not provide all the necessary controls to replace driver intervention. It is not designed to prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times.	С
• Chassis Control is primarily intended for use on well-developed freeways or highways. It may not perform satisfactorily in certain roads, weather or driving conditions.	
<ul> <li>Using Chassis Control under some conditions of road, corner or severe weather could lead to an unexpected system operation. In such conditions, driver needs to correct the vehicle's direction with driver's steering operation to avoid accidents.</li> </ul>	D
<ul> <li>When Chassis Control is operating, avoid excessive or sudden steering maneuvers. Otherwise, you could lose control of the vehicle.</li> </ul>	Е
<ul> <li>Engine Brake Control is designed to enhance braking feel and traceability at corners.</li> <li>Active Ride Control is designed to enhance handling and drive comfort.</li> </ul>	
<ul> <li>Active Trace Control is designed to enhance traceability at corners and smooth vehicle movement for more confident driving.</li> </ul>	F
Chassis Control may not function properly under the following conditions:	
- During bad weather (rain, tog, snow, wind, etc.).	G
- When driving on winding or uneven roads.	
- When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).	Н
<ul> <li>When the vehicle is equipped with non-original steering parts or suspension parts.</li> <li>The functions of Chassis Control may or may not operate properly under the following conditions:</li> </ul>	
<ul> <li>On roads covered with water, dirt or snow, etc.</li> <li>On roads where there are sharp our yes.</li> </ul>	
- On roads where there are sharp curves.	
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#### **DIAGNOSIS SYSTEM (CHASSIS CONTROL MODULE)** [CHASSIS CONTROL]

#### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (CHASSIS CONTROL MODULE)

#### **CONSULT** Function

INFOID:000000012421718

#### **APPLICATION ITEM**

CONSULT can display each diagnostic item using the diagnostic test modes as follows.

Mode	Function description	
ECU identification	Parts number of chassis control module can be read.	
Self Diagnostic Result	Self-diagnostic results and freeze frame data can be read and erased quickly.*1	
Data Monitor	Input/Output data in chassis control module can be read.	
Active Test	Send the drive signal from CONSULT to the actuator. The operation check can be performed.	
Re/programming, Configuration	<ul> <li>Read and save the vehicle specification (TYPE ID).</li> <li>Write the vehicle specification (TYPE ID) when replacing Chassis Control Module.</li> </ul>	

<sup>\*</sup>1: The following diagnosis information is erased by erasing.

DTC

Freeze frame data (FFD)

#### ECU IDENTIFICATION Chassis control module part number can be read.

#### SELF DIAGNOSTIC RESULT Refer to DAS-151, "DTC Index".

When "CRNT" is displayed on "self-diagnosis result" • The system is presently malfunctioning.

When "PAST" is displayed on "self-diagnosis result"

· System malfunction in the past is detected, but the system is presently normal.

#### Freeze frame data (FFD)

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

Item name	Indication/Unit	Display item
Odometer/Trip meter	km	Total mileage (Odometer value) of the moment a particular.
DTC LOCAL CODE	_	DTC code is displayed but not used.
CAN DIAG PERMIS CONDITION	Off / On	Displays CAN network diagnosis status.
BRAKE SWITCH 1	Off / On	Displays brake switch operating status (Off: close / On: open).
BRAKE SWITCH 2	Off / On	Displays brake switch operating status (Off: open / On: close).
ABS	NORMAL / ABNOR	Displays ABS function status.
TCS	NORMAL / ABNOR	Displays TCS function status.
VDC	NORMAL / ABNOR	Displays VDC function status.
VEHICLE SPEED	km	Displays the vehicle speed.
FR WHEEL SPEED	rpm	Displays the rotational speed of front RH tire.
FL WHEEL SPEED	rpm	Displays the rotational speed of front LH tire.
RR WHEEL SPEED	rpm	Displays the rotational speed of rear RH tire.
RL WHEEL SPEED	rpm	Displays the rotational speed of rear LH tire.
STEERING ANG SENSOR	deg	Displays the steering angle from the steering angle sensor.
SIDE G SENSOR	G	Displays the side G.
DECEL G SENSOR	G	Displays the decel G.
YAW RATE SENSOR	deg/s	Displays the yaw rate.
THRTL OPENING	%	Displays the electric throttle position.
PRESS SENSOR	bar	Displays the brake fluid pressure.

**Revision: September 2015** 

< SYSTEM DESCRIPTION >

[CHASSIS CONTROL]

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# 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.

	ltem	Description
	[Unit]	
IGN VOLT	[V]	Displays the ignition power supply voltage.
CONTROL MODULE MALF	[Off / On]	Displays chassis control module malfunction.
CAN DIAG STATUS	[Off / On]	Displays CAN network diagnosis status.
VEHICLE SPEED	[km/m]	Displays the vehicle speed.
FR WHEEL SPEED	[rpm]	Displays the rotational speed of front RH tire.
FL WHEEL SPEED	[rpm]	Displays the rotational speed of front LH tire.
RR WHEEL SPEED	[rpm]	Displays the rotational speed of rear RH tire.
RL WHEEL SPEED	[rpm]	Displays the rotational speed of rear LH tire.
STEERING ANG SENSOR	[deg]	Displays the steering angle from the steering angle sensor.
DECEL G SENSOR	[G]	Displays the decel G.
SIDE G SENSOR	[G]	Displays the side G.
YAW RATE SENSOR	[deg/s]	Displays the yaw rate.
ACCELE PEDAL POSITION	[%]	Displays the accelerator pedal position.
THROTTLE CONTROL	[NORMAL / INCORR / PREV / IN- POSSI]	Displays the electric throttle status.
BRAKE SWITCH 2	[Off / On]	Displays brake switch operating status (Off: close / On: open).
BRAKE SWITCH 1	[Off / On]	Displays brake switch operating status (Off: open / On: close).
STOP LAMP SW	[INACT / ACT]	Displays the stop lamp switch status.
PRESS SENSOR	[bar]	Displays the brake fluid pressure.
ABS	[NORMAL / ABNOR]	Displays ABS function status.
ABS MALF	[NORMAL / ABNOR]	Displays ABS function status.
EBD	[NORMAL / ABNOR]	Displays EBD function status.
TCS	[NORMAL / ABNOR]	Displays TCS function status.
TCS MALF	[NORMAL / ABNOR]	Displays TCS function status.
VDC	[NORMAL / ABNOR]	Displays VDC function status.
VDC MALF	[NORMAL / ABNOR]	Displays VDC function status.
VDC OFF SWITCH	[Off / On]	Displays VDC OFF switch status.
DRV TRQ CTRL MODE	[INITIAL / NORMAL / STOP 1 / STOP 2 / LIMIT 1 / PROHIBI]	Displays the status of correction to slightly increase/decrease the drive torque.
DRV TRQ CTRL PERMIS 1	[NO PER / PERMIS]	Displays the permission status (basic requirement) of correction to slightly increase/decrease drive torque.
DRV TRQ CTRL PERMIS 2	[NO PER / PERMIS]	Displays the permission status (system requirement) of correction to slightly increase/decrease drive torque.
DRV TRQ CTRL STOP	[REQ / NO REQ]	Displays the stop request status of correction to slightly increase/ decrease drive torque.
DRV TRQ CTRL PROHIBIT	[REQ / NO REQ]	Displays the prohibition request status of correction to slightly in- crease/decrease drive torque.
AEB	[Off / On]	Displays the Active Engine Brake (corner) function operating sta- tus
ATC 1	[Off / On]	Displays active trace control function operating status.
ATC 2	[Off / On]	Displays active trace control function operating status.
ATC 3	[Off / On]	Displays active trace control function operating status.

#### < SYSTEM DESCRIPTION >

[CHASSIS CONTROL]

	Item [Unit]	Description
ATC 4	[Off / On]	Displays active trace control function operating status.
ATC 5	[Off / On]	Displays active trace control function operating status.
BRAKE HOLD	[INACT / ACT / RELEA]	Displays the status of Hill Start Assist function.
FL TIRE DISP	[DEF / 1]	Displays tire status.
FR TIRE DISP	[DEF / 1]	Displays tire status.
RL TIRE DISP	[DEF / 1]	Displays tire status.
RR TIRE DISP	[DEF / 1]	Displays tire status.
VEHICLE DISP	[Off / On]	Displays Active Ride Control (brake) activation status.
INTERRUPT DISP	[NOREQ / HOLD1 / HOLD2 / HDC]	Displays the interruption status.
TURN DISP	[NSTEER / LEFT / RIGHT]	Displays the turn status.
BRAKE HOLD DISP	[INACT / ACT / RELEA]	Displays the brake hold status.
ATC DISP	[Off / On]	Displays Active Trace Control status.
ARC BRAKE DISP	[Off / On]	Displays the status of Active Ride Control (brake).
HDC DISP	[Off / On]	Displays the Hill Descent Control.
AEB CVT PERMIT	[Off / On]	Displays the CVT authorized state for Active Engine Brake.
AEB STATUS	[Off / On]	Displays the setting status of Active Engine Brake function.
AEB COMMAND 1	[0.0000]	Displays the relative command value of Active Engine Brake.
AEB SLIP RATE	[%]	Displays slip ratio of Active Engine Brake.
ATC SETTING	[Off / On]	Displays the setting status of Active Trace Control function by steering switch.
AEB SETTING	[Off / On]	Displays the setting status of Active Engine Brake function by steering switch.
ARC BRAKE	[Off / On]	Displays the Active Ride Control function status.

#### ACTIVE TEST

The active test is used to determine and identify details of a malfunction, based on self-diagnosis test results and data obtained in the DATA MONITOR. In response to instructions from CONSULT, instead of those from chassis control module on the vehicle, a drive signal is sent to the actuator to check its operation.

#### **CAUTION:**

• Never perform ACTIVE TEST while driving the vehicle.

Always bleed air from brake system before active test.

#### Never perform active test when system is malfunctioning.

#### NOTE:

- When active test is performed while depressing the brake pedal, the brake pedal depressing stroke may change. This is not a malfunction.
- During an active test, sometimes a chassis control warning is displayed and the master warning lamp illuminates on the information display in the combination meter; however, this is not a malfunction.

Test item	Operation	Description
BRAKE ACTUATOR 1 MODE 1	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 1 MODE 2	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 1 MODE 3	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 2 MODE 1	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 2 MODE 2	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 2 MODE 3	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 3 MODE 1	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 3 MODE 2	Start	Controls brake fluid pressure.
BRAKE ACTUATOR 3 MODE 3	Start	Controls brake fluid pressure.

#### < SYSTEM DESCRIPTION >

[CHASSIS CONTROL]

Test item	Operation	Description	٨
MASTER WARNING ACTIVE	On	If touching "On" with the master warning lamp not illuminated, the master warning lamp illuminates. Stops in approximately 1 minute.	A
	Off	The master warning lamp turns OFF. (vehicle in normal state)	D
	On	Displays the front LH tire on the information display in the combination meter.	D
	Off	Does not display the front LH tire on the information display in the combina- tion meter.	С
	On	Displays the front RH tire on the information display in the combination meter.	D
FR TIRE DISP	Off	Does not display the front RH tire on the information display in the combi- nation meter.	D
	On	Displays the rear LH tire on the information display in the combination meter.	E
RE TIRE DISF	Off	Does not display the rear LH tire on the information display in the combina- tion meter.	_
	On	Displays the rear RH tire on the information display in the combination meter.	F
IN TINE DISP	Off	Does not display the rear RH tire on the information display in the combina- tion meter.	G
	NO DISP	Does not display the turning status on the information display in the combi- nation meter.	
TURN DISP	LH	Displays the LH turning status on the information display in the combination meter.	Η
	RH	Displays the RH turning status on the information display in the combination meter.	
	ROUND	Displayed but not used.	
	On	Displays active trace control function active status on the information display in the combination meter.	J
AICTDISP	Off	Displays active trace control function inactive status on the information display in the combination meter.	
ATC 2 DISP	On	Displays active trace control function active status on the information dis- play in the combination meter.	K
	Off	Displays active trace control function inactive status on the information dis- play in the combination meter.	L
	On	Displays Hill Descent Control active status on the information display on the combination meter.	
	Off	Displays Hill Descent Control inactive status on the information display on the combination meter.	M
	INACT	Displays inactive status of controls on the information display on the com- bination meter.	Ν
	READY	Displays ready status of Hill Start Assist on the information display on the combination meter.	
BRARE HOLD DISI	ACTIVE	Displays active status of Hill Start Assist on the information display on the combination meter.	DAS
	ERROR	Displays inactive status of controls on the information display on the com- bination meter.	Р
	On	Displays Active Engine Brake (corner) active status on the information display in the combination meter.	
	Off	Displays Active Engine Brake (corner) inactive status on the information display in the combination meter.	

#### < SYSTEM DESCRIPTION >

[CHASSIS CONTROL]

Test item	Operation	Description
VEHICLE DISP	On	Displays Active Ride Control (brake) active status on the information display in the combination meter.
	Off	Displays Active Ride Control (brake) inactive status on the information display in the combination meter.
INTERRUPT DISP	NO REQ	Displays inactive status of controls on the information display in the combi- nation meter.
	READY	Displays ready status of Hill Start Assist on the information display in the combination meter.
	ACTIVE	Displays active status of Hill Start Assist on the information display in the combination meter.
	HDC	Displays Hill Descent Control active status on the information display in the combination meter.
ATC 3 DISP	On	Displays active trace control function active status on the information display in the combination meter.
	Off	Displays active trace control function inactive status on the information display in the combination meter.

# **RE/PROGRAMMING, CONFIGURATION**

Configuration includes the following functions.

Fun	ction	Description
	Before replacing ECU	Allows the reading of vehicle specification (Type ID) written in Chassis Control Module to store the specification in CONSULT.
	After replacing ECU	Allows the writing of vehicle information (Type ID) stored in CONSULT into the Chassis Control Module.
Manual Configuration		Allows the writing of vehicle specification (Type ID) into the Chassis Control Module by hand.

#### **CAUTION:**

Use "Manual Configuration" only when "TYPE ID" of Chassis Control Module cannot be read.
# ECU DIAGNOSIS INFORMATION CHASSIS CONTROL MODULE

### **Reference Value**

#### CONSULT DATA MONITOR STANDARD VALUE

#### NOTE:

С 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	Reference values in normal operation
IGN VOLT	Ignition switch ON.	10 – 16 V
	When chassis control module is normal.	Off
	When chassis control module malfunction is detected.	On
CAN DIAG STATUS	When diagnosis of CAN communication malfunction is detected.	Off
	When diagnosis of CAN communication is normal.	On
	Vehicle Stopped.	0 km/h (0 MPH)
VEHICLE SPEED	Driving*	Almost same reading as speedometer (within $\pm 10\%$ ).
	Vehicle stopped.	0 rpm
FR WHEEL SPEED	Driving <sup>*</sup>	Increases according to vehicle speed.
	Vehicle stopped.	0 rpm
FL WHEEL SPEED	Driving <sup>*</sup>	Increases according to vehicle speed.
	Vehicle stopped.	0 rpm
RR WHEEL SPEED	Driving <sup>*</sup>	Increases according to vehicle speed.
	Vehicle stopped.	0 rpm
RL WHEEL SPEED	Driving <sup>*</sup>	Increases according to vehicle speed.
	When driving straight.	0±3.5 deg.
STEERING ANG SENSOR	When steering wheel is steered to RH by 90°.	Approx. +90 deg.
	When steering wheel is steered to LH by 90°.	Approx. –90 deg.
	Vehicle stopped.	Approx. 0 G.
DECEL G SENSOR	When during acceleration.	Positive value.
	When during deceleration.	Negative value.
	Vehicle stopped.	Approx. 0 G.
SIDE G SENSOR	When right turn.	Negative value.
	When left turn.	Positive value.
	Vehicle stopped.	Approx. 0 deg/s.
YAW RATE SENSOR	When right turn.	Negative value.
	When left turn.	Positive value.
	When accelerator pedal is released.	0%
	When accelerator pedal is depressed.	0 - 100%

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#### < ECU DIAGNOSIS INFORMATION >

### [CHASSIS CONTROL]

Monitor item	Condition	Reference values in normal operation
	When electric throttle control actuator is normal.	NORMAL
	When the electric throttle control actuator does not achieve the requirement (measured value is inaccurate).	INCORR
THROTTLE CONTROL	When the electric throttle control actuator does not achieve the requirement (temporary prevention).	PREV
	When the electric throttle control actuator does not achieve the requirement (impossible).	IMPOSSI
	When brake pedal is not depressed.	Off
BRARE SWITCH 2	When brake pedal is depressed.	On
BRAKE SWITCH 1	When brake pedal is depressed.	Off
BRARE SWITCHT	When brake pedal is not depressed.	On
	When brake pedal is not depressed.	INACT
STOP LAWF SW	When brake pedal is depressed.	ACT
	When brake pedal is not depressed.	Approx. 0 bar
PRESS SENSOR	when brake pedal is depressed.	0 – 255 bar
	When ABS function is normal.	NORMAL
ABS	When ABS function malfunction is detected.	ABNOR
	When ABS function is normal.	NORMAL
ABS MALF	When ABS function malfunction is detected.	ABNOR
500	When EBD function is normal.	NORMAL
ERD	When EBD function malfunction is detected.	ABNOR
	When TCS function is normal.	NORMAL
ICS	When TCS function malfunction is detected.	ABNOR
	When TCS function is normal.	NORMAL
ICS MALF	When TCS function malfunction is detected.	ABNOR
	When VDC function is normal.	NORMAL
VDC	When VDC function malfunction is detected.	ABNOR
	When VDC function is normal.	NORMAL
VDC MALF	When VDC function malfunction is detected.	ABNOR
	When VDC OFF switch is OFF.	Off
VDC OFF SWITCH	When VDC OFF switch is ON.	On
	When correction coefficients are initialized.	INITIAL
	When correction is executed.	NORMAL
	When correction is stopped (computing is impossible).	STOP 1
DRV TRQ CTRL MODE	When correction is stopped (computing is possible).	STOP 2
	When correction is limited.	LIMIT 1
	When correction is prohibited.	PROHIBI
	When correction is permitted (basic requirement).	PERMIS
DRV TRQ CTRL PERMIS 1	When correction is not permitted (basic requirement).	NO PER
	When correction is permitted (system requirement).	PERMIS
DRV TRQ CTRL PERMIS 2	When correction is not permitted (system requirement).	NO PER
	When correction is requested to stop.	REQ
DRV TRQ CTRL STOP	When correction is not requested to stop.	NO REQ
	When prohibition of correction is requested.	REQ
DRV TRQ CTRL PROHIBIT	When prohibition of correction is not requested.	NO REQ

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#### < ECU DIAGNOSIS INFORMATION >

### [CHASSIS CONTROL]

Monitor item	Condition	Reference values in normal operation	A
ΔEB	When Active Engine Brake (corner) function is active.	On	А
	When Active Engine Brake (corner) function is inactive.	Off	
ATC 1	When active trace control function is inactive.	Off	В
AIC I	When active trace control function is active.	On	
	When active trace control function is inactive.	Off	
ATC 2	When active trace control function is active.	On	С
	When active trace control function is inactive.	Off	
AIC 5	When active trace control function is active.	On	D
	When active trace control function is inactive.	Off	
A10 4	When active trace control function is active.	On	
ATC 5	When active trace control function is inactive.	Off	E
ATC 5	When active trace control function is active.	On	
	When active ride control (brake control) function is inactive	Off	E
ARU DRARE	When active ride control (brake control) function is active	On	1
	When Hill Start Assist function is inactive.	INACT	
BRAKE HOLD	When Hill Start Assist function is ready.	ACT	G
	When Hill Start Assist function is active.	RELEA	
	When the front LH tire is not displayed on the information display in the combination meter.	DEF	Н
FL TIRE DISP	When the front LH tire is displayed on the information display in the combination meter.	1	
	When the front RH tire is not displayed on the information display in the combination meter.	DEF	
FR TIRE DISP	When the front RH tire is displayed on the information display in the combination meter.	1	J
	When the rear LH tire is not displayed on the information display in the combination meter.	DEF	
RE TIRE DISP	When the rear LH tire is displayed on the information display in the combination meter.	1	K
	When the rear RH tire is not displayed on the information display in the combination meter.	DEF	L
KK TIKE DISP	When the rear RH tire is displayed on the information display in the combination meter.	1	
	When active ride control (brake) effect is not displayed on the information display in the combination meter.	Off	M
	When active ride control (brake) effect is displayed on the in- formation display in the combination meter.	On	N
	When interrupt display is not displayed on the information display in the combination meter.	NOREQ	
	When Hill Start Assist function (ready) is displayed on the in- formation display in the combination meter.	HOLD1	DA
	When Hill Start Assist function (active) is displayed on the in- formation display in the combination meter.	HOLD2	P
	When Hill Descent Control function is displayed on the infor- mation display in the combination meter.	HDC	

#### < ECU DIAGNOSIS INFORMATION >

### [CHASSIS CONTROL]

Monitor item	Condition	Reference values in normal operation
	When the straight-ahead status is displayed on the informa- tion display in the combination meter.	N STEER
TURN DISP	When the left turning status is displayed on the information display in the combination meter.	LEFT
	When the right turning status is displayed on the information display in the combination meter.	RIGHT
	When Hill Start Assist function is not displayed on the informa- tion display in the combination meter.	INACT
BRAKE HOLD DISP	When Hill Start Assist function (ready) is displayed on the in- formation display in the combination meter.	ACT
	When Hill Start Assist function (active) is displayed on the in- formation display in the combination meter.	RELEA
	When the activation of Active Trace Control is not displayed on the information display on the combination meter.	Off
	When the activation of Active Trace Control is displayed on the information display on the combination meter.	On
	When Active Ride Control (Brake) function is not displayed on the information display in the combination meter.	Off
ARC BRARE DISP	When Active Ride Control (Brake) function is displayed on the information display in the combination meter.	On
	When Hill Descent Control function is not displayed on the in- formation display in the combination meter.	Off
	When Hill Descent Control function is displayed on the infor- mation display in the combination meter.	On
	When transaxle control is authorized.	On
AED OVT PERMIT	When transaxle control is not authorized.	Off
	When active engine brake function is ON.	On
ALD STATUS	When active engine brake function is OFF.	Off
	When active engine brake function is inactive.	0 – 0.1023 G
AEB COMMAND T	When active engine brake function is active.	0 G
	When slip ratio of active engine brake function is inactive.	0%
AED SLIP RATE	When slip ratio of active engine brake function is active	0 – 100%
	When active trace control function is ON by steering switch.	On
ATO SETTING	When active trace control function is OFF by steering switch	Off
	When active engine brake function is ON by steering switch.	On
	When active engine brake function is OFF by steering switch.	Off

\*: Check tire pressure under normal conditions.

**TERMINAL LAYOUT** 



PHYSICAL VALUES

#### < ECU DIAGNOSIS INFORMATION >

INFOID:000000012421720

Termi (Wire	inal No. e color)	Desci	ription	Condition		Value	A
+	-	Signal name	Input/Output			(Approx.)	
3 (P)	Ground	CAN low	_	_	_	_	В
4 (L)		CAN high			_	_	С
7 (W)	Ground	Chassis comm low			_	_	
8 (W)		Chassis comm high	_	_	_	_	D
10 (SB)		IGN	Input	Ignition switch ON		6.4 – 16 V	E
11 (L)	Ground	Chassis comm high	_	_	_	_	
12 (B)		Ground	_	Ignition	switch ON	0 V	F
19 (L)	Ground	Chassis comm high	_	_	_	_	G

# Fail-Safe (Chassis Control Module)

When a malfunction occurs in the chassis control module, the master warning lamp turns ON and an interrupt H is displayed on the information display of the combination meter.

DTC	Vehicle condition	
C1B92-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control</li> <li>Active Engine Brake</li> </ul>	J
C1B93-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine) • Active Engine Brake	K
C1B94-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>	L
C1B95-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (brake)</li> </ul>	M
C1B99-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control</li> <li>Active Engine Brake</li> </ul>	N
C1BA0-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (brake)</li> </ul>	DAS
C1BA2-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>	P
C1BA5-00	Normal control	
C1BAB-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (engine)</li> </ul>	

[CHASSIS CONTROL]

DTC	Vehicle condition
C1BB2-00	The following functions are supported:
C1BB3-00	Active Trace Control
C1BB4-00	Active Ride Control     Active Engine Brake
C1BB5-00	
C1BB6-00	Normal control
C1BB7-00	
C1BB8-00	The following functions are suspended:
C1BB9-00	Active Trace Control     Active Ride Control
C1BBA-00	Active Engine Brake
C1BBB-00	
C1BBC-00	Normal control
C1BBD-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
C1BC0-00	
C1BC1-00	The following functions are suspended:
C1BC2-00	Active Ride Control
C1BC3-00	
C1BC4-00	<ul><li>The following functions are suspended:</li><li>Active Ride Control (brake)</li></ul>
C1BC5-00	The following functions are suspended: <ul> <li>Active Trace Control</li> </ul>
C1BC6-00	The following functions are suspended: <ul> <li>Active Trace Control</li> <li>Active Ride Control (brake)</li> </ul>
U1A34-00	The following functions are suspended:
U1A35-00	Active Trace Control     Active Ride Control
U1A36-00	Active Engine Brake
U1A39-00	Normal control
U1A3B-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake) • Active Engine Brake
U1A42-00	The following functions are suspended:
U1A43-00	Active Trace Control     Active Ride Control (engine)
U1A48-00	The following functions are suspended:
U1A4A-00	Active Ride Control
U1A4B-00	Active Engine Brake
U1A4E-00	The following functions are suspended: <ul> <li>Active Ride Control</li> </ul>

# **DTC Inspection Priority Chart**

< ECU DIAGNOSIS INFORMATION >

INFOID:000000012421721

When multiple DTCs are displayed simultaneously, check them one by one according to the following priority list.

#### < ECU DIAGNOSIS INFORMATION >

[CHASSIS CONTROL]

Priority	Detected item (DTC)	А
1	U1000-00 CAN COMM CIRCUIT	
2	<ul> <li>U1A34-00 BRAKE CONTROL COMM</li> <li>U1A35-00 BRAKE CONTROL COMM</li> <li>U1A36-00 BCM/IPDM COMM</li> <li>U1A39-00 COMBINATION METER COMM</li> <li>U1A3B-00 TCM COMM</li> <li>U1A3F-00 AV COMM</li> <li>U1A42-00 STEERING ANGLE SENSOR COMM</li> <li>U1A43-00 STEERING ANGLE SENSOR COMM</li> <li>U1A48-00 ECM/HPCM COMM</li> <li>U1A48-00 CONTROL MODULE (CAN)</li> <li>U1A4E-00 ECM/HPCM COMM</li> <li>U1A4E-00 ECM/HPCM COMM</li> </ul>	B C D
3	C1BBD-00 VARIANT CODING	Ε
4	<ul> <li>C1B92-00 BRAKE CONTROL SYSTEM</li> <li>C1B93-00 ENGINE/HEV SYSTEM</li> <li>C1B94-00 TM SYSTEM</li> <li>C1BA0-00 ADAS/CHASSIS CTRL BRAKE SYS</li> <li>C1BA2-00 STEERING ANGLE SENSOR</li> <li>C1BA5-00 ADAS/CHASSIS CTRL ENGINE SYS</li> <li>C1BAB-00 STOP LAMP SW</li> <li>C1BC0-00 FR WHEEL SENSOR</li> <li>C1BC1-00 FL WHEEL SENSOR</li> <li>C1BC2-00 RR WHEEL SENSOR</li> <li>C1BC3-00 RL WHEEL SENSOR</li> <li>C1BC4-00 DECEL G SENSOR</li> <li>C1BC5-00 SIDE G SENSOR</li> </ul>	F G H
5	C1BC6-00 PRESSURE SENSOR     C1BB5-00 IGN POWER SUPPLY     C1BB6-00 IGN POWER SUPPLY	I
6	<ul> <li>C1B95-00 CONTROL MODULE</li> <li>C1B99-00 CONTROL MODULE</li> <li>C1BB2-00 CONTROL MODULE</li> <li>C1BB3-00 CONTROL MODULE</li> <li>C1BB4-00 CONTROL MODULE</li> <li>C1BB7-00 CONTROL MODULE</li> <li>C1BB8-00 CONTROL MODULE</li> <li>C1BB9-00 CONTROL MODULE</li> <li>C1BB4-00 CONTROL MODULE</li> <li>C1BB4-00 CONTROL MODULE</li> </ul>	J K L
	C1BBB-00 CONTROL MODULE     C1BBC-00 CONTROL MODULE	

# DTC Index

INFOID:000000012421722

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N	Refer to	Display item	DTC
	DAS-165, "DTC Description"	BRAKE CONTROL SYSTEM	C1B92-00
	DAS-167, "DTC Description"	ENGINE/HEV SYSTEM	C1B93-00
DF	DAS-169, "DTC Description"	TM SYSTEM	C1B94-00
	DAS-171, "DTC Description"	CONTROL MODULE	C1B95-00
P	DAS-172, "DTC Description"	CONTROL NODULE	C1B99-00
	DAS-173, "DTC Description"	ADAS/CHASSIS CTRL BRAKE SYS	C1BA0-00
	DAS-175, "DTC Description"	STEERING ANGLE SENSOR	C1BA2-00
	DAS-177, "DTC Description"	ADAS/CHASSIS CTRL ENGINE SYS	C1BA5-00
	DAS-178, "DTC Description"	STOP LAMP SW	C1BAB-00
	DAS-180, "DTC Description"	CONTROL MODULE	C1BB2-00

< ECU DIAGNOSIS INFORMATION >

### [CHASSIS CONTROL]

DTC	Display item	Refer to
C1BB3-00	CONTROL MODULE	DAS-181, "DTC Description"
C1BB4-00	CONTROL MODULE	DAS-182. "DTC Description"
C1BB5-00	IGN POWER SUPPLY	DAS-183. "DTC Description"
C1BB6-00	IGN POWER SUPPLY	DAS-185, "DTC Description"
C1BB7-00	CONTROL MODULE	DAS-187, "DTC Description"
C1BB8-00	CONTROL MODULE	DAS-188. "DTC Description"
C1BB9-00	CONTROL MODULE	DAS-189. "DTC Description"
C1BBA-00	CONTROL MODULE	DAS-190, "DTC Description"
C1BBB-00	CONTROL MODULE	DAS-191, "DTC Description"
C1BBC-00	CONTROL MODULE	DAS-192. "DTC Description"
C1BBD-00	VARIANT CODING	DAS-193. "DTC Description"
C1BC0-00	FR WHEEL SENSOR	DAS-194, "DTC Description"
C1BC1-00	FL WHEEL SENSOR	DAS-196. "DTC Description"
C1BC2-00	RR WHEEL SENSOR	DAS-198. "DTC Description"
C1BC3-00	RL WHEEL SENSOR	DAS-200, "DTC Description"
C1BC4-00	DECEL G SENSOR	DAS-202, "DTC Description"
C1BC5-00	SIDE G SENSOR	DAS-204. "DTC Description"
C1BC6-00	PRESSURE SENSOR	DAS-206. "DTC Description"
U1000-00	CAN COMMUNICATION	DAS-209, "DTC Description"
U1A34-00	BRAKE CONTROL COMM	DAS-209. "DTC Description"
U1A35-00	BRAKE CONTROL COMM	DAS-211, "DTC Description"
U1A36-00	BCM/IPDM COMM	DAS-213, "DTC Description"
U1A39-00	COMBINATION METER COMM	DAS-215, "DTC Description"
U1A3B-00	ТСМ СОММ	DAS-217. "DTC Description"
U1A42-00	STEERING ANGLE SENSOR COMM	DAS-219, "DTC Description"
U1A43-00	STEERING ANGLE SENSOR COMM	DAS-221, "DTC Description"
U1A48-00	ECM/HPCM COMM	DAS-223, "DTC Description"
U1A4A-00	CONTROL MODULE (CAN)	DAS-225, "DTC Description"
U1A4B-00	CONTROL MODULE (CAN)	DAS-226, "DTC Description"
U1A4E-00	ECM/HPCM COMM	DAS-227, "DTC Description"

# **CHASSIS CONTROL**

# [CHASSIS CONTROL]

# < WIRING DIAGRAM > WIRING DIAGRAM

# CHASSIS CONTROL

Wiring Diagram

А

INFOID:000000012421723



# **CHASSIS CONTROL**

### < WIRING DIAGRAM >

# [CHASSIS CONTROL]



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Signal Name	CAN-L	CAN-H	ITS CAN-L	ITS CAN-H	
Color of Wire	M	L	æ	L	
Terminal No.	3	4	9	2	

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### < WIRING DIAGRAM >



< WIRING DIAGRAM >

### [CHASSIS CONTROL]



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# **CHASSIS CONTROL**

### < WIRING DIAGRAM >







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< BASIC INSPECTION >	[CHASSIS CONTROL]
BASIC INSPECTION	
DIAGNOSIS AND REPAIR WORK FLOW	
Work Flow	INFOID:000000012421724
DETAILED FLOW	
1.INTERVIEW FROM THE CUSTOMER	
Clarify customer complaints before inspection. First of all, perform an inter <u>Work Sheet</u> " and reproduce the symptom as well as fully understand it. Asl carefully. Check symptoms by driving vehicle with customer, if necessary.	view utilizing <u>DAS-160, "Diagnostic</u> customer about his/her complaints
Customers are not professional. Never guess easily like "maybe "maybe the customer mentions this symptom".	the customer means that," or
>> GO TO 2.	
2. СНЕСК ЗУМРТОМ	
obtained by the interview. Also check that the symptom is not caused by <u>"Fail-Safe (Chassis Control Module)"</u> . CAUTION: When the symptom is caused by normal operation, fully inspect each standing of customer that the symptom is not caused by a malfunction	fail-safe mode. Refer to <u>DAS-149.</u> ch portion and obtain the under- on.
>> GO TO 3.	
<b>3.</b> PERFORM SELF-DIAGNOSIS	
With CONSULT <ol> <li>Perform "Self Diagnostic Result" of "CHASSIS CONTROL".</li> </ol>	
Is DTC detected?	
YES >> Record or print "Self Diagnostic Result" and freeze frame data NO >> Inspection End.	i (FFD). GO TO 4.
4.RECHECK THE SYMPTOM	
With CONSULT Perform DTC confirmation procedures for the malfunctioning system.	
If some DTCs are detected at the some time, determine the order for perfo <u>150, "DTC Inspection Priority Chart"</u> .	rming the diagnosis based on <u>DAS-</u>
Is DTC detected?	
YES >> GO 10 5.	

DIAGNOSIS AND REPAIR WORK FLOW

NO >> Check harness and connectors based on the information obtained by the interview. Refer to <u>DAS-</u> N <u>129, "Precautions for Harness Repair"</u>.

# 5. REPAIR OR REPLACE MALFUNCTIONING PARTS

- 1. Repair or replace malfunctioning parts.
- 2. Reconnect part or connector after repairing or replacing.
- 3. When DTC is detected, erase "Self Diagnostic Result" of "CHASSIS CONTROL".

#### >> GO TO 6.

6.FINAL CHECK

#### With CONSULT

- T. Check the reference value of "CHASSIS CONTROL".
- 2. Recheck the symptom and check that the symptom is not reproduced on the same conditions.

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Is the symptom reproduced?

YES >> GO TO 3. NO >> Inspection End.

# Diagnostic Work Sheet

INFOID:000000012421725

#### Description

- In general, customers have their own criteria for a symptom. Therefore, it is important to understand the symptom and status well enough by interviewing the customer about the symptom carefully. To systemize all the information for the diagnosis, prepare the interview sheet referring to the interview points.
- In some cases, multiple conditions that appear simultaneously may cause a DTC to be detected.

#### INTERVIEW SHEET SAMPLE

	Interview sheet					
Customer	MR/MS	Registration number		Initial year registration		
name		Vehicle type		VIN		
Storage date		Engine, Trac- tion motor		Mileage	km (	Mile)
		Does not opera	ate (			) function
		Warning lamp f	for (			) turns ON.
Symptom		□ Noise		Vibration		
		□ Other (				)
First occurrence		□ Recently □	] Other (			)
Frequency of occurrence		□ Always □	Under a certain condition	ns of 🛛 🗆 Som	netimes (	time(s)/day)
		□ Irrelevant				
Climate con-	Weather	□ Fine □ Clo	oud 🛛 Rain 🗠	ISnow □ Oth	ers (	)
ditions	Temperature	□ Hot □Warn	n 🗆 Cool 🛛 Cold	I 🗆 Tempera	ture [Approx.	°C ( °F)]
	Relative humidity	□ High	□ Moderate	□ Low		
Road conditions		□ Urban area □ Mountainous ro	□ Suburb area bad (uphill or downhill)	□ Highwa □ Rough	ly road	
Operating condition, etc.		□Irrelevant □When traction n □ During driving □ During deceler: □ During cornerir □ When steering	notor starts	ng idling ion □ At co e) : or to left)	onstant speed dr	iving
Other conditions						

# DIAGNOSIS AND REPAIR WORK FLOW

#### < BASIC INSPECTION >

### [CHASSIS CONTROL]

		li li	nterview sheet			
Customer	MR/MS	Registration number		Initial year registration		
name		Vehicle type		VIN		
Storage date		Engine, Trac- tion motor		Mileage	km (	Mile)
Vehicle equipme	ent					
Memo						

### ADDITIONAL SERVICE WHEN REPLACING CHASSIS CONTROL MODULE < BASIC INSPECTION > [CHASSIS CONTROL]

# ADDITIONAL SERVICE WHEN REPLACING CHASSIS CONTROL MOD-ULE

# Description

INFOID:000000012421726

When replaced the chassis control module, configuration of the chassis control module is required. Refer to <u>DAS-163, "Work Procedure"</u>.

CONFIGURATION (CHASSIS CONTROL MODULE)	
< BASIC INSPECTION > [CHASSIS CONTROL]	
CONFIGURATION (CHASSIS CONTROL MODULE)	Δ
Work Procedure	
<ul> <li>CAUTION:</li> <li>Use "Manual Configuration" only when "TYPE ID" of the chassis control module cannot be read.</li> <li>After configuration, turn the ignition switch from OFF to ON and check that the chassis control warning to information display of combination meter displays OFF after staying illuminated for approximately two seconds.</li> <li>If an error occurs during configuration, start over from the beginning.</li> </ul>	B
<b>1.</b> CHECKING TYPE ID (1)	D
Use FAST (service parts catalogue) to search the chassis control module of the applicable vehicle and find "Type ID".	
Is "Type ID" displayed?	Е
<ul> <li>YES &gt;&gt; Print out "Type ID" and GO TO 2.</li> <li>NO &gt;&gt; "Configuration" is not required for the chassis control module. Replace in the usual manner. Refer to <u>DAS-234</u>, "Removal and Installation".</li> </ul>	_
2.CHECKING TYPE ID (2)	F
<ul> <li>CONSULT Configuration</li> <li>Select "Before Replace ECU" of "Read/Write Configuration".</li> <li>Check that "Type ID" is displayed on the CONSULT screen.</li> </ul>	G
Is "Type ID" displayed?	
YES >> GO TO 3. NO >> GO TO 7.	Н
<b>3.</b> VERIFYING TYPE ID (1)	
CONSULT Configuration Compare a "Type ID" displayed on the CONSULT screen with the one searched by using FAST (service parts catalogue) to check that these "Type ID" agree with each other. <b>NOTE:</b> For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".	J
	V
>> GO TO 4.	Γ\.
BCONSULT Configuration Save "Type ID" on CONSULT.	L
>> GO TO 5.	M
5.REPLACING CHASSIS CONTROL MODULE (1)	
Replace the chassis control module. Refer to DAS-234, "Removal and Installation".	Ν
>> GO TO 6.	
6.writing (automatic writing)	)A
<ul> <li>CONSULT Configuration</li> <li>Select "After Replace ECU" of "Re/programming, Configuration" or that of "Read / Write Configuration".</li> <li>Select the "Type ID" agreeing with the one stored on CONSULT and the one searched by using FAST (service parts catalogue) to write the "Type ID" into the chassis control module.</li> <li>NOTE:</li> </ul>	Ρ
For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".	

>> GO TO 9.

**7.**REPLACING CHASSIS CONTROL MODULE (2)

# **CONFIGURATION (CHASSIS CONTROL MODULE)**

#### < BASIC INSPECTION >

Replace the chassis control module. Refer to DAS-234, "Removal and Installation".

>> GO TO 8.

**8.**WRITING (MANUAL WRITING)

#### CONSULT Configuration

- 1. Select "Manual Configuration".
- 2. Select the "Type ID" searched by using FAST (service parts catalogue) to write the "Type ID" into the chassis control module.

#### NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

>> GO TO 9.

# **9.**VERIFYING TYPE ID (2)

Compare "Type ID" written into the chassis control module with the one searched by using FAST (service parts catalogue) to check that these "Type ID" agree with each other.

#### NOTE:

For the "Type ID" searched by using FAST (service parts catalog), use the last five digits of the "Type ID".

#### >> GO TO 10.

# 10. CHECKING CHASSIS CONTROL WARNING

- 1. Turn the ignition switch OFF.
- Turn the ignition switch ON and check that the chassis control warning to information display of combination meter displays OFF after staying illuminated for approximately two seconds.
   CAUTION:

#### Never start the engine.

Is the inspection result normal?

YES >> GO TO 11.

NO >> Perform the "Self Diagnostic Result" of "CHASSIS CONTROL". Refer to <u>DAS-140</u>, "CONSULT <u>Function"</u>.

# 11.PERFORMING SUPPLEMENTARY WORK

- 1. Perform "Self Diagnostic Result" of all systems.
- 2. Erase "Self Diagnostic Result".

>> End of work.

# DTC/CIRCUIT DIAGNOSIS C1B92-00 BRAKE CONTROL SYSTEM

# DTC Description

# DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1B92-00	BRAKE CONTROL SYSTEM (Brake control system)	When a malfunction is detected in ABS actuator and electric unit (control unit) system.
<ul><li>POSSIBLE</li><li>ABS actual</li><li>Chassis comparison</li></ul>	CAUSE ator and electric unit (control u ontrol module	unit) system
FAIL-SAFE The followin • Active Rid • Active Tra- • Active Eng	g functions are suspended: e Control function ce Control function gine Brake function	
DTC CONF	FIRMATION PROCEDURE	
1.PRECON	DITIONING	
If "DTC CON and wait at I	NFIRMATION PROCEDURE" east 10 seconds before cond	has been previously conducted, always turn the ignition switch OFF ucting the next test.
>>	GO TO 2	
2.снески	DTC DETECTION	
With CON I. Turn the	ISULT e ignition switch OFF to ON.	
Be sure	e to wait of 10 seconds after	r turning ignition switch OFF or ON.
Is DTC "C1E	392-01" detected?	CHASSIS CONTROL .
YES >> NO-1 >> NO-2 >>	Proceed to <u>DAS-165, "Diagn</u> To check malfunction sympto Confirmation after repair: Ins	<u>osis Procedure"</u> . m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.
Diagnosis	s Procedure	INFOID:000000012421729
<b>1.</b> CHECK /	ABS ACTUATOR AND ELEC	TRIC UNIT (CONTROL UNIT)
With CON Perform "Se	NSULT If Diagnostic Result" of "ABS'	,
Is DTC dete	cted?	
YES >> NO >>	Check the DTC. Refer to <u>BR</u> GO TO 2.	C-57, "DTC Index".
2.PERFOR	RM SELF-DIAGNOSIS	
With COI Erase "S 2. Turn the 3. Turn the 4. Perform	NSULT Self Diagnostic Result" of "CH e ignition switch OFF and wai e ignition switch ON. I "All DTC Reading".	ASSIS CONTROL". t for 10 seconds or more.

Is DTC "C1B92", "U1000" or other DTC detected?

INFOID:000000012421728

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### C1B92-00 BRAKE CONTROL SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[CHASSIS CONTROL]

YES ("C1B92-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "<u>Removal and Installation</u>". YES ("U1000-00")>>Refer to <u>DAS-208</u>, "<u>Diagnosis Procedure</u>". YES (other DTC)>>Check the DTC.

YES (other DTC)>>Check the DTC.

NO >> Inspection End.

# C1B93-00 ENGINE/HEV SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >

# C1B93-00 ENGINE/HEV SYSTEM

# **DTC** Description

DTC DETECTION LOGIC

	Display Item	Malfunction detected condition
	(Trouble diagnosis content)	
C1B93-00	(Engine/HEV system)	When a malfunction is detected in ECM system.
POSSIBLE	CAUSE	
<ul> <li>Engine sys</li> <li>ECM</li> </ul>	stem	
Chassis co	ontrol module	
FAIL-SAFE		
The following	g functions are suspended:	
<ul> <li>Active Ride</li> <li>Active Trac</li> </ul>	ce Control function	
<ul> <li>Active Eng</li> </ul>	jine Brake function	
	IRMATION PROCEDURE	
I.PRECON	IDITIONING	
If "DTC CON and wait at le	IFIRMATION PROCEDURE" east 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF
>>	GO TO 2.	
2.CHECK [	DTC DETECTION	
1. Turn the	ignition switch OFF to ON.	
Be sure	to wait of 10 seconds after	turning ignition switch OFF or ON.
Is DTC "C1E	393-00" detected?	TASSIS CONTROL .
YES >>	Proceed to DAS-167, "Diagno	osis Procedure".
NO-1 >> NO-2 >>	To check malfunction sympton Confirmation after repair: Insr	n before repair: Refer to <u>GI-45, "Intermittent Incident"</u> .
Diagnosis		
		INFOID:000000012421731
<b>1.</b> CHECK E	ECM SYSTEM	
With CON	NSULT	
Perform "Sel	If Diagnostic Result <sup>®</sup> of "ENGI cted?	NE″.
YES >>	Check the DTC. Refer to EC-	96. "DTC Index".
NO >>	GO TO 2.	
2.PERFOR	M SELF-DIAGNOSIS	
	NSULT	
1. Erase "S 2. Turn the	Selt Diagnostic Result" of "CH genition switch OFF and wait	ASSIS CONTROL". for 10 seconds or more.
3. Turn the	ignition switch ON.	
4. Perform	"All DTC Reading". 893" "U1000" or other DTC de	atected?
YES ("C1B	93-00")>>Replace the chassi	s control module. Refer to DAS-234. "Removal and Installation"

# **DAS-167**

INFOID:000000012421730

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# C1B93-00 ENGINE/HEV SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[CHASSIS CONTROL]

YES ("U1000-00")>>Refer to <u>DAS-208</u>, "<u>Diagnosis Procedure</u>". YES (other DTC)>>Check the DTC.

NO >> Inspection End.

# **C1B94-00 TRANSMISSION SYSTEM**

#### < DTC/CIRCUIT DIAGNOSIS >

# C1B94-00 TRANSMISSION SYSTEM

# **DTC** Description

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	C
C1B94-00	TM SYSTEM (Transmission system)	When a malfunction is detected in transmission system.	
POSSIBLE  • Transmissi • TCM • Chassis co	CAUSE ion system		
FAIL-SAFE			
The following • Active Ride • Active Trace	g functions are suspended: e Control (engine) function ce Control function		F
DTC CONF	IRMATION PROCEDURE		C
1.PRECON	DITIONING		G
If "DTC CON and wait at le	IFIRMATION PROCEDURE" east 10 seconds before cond	has been previously conducted, always turn the ignition switch OFF ucting the next test.	F
>> <b>2.</b> снеск г	GO TO 2. DTC DETECTION		I
With CON 1. Turn the CAUTIC	ISULT ignition switch OFF to ON. IN:		J
Be sure 2. Perform Is DTC "C1E	to wait of 10 seconds after "Self Diagnostic Result" of "C 94-00" detected?	turning ignition switch OFF or ON. CHASSIS CONTROL".	k
YES >> NO-1 >> NO-2 >>	Proceed to <u>DAS-169, "Diagno</u> To check malfunction sympto Confirmation after repair: Insp	osis Procedure". m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	L
Diagnosis	Procedure	INFOID:000000012421733	
1.снеск т	RANSMISSION SYSTEM		N
With CON Perform "Sel	NSULT If Diagnostic Result" of "TRAN <u>cted?</u>	NSMISSION".	Ν
YES >> NO >>	Check the DTC. Refer to <u>TM-</u> GO TO 2.	63, "DTC Index".	DA
2.PERFOR	M SELF-DIAGNOSIS		
With CON 1. Erase "S 2. Turn the 3. Turn the 4. Perform <u>Is DTC "C1B</u> YES ("C1B	NSULT Self Diagnostic Result" of "CH i ignition switch OFF and wait ignition switch ON. "All DTC Reading". 394-00", "U1000-00" or other 94-00")>>Replace the chassi	ASSIS CONTROL". for 10 seconds or more. DTC detected?	F
YES ("U10	00-00")>>Refer to <u>DAS-208.</u>	'Diagnosis Procedure".	

#### **DAS-169**

[CHASSIS CONTROL]

INFOID:000000012421732

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[CHASSIS CONTROL]

YES (other DTC)>>Check the DTC. NO >> Inspection End.

# C1B95-00 CONTROL MODULE

# **DTC** Description

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	)
C1B95-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.	
<ul><li>POSSIBLE</li><li>Chassis control</li></ul>	CAUSE ontrol module		
FAIL-SAFE The followin • Active Tra • Active Rid	: ig functions are suspended: ice Control function le Control (brake) function		
DTC CONF	FIRMATION PROCEDURE		
1.PRECON	NDITIONING		
If "DTC CON and wait at I	NFIRMATION PROCEDURE" least 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF ucting the next test.	(
>>	GO TO 2.		
2.CHECK	DTC DETECTION		
With CON Turn the CAUTIO	NSULT e ignition switch OFF to ON.		
Be sure 2. Perform	e to wait of 10 seconds after "Self Diagnostic Result" of "C	turning ignition switch OFF or ON. CHASSIS CONTROL".	
YES >> NO-1 >> NO-2 >>	Proceed to <u>DAS-171, "Diagno</u> To check malfunction symptor Confirmation after repair: Insp	osis Procedure". m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	
Diagnosis	s Procedure	INFOID:000000012421735	
1.PERFOR	RM SELF-DIAGNOSIS		
With COI 1. Erase "S		ASSIS CONTROL".	
<ol> <li>Turn the</li> <li>Turn the</li> <li>Perform</li> </ol>	e ignition switch OFF and wait e ignition switch ON. າ "Self Diagnostic Result" of "C	for 10 seconds or more. CHASSIS CONTROL".	
Is DTC "C1E	<u>395" detected?</u>		
YES >> NO >>	Replace the chassis control m Inspection End.	noquie. Reter to <u>DAS-234, "Removal and Installation"</u> .	

INFOID:000000012421734

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# C1B99-00 CONTROL MODULE

# **DTC Description**

INFOID:000000012421736

[CHASSIS CONTROL]

#### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1B99-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.

#### POSSIBLE CAUSE

· Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Ride Control function
- Active Trace Control function
- Active Engine Brake function

#### DTC CONFIRMATION PROCEDURE

# 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

#### 2. CHECK DTC DETECTION

#### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1B99-00" detected?

- YES >> Proceed to DAS-172, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

#### **Diagnosis** Procedure

INFOID:000000012421737

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1B99" detected?

- YES >> Replace the chassis control module. Refer to <u>DAS-234</u>, "Removal and Installation".
- NO >> Inspection End.

#### C1BA0-00 ADAS/CHASSIS CONTROL BRAKE SYSTEM [CHASSIS CONTROL]

#### < DTC/CIRCUIT DIAGNOSIS >

# C1BA0-00 ADAS/CHASSIS CONTROL BRAKE SYSTEM

# **DTC** Description

INFOID:000000012421738

# DTC DETECTION LOGIC

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DTC DETE	CTION LOGIC		В
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С
C1BA0-00	ADAS/CHASSIS CTRL BRAKE SYS (ADAS/Chassis Control brake system)	• When receiving from ABS actuator and electric unit (control unit) that the value of the brake system signal transmitted from the chassis control module to ABS actuator and electric unit (control unit) is malfunctioning.	D
<ul><li>POSSIBLE</li><li>ABS actual</li><li>Chassis control</li></ul>	CAUSE ator and electric unit (control u ontrol module	nit)	E
FAIL-SAFE The followin • Active Tra • Active Rid	g functions are suspended: ce Control function e Control (brake) function		F
DTC CONF	FIRMATION PROCEDURE		G
1.PRECON	DITIONING		
If "DTC CON and wait at I	NFIRMATION PROCEDURE" east 10 seconds before cond	has been previously conducted, always turn the ignition switch OFF ucting the next test.	Η
>> 2 CHECKI	GO TO 2.		
1. Turn the CAUTIC Be sure	e ignition switch OFF to ON. ON: e to wait of 10 seconds after	turning ignition switch OFF or ON.	J
2. Perform	1 "Self Diagnostic Result" of "C BA0-00" and/or "C1BA7-00"de	CHASSIS CONTROL".	K
YES ("C1B YES ("C1B NO-1 >> NO-2 >>	A0-00")>>Proceed to <u>DAS-17</u> A0-00" and "C1BA7-00")>>Pe To check malfunction sympto Confirmation after repair: Insp	7 <u>3, "Diagnosis Procedure"</u> . erform "Self Diagnostic Result" of "ICC/ADAS". m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	L
Diagnosis	s Procedure	INFOID:000000012421739	M
1.снески	ABS ACTUATOR AND ELEC	TRIC UNIT (CONTROL UNIT) SYSTEM	N
With COI Perform "Se	NSULT If Diagnostic Result" of "ABS"		14
<u>Is DTC dete</u> YES >>	<u>cted?</u> Check the DTC, Refer to BR(	C-57 "DTC Index"	DA
NO >>	GO TO 2.		
2.PERFOR	RM SELF-DIAGNOSIS		Ρ
With COI Erase "S Turn the Turn the Evaluation of the With COI Erase "S Turn the Deform Is DTC "C1E	NSULT Self Diagnostic Result" of "CH e ignition switch OFF and wait e ignition switch ON. 1 "All DTC Reading". 3A0-00", "U1000-00" or other	ASSIS CONTROL". for 10 seconds or more. DTC detected?	

### C1BA0-00 ADAS/CHASSIS CONTROL BRAKE SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[CHASSIS CONTROL]

YES ("C1BA0-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "<u>Removal and Installation</u>". YES ("U1000-00")>>Refer to <u>DAS-208</u>, "<u>Diagnosis Procedure</u>".

YES (other DTC)>>Check the DTC.

NO >> Inspection End.

# **C1BA2-00 STEERING ANGLE SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

# C1BA2-00 STEERING ANGLE SENSOR

# **DTC Description**

### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С
C1BA2-00	STEERING ANGLE SENSOR (Steering angle sensor)	When a malfunction is detected in steering angle sensor system.	
POSSIBLE	CAUSE		D
<ul><li>Steering an</li><li>Chassis compared to the second second</li></ul>	ngle sensor ontrol module		
FAIL-SAFE			Ε
The following	g functions are suspended:		
<ul> <li>Active Ride</li> <li>Active Trace</li> </ul>	ce Control function		F
DTC CONF	IRMATION PROCEDURE		
1.PRECON	IDITIONING		G
If "DTC CON	FIRMATION PROCEDURE"	has been previously conducted, always turn the ignition switch OFF	0
and wait at le	east 10 seconds before condu	ucting the next test.	
~~~			Η
2 CHECK			
1. Turn the	e ignition switch OFF to ON.		
	DN: to wait of 10 seconds after	turning ignition switch OFF or ON	J
2. Perform	"Self Diagnostic Result" of "C	CHASSIS CONTROL".	
<u>Is DTC "C1E</u>	BA2-00" detected?		K
YES >>	Proceed to <u>DAS-175, "Diagno</u>	osis Procedure".	
NO-1 >>	Confirmation after repair: Insp	bection End.	
Diagnosis	Procedure	INFOID:000000012421741	L
1			
	STEERING ANGLE SENSOR	SYSTEM	Μ
With CON	NSULT		
Is DTC dete	cted?		Ν
YES >>	Check the DTC. Refer to BRC	<u>C-57, "DTC Index"</u> .	
NO >>	GO TO 2.		DA:
<b>Z</b> .PERFOR	M SELF-DIAGNOSIS		
With CON	NSULT		
2. Turn the	e ignition switch OFF and wait	for 10 seconds or more.	Ρ
3. Turn the	e ignition switch ON.		
4. Perform	All DTC Reading . 3A2-00" "U1000-00" or other l	DTC detected?	
YES ("C1B	A2-00")>>Replace the chassi	s control module. Refer to DAS-234, "Removal and Installation".	
YES ("U10 YES (other	00-00")>>Refer to <u>DAS-208, "</u> DTC)>>Check the DTC.	Diagnosis Procedure".	

**Revision: September 2015** 

# **DAS-175**

[CHASSIS CONTROL]

INFOID:000000012421740

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# C1BA2-00 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

#### C1BA5-00 ADAS/CHASSIS CONTROL ENGINE SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >

# C1BA5-00 ADAS/CHASSIS CONTROL ENGINE SYSTEM

# **DTC Description**

INFOID:000000012421742

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[CHASSIS CONTROL]

DTC DETECTION LOGIC			
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	
C1BA5-00	ADAS/CHASSIS CTRL ENGINE SYS (ADAS/Chassis control engine system)	<ul> <li>When receiving from ECM that the value of the engine system signal transmitted from the chassis control module to ECM is malfunctioning.</li> </ul>	
POSSIBLE Chassis Co	CAUSE ontrol Module		
TC CONF	IRMATION PROCEDURE		
1.PRECON	DITIONING		
If "DTC CON and wait at le	FIRMATION PROCEDURE" has be east 10 seconds before conducting	peen previously conducted, always turn the ignition switch OFF g the next test.	
>> ( <b>2</b> .check d	GO TO 2. DTC DETECTION		
With CON 1. Turn the CAUTIO	SULT ignition switch OFF to ON.		
2. Perform	to wait of 10 seconds after turn "Self Diagnostic Result" of "CHAS	ing ignition switch OFF or ON. SIS CONTROL".	
Is DTC "C1B	A5-00" detected?		
YES >> F NO-1 >> 7 NO-2 >> (	Proceed to <u>DAS-177, "Diagnosis F</u> To check malfunction symptom bet Confirmation after repair: Inspectic	<u>Procedure"</u> . fore repair: Refer to <u>GI-45, "Intermittent Incident"</u> . on End.	
Diagnosis	Procedure	INFCID:000000012421743	
<b>1</b> .CHECK A	DAS CONTROL UNIT SYSTEM		
With CON	ISULT f Diagnostic Result" of "ECM"		
Is DTC detec	<u>sted?</u>		
YES >> ( NO >> (	Check the DTC. Refer to <u>EC-96, "I</u> GO TO 2.	<u>DTC Index"</u> .	
2.PERFOR	M SELF-DIAGNOSIS		
With CON	ISULT		
<ol> <li>Erase "S</li> <li>Turn the</li> <li>Turn the</li> </ol>	Self Diagnostic Result" of "CHASSI ignition switch OFF and wait for 1 ignition switch ON.	S CONTROL". 0 seconds or more.	
4. Perform Is DTC "C1R	"All DTC Reading". A5-00" "U1000-00" or other DTC.	detected?	
YES ("C1BA YES ("U100 YES (other	A5-00")>>Replace the chassis cor )0-00")>>Refer to <u>DAS-208, "Diag</u> DTC)>>Check the DTC.	ntrol module. Refer to <u>DAS-234, "Removal and Installation"</u> . nosis Procedure".	

NO >> Inspection End.

### C1BAB-00 STOP LAMP SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

# C1BAB-00 STOP LAMP SWITCH

### DTC Description

INFOID:000000012421744

[CHASSIS CONTROL]

#### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BAB-00	STOP LAMP SW (Stop lamp switch)	When a malfunction is detected in stop lamp switch system.

#### POSSIBLE CAUSE

- · Stop lamp switch
- BCM
- Chassis Control Module

#### FAIL-SAFE

- The following functions are suspended:
- Active Ride Control (engine) function
- Active Trace Control function

#### DTC CONFIRMATION PROCEDURE

#### 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

### 2. CHECK DTC DETECTION

#### ()With CONSULT

Turn the ignition switch OFF to ON.

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BAB-00" detected?

- YES >> Proceed to DAS-178, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to <u>GI-45</u>, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

#### Diagnosis Procedure

INFOID:000000012421745

# 1. CHECK STOP LAMP SWITCH SYSTEM

#### With CONSULT

Perform "Self Diagnostic Result" of "BCM".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BCS-48, "DTC Index"</u> (with Intelligent Key) or <u>BCS-109, "DTC Index"</u> (without Intelligent Key).

NO >> GO TO 2.

### 2.PERFORM SELF-DIAGNOSIS

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "All DTC Reading".

Is DTC "C1BAB", "U1000-00" or other DTC detected?

YES ("C1BAB-00")>>Replace the chassis control module. Refer to DAS-234, "Removal and Installation".

### **DAS-178**

### **C1BAB-00 STOP LAMP SWITCH**

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< DTC/CIRCUIT DIAGNOSIS >				
YES ("U1000-00")>>Refer to <u>DAS-208</u> , " <u>Diagnosis Procedure</u> ". YES (other DTC)>>Check the DTC. NO >> Inspection End.				

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# C1BB2-00 CONTROL MODULE

### **DTC** Description

INFOID:000000012421746

[CHASSIS CONTROL]

#### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB2-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.

#### **POSSIBLE CAUSE**

· Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function
- Active Engine Brake function

#### DTC CONFIRMATION PROCEDURE

# 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

#### 2. CHECK DTC DETECTION

#### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BB2-00" detected?

- YES >> Proceed to DAS-180, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

#### **Diagnosis** Procedure

INFOID:000000012421747

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BB2-00" detected?

- YES >> Replace the chassis control module. Refer to <u>DAS-234</u>, "Removal and Installation".
- NO >> Inspection End.
## C1BB3-00 CONTROL MODULE

### < DTC/CIRCUIT DIAGNOSIS >

## C1BB3-00 CONTROL MODULE

# DTC Description

[CHASSIS CONTROL]

INFOID:000000012421748

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DTC DETE	CTION LOGIC		
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	(
C1BB3-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.	
POSSIBLE • Chassis co	CAUSE ontrol module		
FAIL-SAFE The followin • Active Tra • Active Rid • Active Eng	g functions are suspended: ce Control function e Control function gine Brake function		
DTC CONF	FIRMATION PROCEDURE		
1.PRECON	IDITIONING		
If "DTC CON and wait at I	NFIRMATION PROCEDURE" east 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF ucting the next test.	
>> 2 autoria	GO TO 2.		
With CON 1. Turn the CAUTIC Be sure 2 Perform	ISULI e ignition switch OFF to ON. DN: e to wait of 10 seconds after u "Self Diagnostic Result" of "C	turning ignition switch OFF or ON.	
Is DTC "C1E	BB3-00" detected?		
YES >> NO-1 >>	Proceed to <u>DAS-181, "Diagno</u>	osis Procedure". m before repair: Refer to GI-45, "Intermittent Incident"	
NO-2 >>	Confirmation after repair: Insp	pection End.	
Diagnosis	s Procedure	INFOID:000000012421749	
1.PERFOR	RM SELF-DIAGNOSIS		I
With COI Erase "S 2. Turn the 3. Turn the 4. Perform	NSULT Self Diagnostic Result" of "CH e ignition switch OFF and wait e ignition switch ON. n "Self Diagnostic Result" of "C	ASSIS CONTROL". for 10 seconds or more. CHASSIS CONTROL".	
Is DTC "C1E YES >>	<u>3B3-00" detected?</u> Replace the chassis control n	nodule. Refer to DAS-234, "Removal and Installation".	C
NO >>	Inspection End.		

### < DTC/CIRCUIT DIAGNOSIS >

## C1BB4-00 CONTROL MODULE

## **DTC Description**

INFOID:000000012421750

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB4-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.

#### POSSIBLE CAUSE

· Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function
- Active Engine Brake function

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BB4-00" detected?

- YES >> Proceed to DAS-182, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

### **Diagnosis** Procedure

INFOID:000000012421751

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BB4-00" detected?

- YES >> Replace the chassis control module. Refer to <u>DAS-234</u>, "Removal and Installation".
- NO >> Inspection End.

## C1BB5-00 IGNITION POWER SUPPLY

### < DTC/CIRCUIT DIAGNOSIS >

## C1BB5-00 IGNITION POWER SUPPLY

## **DTC Description**

INFOID:000000012421752

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

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DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB5-00	IGN POWER SUPPLY (Ignition power supply)	<ul> <li>Ignition power supply voltage of chassis control module is as shown below.</li> <li>Ignition power supply voltage: 6.4 V ≥ Ignition power supply voltage.</li> </ul>
POSSIBLE	CAUSE	
Harness of	r connector	
Fuse		
<ul> <li>Ignition po</li> <li>Battery</li> </ul>	wer supply system	
Chassis co	ontrol module	
FAIL-SAFE		
The following	q functions are suspended:	
<ul> <li>Active Trad</li> </ul>	ce Control function	
Active Ride	e Control function	
	IRMATION PROCEDURE	
1.PRECON	IDITIONING	
If "DTC CON	FIRMATION PROCEDURE"	has been previously conducted, always turn the ignition switch OFF
and wait at l	east 10 seconds before condu	ucting the next test.
>>	GO TO 2.	
2.CHECK	DTC DETECTION	
(P)With CON	ISULT	
1. Turn the	ignition switch OFF to ON.	
	)N: to wait of 10 seconds after	turning ignition switch OEE or ON
2. Perform	"Self Diagnostic Result" of "C	CHASSIS CONTROL".
<u>Is DTC "C1E</u>	BB5-00" detected?	
YES >>	Proceed to DAS-183, "Diagno	osis Procedure".
NO-1 >>	To check malfunction symptor	m before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >>	Confirmation after repair: Insp	pection End.
Diagnosis	Procedure	INFOID:000000012421753
Regarding V	viring Diagram information, re	ter to <u>DAS-153, "Wiring Diagram"</u> .
<b>1.</b> CHECK (	CONNECTOR	
1. Turn the	e ignition switch OFF.	
2. Disconn	ect chassis control module ha	arness connector M96.
3. Check the	he connector for disconnection	n or looseness.
4. UNECK [	ne pin terminals for damage o	
1⊑3 >> NO >>	Repair or replace error-detect	red parts, securely lock the harness connector, and GO TO 2
•		

2.PERFORM SELF-DIAGNOSIS (1)

## C1BB5-00 IGNITION POWER SUPPLY

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Connect chassis control module harness connector M96.
- 2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BB5-00" detected?

YES >> GO TO 3.

NO >> Inspection End.

3.CHECK FUSE

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.	
7P	Ignition power supply	30 (10A)	

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

**4.**CHECK POWER SUPPLY CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect chassis control module harness connector M96.
- 3. Check the voltage between chassis control module harness connector M96 terminal 10 and ground.

Chassis control module			Voltage
Connector	Terminal		voltage
M96	10	Ground	Approx. 0 V

#### 4. Turn the ignition switch ON

CAUTION: Never start the engine.

5. Check the voltage between chassis control module harness connector M96 terminal 10 and ground.

Chassis control module			Voltage	
Connector	Terminal		voltage	
M96	10	Ground	6.4 – 16 V	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector

#### **5.**CHECK CHASSIS CONTROL MODULE GROUND CIRCUIT

Check the continuity between chassis control module harness connector M96 terminal 12 and ground.

Chassis control module			Continuity
Connector	Terminal		Continuity
M96	12	Ground	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

## **C1BB6-00 IGNITION POWER SUPPLY**

### < DTC/CIRCUIT DIAGNOSIS >

## C1BB6-00 IGNITION POWER SUPPLY

## **DTC Description**

[CHASSIS CONTROL]

INFOID:000000012421754

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## DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition
C1BB6-00	IGNITION POWER SUPPLY (ignition power supply)	Ignition power supply voltage of chassis control module is as shown below. <ul> <li>Ignition power supply voltage: 16 V ≤ Ignition power supply voltage</li> </ul>
POSSIBLE	CAUSE	
Harness o	r connector	
<ul> <li>Fuse</li> <li>Ignition no</li> </ul>	wer supply system	
Battery	wer supply system	
<ul> <li>Chassis co</li> </ul>	ontrol module	
DTC CONF	IRMATION PROCEDURE	
1.PRECON	DITIONING	
If "DTC CON and wait at l	VFIRMATION PROCEDURE" east 10 seconds before cond	has been previously conducted, always turn the ignition switch OFF ucting the next test.
>>	GO TO 2.	
2.CHECK	DTC DETECTION	
With CON 1. Turn the CAUTIC	ISULT e ignition switch OFF to ON. DN:	
Be sure	e to wait of 10 seconds after	turning ignition switch OFF or ON.
Is DTC "C1F	Re-00" detected?	CHASSIS CONTROL .
YES >>	Proceed to DAS-185, "Diagno	osis Procedure".
NO-1 >> NO-2 >>	To check malfunction sympto Confirmation after repair: Insp	m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . Dection End.
Diagnosis	Procedure	INFOID:000000012421755
Regarding V	Viring Diagram information re	fer to DAS-153 "Wiring Diagram"
		ier to <u>DAS-135, Winny Diagram</u> .
1 Turn the		
2. Disconn	ect chassis control module ha	arness connector M96.
3. Check t	he connector for disconnectio	n or looseness.
4. Check in Is the inspect	tion result normal?	in loose connection with hamess connector.
YES >>	GO TO 2.	
NO >>	Repair or replace error-detec	ted parts, securely lock the harness connector, and GO TO 2.
2.PERFOR	M SELF-DIAGNOSIS (1)	
1. Connec	t chassis control module harn	ess connector M96.
2. Perform	"Self Diagnostic Result" of "C	CHASSIS CONTROL".
<u>IS DIC "C1E</u>		
	GO 10 3.	

## C1BB6-00 IGNITION POWER SUPPLY

#### < DTC/CIRCUIT DIAGNOSIS >

[CHASSIS CONTROL]

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
7P Ignition power supply		30 (10A)

#### Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

## **4.**CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect chassis control module harness connector M96.

3. Check the voltage between chassis control module harness connector M96 terminal 10 and ground.

Chassis control module			Voltage	
Connector	Terminal		voltage	
M96	10	Ground	Approx. 0 V	

 Turn the ignition switch ON CAUTION:

#### Never start the engine.

5. Check the voltage between chassis control module harness connector M96 terminal 10 and ground.

Chassis control module			Voltage	
Connector Terminal			voltage	
M96	10	Ground	6.4 – 16 V	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector

5.check chassis control module ground circuit

Check the continuity between chassis control module harness connector M96 terminal 12 and ground.

Chassis control module			Continuity	
Connector	Terminal		Continuity	
M96	12	Ground	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

## C1BB7-00 CONTROL MODULE

### < DTC/CIRCUIT DIAGNOSIS >

## C1BB7-00 CONTROL MODULE

## **DTC Description**

## DTC DETECTION LOGIC

[CHASSIS CONTROL]

INFOID:000000012421756

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DTC     Display item (Trouble diagnosis content)     Malfunction detected condition       C1BB7-00     CONTROL MODULE (Control module)     When a malfunction is detected in chassis control module.
C1BB7-00 CONTROL MODULE (Control module) When a malfunction is detected in chassis control module.
POSSIBLE CAUSE     • Chassis control module
<ul> <li>FAIL-SAFE</li> <li>The following functions are suspended:</li> <li>Active Trace Control function</li> <li>Active Ride Control function</li> <li>Active Engine Brake function</li> </ul>
DTC CONFIRMATION PROCEDURE
1.PRECONDITIONING
and wait at least 10 seconds before conducting the next test.
>> GO TO 2.
<ul> <li>With CONSULT</li> <li>1. Turn the ignition switch OFF to ON.</li> </ul>
<b>Be sure to wait of 10 seconds after turning ignition switch OFF or ON.</b> 2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".
Is DTC "C1BB7-00" detected?
<ul> <li>YES &gt;&gt; Proceed to <u>DAS-187, "Diagnosis Procedure"</u>.</li> <li>NO-1 &gt;&gt; To check malfunction symptom before repair: Refer to <u>GI-45, "Intermittent Incident"</u>.</li> <li>NO-2 &gt;&gt; Confirmation after repair: Inspection End.</li> </ul>
Diagnosis Procedure
1.PERFORM SELF-DIAGNOSIS
<ol> <li>With CONSULT</li> <li>Erase "Self Diagnostic Result" of "CHASSIS CONTROL".</li> <li>Turn the ignition switch OFF and wait for 10 seconds or more.</li> </ol>
<ol> <li>Turn the ignition switch ON.</li> <li>Perform "Self Diagnostic Result" of "CHASSIS CONTROL".</li> </ol>
<u>IS DTC "C1BB7-00" detected?</u> YES >> Replace the chassis control module. Refer to <u>DAS-234, "Removal and Installation"</u> .

## < DTC/CIRCUIT DIAGNOSIS >

## C1BB8-00 CONTROL MODULE

## **DTC** Description

INFOID:000000012421758

[CHASSIS CONTROL]

### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB8-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.

#### **POSSIBLE CAUSE**

· Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function
- Active Engine Brake function

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BB8-00" detected?

- YES >> Proceed to DAS-188, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

## **Diagnosis** Procedure

INFOID:000000012421759

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BB8-00" detected?

- YES >> Replace the chassis control module. Refer to DAS-234, "Removal and Installation".
- NO >> Inspection End.

## C1BB9-00 CONTROL MODULE

### < DTC/CIRCUIT DIAGNOSIS >

## C1BB9-00 CONTROL MODULE

## **DTC Description**

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB9-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.
POSSIBLE • Chassis c	CAUSE ontrol module	
FAIL-SAFE The followin • Active Tra • Active Rid • Active Eng	g functions are suspended: tice Control function le Control function gine Brake function	
DTC CONF	FIRMATION PROCEDURE	
1.PRECON	NDITIONING	
If "DTC COI and wait at	NFIRMATION PROCEDURE" least 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF ucting the next test.
>>	GO TO 2.	
2.снеск	DTC DETECTION	
With CON 1. Turn the CAUTIO Be sure 2. Perform	NSULT e ignition switch OFF to ON. <b>ON:</b> e to wait of 10 seconds after n "Self Diagnostic Result" of "C	turning ignition switch OFF or ON. CHASSIS CONTROL".
Is DTC "C1I YES >> NO-1 >> NO-2 >>	BB9-00" detected? Proceed to <u>DAS-189, "Diagno</u> To check malfunction sympton Confirmation after repair: Insr	o <u>sis Procedure"</u> . m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End
Diagnosis	s Procedure	INFOID:00000001242176
1.PERFOR	RM SELF-DIAGNOSIS	
With CO 1. Erase " 2. Turn the 3. Turn the 4. Perform	NSULT Self Diagnostic Result" of "CH e ignition switch OFF and wait e ignition switch ON. n "Self Diagnostic Result" of "C	ASSIS CONTROL". for 10 seconds or more. CHASSIS CONTROL".
Is DTC "C1I YES >>	BB9-00" detected? Replace the chassis control n	nodule Refer to DAS-234 "Removal and Installation"
NO >>	Inspection End.	Todalo. Notor to <u>BNO 201, Nemoval and motaliation</u> .

INFOID:000000012421760

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## < DTC/CIRCUIT DIAGNOSIS >

## C1BBA-00 CONTROL MODULE

## **DTC** Description

INFOID:000000012421762

[CHASSIS CONTROL]

### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BBA-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.

#### **POSSIBLE CAUSE**

· Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function
- Active Engine Brake function

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BBA-00" detected?

- YES >> Proceed to DAS-190, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

### **Diagnosis** Procedure

INFOID:000000012421763

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BBA-00" detected?

- YES >> Replace the chassis control module. Refer to <u>DAS-234</u>, "Removal and Installation".
- NO >> Inspection End.

## **C1BBB-00 CONTROL MODULE**

### < DTC/CIRCUIT DIAGNOSIS >

## C1BBB-00 CONTROL MODULE

# DTC Description

[CHASSIS CONTROL]

INFOID:000000012421764

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	Disalau Itaa	
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BBB-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.
<ul><li>POSSIBLE</li><li>Chassis control</li></ul>	CAUSE ontrol module	
FAIL-SAFE The followin • Active Tra • Active Rid • Active Eng	g functions are suspended: ce Control function e Control function jine Brake function	
DTC CONF	IRMATION PROCEDURE	
1.PRECON	IDITIONING	
If "DTC CON and wait at I	VFIRMATION PROCEDURE" east 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF ucting the next test.
>> 2 outoru	GO TO 2.	
1. Turn the	e ignition switch OFF to ON.	
2. Perform	DN: to wait of 10 seconds after "Self Diagnostic Result" of "Contemporatic Contemporatic Contempo	turning ignition switch OFF or ON. HASSIS CONTROL".
<u>Is DTC "C1E</u>	BBB-00" detected?	
YES >> NO-1 >> NO-2 >>	Proceed to <u>DAS-191, "Diagno</u> To check malfunction symptor Confirmation after repair: Insp	o <u>sis Procedure"</u> . n before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.
Diagnosis	Procedure	INFOID:000000012421765
1.PERFOR	M SELF-DIAGNOSIS	
With COI 1. Erase "s 2. Turn the 3. Turn the 4. Perform	NSULT Self Diagnostic Result" of "CH e ignition switch OFF and wait e ignition switch ON. "Self Diagnostic Result" of "C	ASSIS CONTROL". for 10 seconds or more. CHASSIS CONTROL".
Is DTC "C1E	<u>3BB-00" detected?</u> Replace the chassis control n	nodule. Refer to DAS-234. "Removal and Installation".

## < DTC/CIRCUIT DIAGNOSIS >

## C1BBC-00 CONTROL MODULE

## **DTC** Description

INFOID:000000012421766

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BBC-00	CONTROL MODULE (Control module)	When a malfunction is detected in chassis control module.

#### POSSIBLE CAUSE

· Chassis control module

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

>> GO TO 2.

## 2. CHECK DTC DETECTION

#### With CONSULT

Turn the ignition switch OFF to ON.

CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BBC-00" detected?

YES >> Proceed to DAS-192, "Diagnosis Procedure".

- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

## **Diagnosis** Procedure

INFOID:000000012421767

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Šelf Diagnostic Result" of "CHASSIS CONTROL".

### Is DTC "C1BBC-00" detected?

YES >> Replace the chassis control module. Refer to <u>DAS-234. "Removal and Installation"</u>.

NO >> Inspection End.

## **C1BBD-00 VARIANT CODING**

## < DTC/CIRCUIT DIAGNOSIS >

## C1BBD-00 VARIANT CODING

## **DTC Description**

## DTC DETECTION LOGIC

[CHASSIS	CONTROL]

INFOID:000000012421768

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DTC DETE	CTION LOGIC		В
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С
C1BBD-00	VARIANT CODING (Variant coding)	When variant coding is incomplete.	
POSSIBLE • Chassis co	CAUSE ontrol module		D
FAIL-SAFE The following • Active Trad • Active Rid • Active End	g functions are suspended: ce Control function e Control function aine Brake function		E
DTC CONF	FIRMATION PROCEDURE		
1.PRECON	IDITIONING		G
If "DTC CON and wait at l	VFIRMATION PROCEDURE" east 10 seconds before cond	has been previously conducted, always turn the ignition switch OFF ucting the next test.	Н
2.снески	GO TO 2. DTC DETECTION		
With CON Turn the CAUTIC Be sure	ISULT e ignition switch OFF to ON. DN:	turning ignition switch OFF or ON	l J
2. Perform <u>Is DTC "C1E</u> YES >> NO-1 >>	"Self Diagnostic Result" of "C BBD-00" detected? Proceed to <u>DAS-193, "Diagno</u> To check malfunction sympto	Defore repair: Refer to GI-45. "Intermittent Incident"	K
NO-2 >>	Confirmation after repair: Insp	pection End.	L
Diagnosis	s Procedure	INFOID:000000012421769	
1.PERFOR	M SELF-DIAGNOSIS		M
With CON 1. Erase "S 2. Turn the 3. Turn the 4. Perform	NSULT Self Diagnostic Result" of "CH e ignition switch OFF and wait e ignition switch ON. "Self Diagnostic Result" of "C	ASSIS CONTROL". : for 10 seconds or more. CHASSIS CONTROL".	Ν
Is DTC "C1E	BBD-00" detected?	to DAS-163 "Work Procedure"	DAS
NO >>	Inspection End.	U DAS-105, WOIK FIOLEUUIE.	
			Ρ

## C1BC0-00 FRONT RIGHT WHEEL SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

## C1BC0-00 FRONT RIGHT WHEEL SENSOR

## DTC Description

INFOID:000000012421770

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC0-00	FR WHEEL SENSOR (Front right wheel sensor)	When a malfunction is detected in front right wheel sensor system.

#### **POSSIBLE CAUSE**

- · Front right wheel sensor
- Front right sensor rotor
- · ABS actuator and electric unit (control unit)
- Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function

#### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

With CONSULT

- 1. Start the engine.
- 2. Drive the vehicle at approx. 30 km/h (19 MPH) or more for approx. 1 minute.
- 3. Stop the vehicle.
- 4. Turn the ignition switch OFF to ON. CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

5. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BC0-00" detected?

- YES >> Proceed to DAS-194, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

## **Diagnosis Procedure**

INFOID:000000012421771

## **1.**CHECK FRONT RH WHEEL SENSOR SYSTEM

### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2. PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.

## C1BC0-00 FRONT RIGHT WHEEL SENSOR

< DTC/CIRCUIT DIAGNOSIS >	
4. PERFORM ALLUIC READING".	۵
YES ("C1BC0-00")>>Replace the chassis control module. Refer to <u>DAS-234</u> YES ("U1000-00")>>Refer to <u>DAS-208. "Diagnosis Procedure"</u> . YES (other DTC)>>Check the DTC.	. "Removal and Installation".
NO >> Inspection End.	
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## C1BC1-00 FRONT LEFT WHEEL SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

## C1BC1-00 FRONT LEFT WHEEL SENSOR

## DTC Description

INFOID:000000012421772

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC1-00	FL WHEEL SENSOR (Front left wheel sensor)	When a malfunction is detected in front left wheel sensor system.

#### POSSIBLE CAUSE

- · Front left wheel sensor
- Front left sensor rotor
- · ABS actuator and electric unit (control unit)
- Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function

#### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

With CONSULT

- 1. Start the engine.
- 2. Drive the vehicle at approx. 30 km/h (19 MPH) or more for approx. 1 minute.
- 3. Stop the vehicle.
- 4. Turn the ignition switch OFF to ON. CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

5. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BC1-00" detected?

- YES >> Proceed to DAS-196, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

## Diagnosis Procedure

INFOID:000000012421773

## **1.**CHECK FRONT LH WHEEL SENSOR SYSTEM

### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2. PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.

## 

CIBCI-UU FRONI LEFI WHEEL SENSOR	ICHASSIS CONTROLI
4 Perform "All DTC Reading"	[]
Is DTC "C1BC1-00", "U1000-00" or other DTC detected?	A
YES ("C1BC1-00")>>Replace the chassis control module. Refer to DAS-234, "Rer	noval and Installation".
YES ("U1000-00")>>Refer to <u>DAS-208, "Diagnosis Procedure"</u> . YES (other DTC)>>Check the DTC. NO >> Inspection End.	В
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## C1BC2-00 REAR RIGHT WHEEL SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

## C1BC2-00 REAR RIGHT WHEEL SENSOR

## DTC Description

INFOID:000000012421774

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC2-00	RR WHEEL SENSOR (Rear right wheel sensor)	When a malfunction is detected in rear right wheel sensor system.

#### POSSIBLE CAUSE

- · Rear right wheel sensor
- Rear right sensor rotor
- · ABS actuator and electric unit (control unit)
- · Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function

#### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

With CONSULT

- 1. Start the engine.
- 2. Drive the vehicle at approx. 30 km/h (19 MPH) or more for approx. 1 minute.
- 3. Stop the vehicle.
- 4. Turn the ignition switch OFF to ON. CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

5. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BC2-00" detected?

- YES >> Proceed to DAS-198, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

## **Diagnosis** Procedure

INFOID:000000012421775

## **1.**CHECK REAR RH WHEEL SENSOR SYSTEM

### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2.PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.

## 

<pre>CIBC2-00 REAR RIGHT WHEEL SE &lt; DTC/CIRCUIT DIAGNOSIS &gt;</pre>	
4 Perform "All DTC Reading"	<u> </u>
Is DTC "C1BC2-00", "U1000-00" or other DTC detected?	
YES ("C1BC2-00")>>Replace the chassis control module. Refer to DAS-2	234, "Removal and Installation".
YES ("U1000-00")>>Refer to <u>DAS-208, "Diagnosis Procedure"</u> .	
NO >> Inspection End.	
	D

## C1BC3-00 REAR LEFT WHEEL SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

## C1BC3-00 REAR LEFT WHEEL SENSOR

## DTC Description

INFOID:000000012421776

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC3-00	RL WHEEL SENSOR (Rear left wheel sensor)	When a malfunction is detected in rear left wheel sensor system.

#### **POSSIBLE CAUSE**

- · Rear left wheel sensor
- Rear left sensor rotor
- · ABS actuator and electric unit (control unit)
- · Chassis control module

#### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function

#### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

With CONSULT

- 1. Start the engine.
- 2. Drive the vehicle at approx. 30 km/h (19 MPH) or more for approx. 1 minute.
- 3. Stop the vehicle.
- 4. Turn the ignition switch OFF to ON. CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

5. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "C1BC3-00" detected?

- YES >> Proceed to DAS-200, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

### Diagnosis Procedure

INFOID:000000012421777

## **1.**CHECK REAR LH WHEEL SENSOR SYSTEM

### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2.PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.

## **DAS-200**

## C1BC3-00 REAR LEFT WHEEL SENSOR

< DTC/CIRCUIT DIAGNUSIS >	
4. Perform All DTC Reduing . Is DTC "C1BC3-00" "111000-00" or other DTC detected?	A
YES ("C1BC3-00")>>Replace the chassis control module. Refer to DAS YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure". YES (other DTC)>>Check the DTC. NO >> Inspection End.	S-234, "Removal and Installation".
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## < DTC/CIRCUIT DIAGNOSIS >

## C1BC4-00 DECEL G SENSOR

## **DTC** Description

INFOID:000000012421778

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC4-00	DECEL G SENSOR (Decel G sensor)	When a malfunction is detected in decel G sensor system.

#### POSSIBLE CAUSE

- Yaw rate/side/decel G sensor [integrated in ABS actuator and electric unit (control unit)]
- · ABS actuator and electric unit (control unit)
- Chassis control module

#### FAIL-SAFE

The following functions are suspended:

Active Ride Control (brake) function

#### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BC4-00" detected?

- YES >> Proceed to DAS-202, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

### **Diagnosis** Procedure

INFOID:000000012421779

## **1**.CHECK DECEL G SENSOR SYSTEM

#### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2. PERFORM SELF-DIAGNOSIS

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- Perform "All DTC Reading".

#### Is DTC "C1BC4-00", "U1000-00" or other DTC detected?

YES ("C1BC4-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "<u>Removal and Installation</u>". YES ("U1000-00")>>Refer to <u>DAS-208</u>, "<u>Diagnosis Procedure</u>".

YES (other DTC)>>Check the DTC.

## **DAS-202**

## C1BC4-00 DECEL G SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

NO >> Inspection End.

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## < DTC/CIRCUIT DIAGNOSIS >

## C1BC5-00 SIDE G SENSOR

## **DTC Description**

INFOID:000000012421780

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC5-00	SIDE G SENSOR (Side G sensor)	When a malfunction is detected in side G sensor system.

### POSSIBLE CAUSE

- Yaw rate/side/decel G sensor [integrated in ABS actuator and electric unit (control unit)]
- ABS actuator and electric unit (control unit)
- Chassis control module

#### FAIL-SAFE

The following functions are suspended:

Active Trace Control function

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

#### >> GO TO 2.

## 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BC5-00" detected?

- YES >> Proceed to DAS-204, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

### **Diagnosis** Procedure

INFOID:000000012421781

## **1.**CHECK SIDE G SENSOR SYSTEM

#### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2. PERFORM SELF-DIAGNOSIS

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- Perform "All DTC Reading".

#### Is DTC "C1BC5-00", "U1000-00" or other DTC detected?

YES ("C1BC5-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "<u>Removal and Installation</u>". YES ("U1000-00")>>Refer to <u>DAS-208</u>, "<u>Diagnosis Procedure</u>". YES (other DTC)>>Check the DTC.

## **DAS-204**

## C1BC5-00 SIDE G SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

NO >> Inspection End.

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## < DTC/CIRCUIT DIAGNOSIS >

## C1BC6-00 PRESSURE SENSOR

## **DTC** Description

INFOID:000000012421782

[CHASSIS CONTROL]

## DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BC6-00	PRESSURE SENSOR (Pressure sensor)	When a malfunction is detected in brake fluid pressure system.

### POSSIBLE CAUSE

- ABS actuator and electric unit (control unit)
- · Chassis control module

### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control (brake) function

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

### >> GO TO 2.

## 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

#### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "C1BC6-00" detected?

- YES >> Proceed to DAS-206, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

## **Diagnosis** Procedure

INFOID:000000012421783

## **1.**CHECK BRAKE FLUID PRESSURE SYSTEM

### With CONSULT

Perform "Self Diagnostic Result" of "ABS".

### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

NO >> GO TO 2.

## 2.PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- Perform "All DTC Reading".

#### Is DTC "C1BC6-00", "U1000-00" or other DTC detected?

YES ("C1BC6-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "<u>Removal and Installation</u>". YES ("U1000-00")>>Refer to <u>DAS-208</u>, "<u>Diagnosis Procedure</u>".

YES (other DTC)>>Check the DTC.

## **DAS-206**

## C1BC6-00 PRESSURE SENSOR

## < DTC/CIRCUIT DIAGNOSIS >

NO >> Inspection End.

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## U1000-00 CAN COMM CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

## U1000-00 CAN COMM CIRCUIT

## DTC Logic

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition Possible Cause	
CAN COMM CIRCUIT [U1000-00]	Chassis Control module is not transmitting or re- ceiving CAN communication signal for 2 seconds or more.	CAN communication system.

## **Diagnosis** Procedure

INFOID:000000012421785

INFOID:000000012421784

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.

2. Perform "Self Diagnostic Result" of CHASSIS CONTROL.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-20, "Trouble Diagnosis Flow Chart".

NO >> Refer to <u>GI-45, "Intermittent Incident"</u>.

[CHASSIS CONTROL]

## **U1A34-00 BRAKE CONTROL COMMUNICATION** [CHASSIS CONTROL]

## < DTC/CIRCUIT DIAGNOSIS >

## **U1A34-00 BRAKE CONTROL COMMUNICATION**

## **DTC** Description

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INFOID:000000012421786
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## DTC DETECTION LOGIC

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DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С
U1A34-00	BRAKE CONTROL COMM (Brake control communication)	When chassis control module is not receiving CAN communication signal [be- tween chassis control module and ABS actuator and electric unit (control unit)] for 2 seconds or more.	D
POSSIBLE	CAUSE		D
<ul> <li>ABS actual</li> <li>Chassis construction</li> <li>CAN common construction</li> </ul>	itor and electric unit (control u ontrol module nunication line	nit)	Е
FAIL-SAFE The followin • Active Tra • Active Rid • Active Eng	g functions are suspended: ce Control Function e Control Function gine Brake Function		F
DTC CONF	IRMATION PROCEDURE		G
1.PRECON	IDITIONING		
If "DTC CON	FIRMATION PROCEDURE"	has been previously conducted, always turn the ignition switch OFF	Н
and wait at I	east 10 seconds before condu	ucting the next test.	
>>	GO TO 2.		
<b>2.</b> CHECK I	DTC DETECTION		
With CON Turn the	ISULT		J
CAUTIC	DN:		
2 Perform	e to wait of 10 seconds after "Self Diagnostic Result" of "C	turning ignition switch OFF or ON. CHASSIS CONTROL "	Κ
Is DTC "U1A	A34-00" detected?		
YES >>	Proceed to DAS-209, "Diagno	osis Procedure".	L
NO-1 >> NO-2 >>	To check malfunction sympton Confirmation after repair: Inst	m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> .	
Diagnosis	Procedure	INEC/ID-0000000414/91787	M
Diagnoole		INF-OID.000000012421787	
Regarding V	Viring Diagram information, re	fer to <u>DAS-153, "Wiring Diagram"</u> .	Ν
1.снеск	CAN DIAGNOSIS SUPPORT	MONITOR	DAS
With CON 1. Select " 2. Check r	NSULT CAN Diagnosis Support Moni nalfunction between each con	tor" of "CHASSIS CONTROL". trol unit connected to chassis control module.	Ρ
Check the re	esult of "PRESENT"?		
Reter to>> "TRANSMI "ABS" othe	LAN-12, "CAN Communication T DIAG" is other than "OK">> r than "OK">>GO TO 3.	GO TO 2.	

**2.**CHECK TRANSMITTING SIDE UNIT

## **U1A34-00 BRAKE CONTROL COMMUNICATION**

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect chassis control module harness connector.
- 3. Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 5.

## **\mathbf{3}**. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect ABS actuator and electric unit (control unit) harness connector.
- 3. Check ABS actuator and electric unit (control unit) harness connector terminals (CAN communication line) or damage or loose connection.

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10. "Precautions for Harness</u> <u>Repair"</u>, and GO TO 4.

 ${f 4}.$ PFEFORM SELF-DIAGNOSIS [ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)]

### With CONSULT

- 1. Connect ABS actuator and electric unit (control unit) harness connector.
- 2. Erase "Self Diagnostic Result" of "ABS".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

- NO >> GO TO 5.
- **5.**PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

Is DTC "U1000-00", "U1A34-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A34-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "Removal and Installation".

- YES (other DTC)>>Check the DTC.
- NO >> Inspection End.

## **U1A35-00 BRAKE CONTROL COMMUNICATION** [CHASSIS CONTROL]

## < DTC/CIRCUIT DIAGNOSIS >

## **U1A35-00 BRAKE CONTROL COMMUNICATION**

## **DTC Description**

INFOID:000000012

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DTC DETECTION LOGIC
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DTC DETE	CTION LOGIC		В
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	C
U1A35-00	BRAKE CONTROL COMM (Brake control communication)	A calculated signal value differs between a signal transmitted from the ABS actu- ator and electric unit (control unit) and a signal received from chassis control mod- ule via CAN communication.	D
POSSIBLE	CAUSE		D
<ul> <li>ABS actual</li> <li>Chassis common CAN common</li> </ul>	ator and electric unit (control u ontrol module nunication line	nit)	E
FAIL-SAFE The followin • Active Tra- • Active Rid • Active Eng	g functions are suspended: ce Control function e Control function jine Brake function		F
DTC CONF	IRMATION PROCEDURE		G
1.PRECON	IDITIONING		
If "DTC CON	VFIRMATION PROCEDURE"	has been previously conducted, always turn the ignition switch OFF	Н
>>	GO TO 2.		I
2.CHECK [	DTC DETECTION		
With CON 1. Turn the	ISULT e ignition switch OFF to ON.		J
CAUTIC	DN:	turning inside out the OFF or ON	IZ.
2. Perform	"Self Diagnostic Result" of "C	CHASSIS CONTROL".	N
<u>Is DTC "U1A</u>	A35-00" detected?		
YES >> NO-1 >> NO-2 >>	Proceed to <u>DAS-211, "Diagno</u> To check malfunction sympton Confirmation after repair: Insp	o <u>sis Procedure"</u> . m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	L
Diagnosis	Procedure	INFCID:000000012421789	M
Regarding V	Viring Diagram information, re	fer to <u>DAS-153, "Wiring Diagram"</u> .	Ν
1.снеск	CAN DIAGNOSIS SUPPORT	MONITOR	DA
With CON 1. Select " 2. Check r	NSULT CAN Diagnosis Support Monit nalfunction between each con	tor" of "CHASSIS CONTROL". trol unit connected to chassis control module.	Р
Check the re	esult of "PRESENT"?		
>> "TRANSMI "ABS" othe	Reter to <u>LAN-12, "CAN Comr</u> T DIAG" is other than "OK">> r than "OK">>GO TO 3.	nunication Control Circuit". GO TO 2.	

2. CHECK TRANSMITTING SIDE UNIT

## **U1A35-00 BRAKE CONTROL COMMUNICATION**

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect chassis control module harness connector.
- 3. Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>DAS-129</u>, "Precautions for Harness <u>Repair</u>", and GO TO 5.

## **\mathbf{3}**. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

- 1. Turn the ignition switch OFF.
- 2. Disconnect ABS actuator and electric unit (control unit) harness connector.
- 3. Check ABS actuator and electric unit (control unit) harness connector terminals (CAN communication line) or damage or loose connection.

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>DAS-129</u>, "Precautions for Harness <u>Repair"</u>, and GO TO 4.

 ${f 4}$  . PFEFORM SELF-DIAGNOSIS [ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)]

### With CONSULT

- 1. Connect ABS actuator and electric unit (control unit) harness connector.
- 2. Erase "Self Diagnostic Result" of "ABS".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "ABS".

#### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

- NO >> GO TO 5.
- **5.**PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

Is DTC "U1000-00", "U1A35-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A35-00")>>Replace the chassis control module. Refer to DAS-234, "Removal and Installation".

- YES (other DTC)>>Check the DTC.
- NO >> Inspection End.

## **U1A36-00 BCM/IPDM COMMUNICATION**

### < DTC/CIRCUIT DIAGNOSIS >

## U1A36-00 BCM/IPDM COMMUNICATION

## **DTC Description**

[CHASSIS CONTROL]

INFOID:000000012421790

## DTC DETECTION LOGIC

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DTC DETE	CTION LOGIC		E
DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	(
U1A36-00	BCM/IPDM COMM (BCM/IPDM communication)	When chassis control module is not receiving CAN communication signal (be- tween chassis control module and BCM) for 2 seconds or more.	
POSSIBLE • BCM • Chassis co • CAN comr	CAUSE ontrol module munication line		E
FAIL-SAFE The followin • Active Tra • Active Rid • Active Eng	g functions are suspended: ce Control function e Control function gine Brake function		F
	IRMATION PROCEDURE		(
I .PRECON If "DTC CON and wait at I	IDITIONING NFIRMATION PROCEDURE" east 10 seconds before conde	has been previously conducted, always turn the ignition switch OFF ucting the next test.	ŀ
>> <b>2.</b> снеск і	GO TO 2. DTC DETECTION		
With CON 1. Turn the CAUTIC	ISULT e ignition switch OFF to ON. DN:		,
2. Perform	e to wait of 10 seconds after "Self Diagnostic Result" of "C	CHASSIS CONTROL".	ł
<u>IS DTC "017</u> YES >> NO-1 >> NO-2 >>	A36-00" detected? Proceed to <u>DAS-213, "Diagno</u> To check malfunction sympto Confirmation after repair: Insp	o <u>sis Procedure"</u> . m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	I
Diagnosis	s Procedure	INFOID:000000012421791	ľ
Regarding V	Viring Diagram information, re	fer to <u>DAS-153, "Wiring Diagram"</u> .	I
1.снеск о	CAN DIAGNOSIS SUPPORT	MONITOR	П
With COI 1. Select " 2. Check re <u>Check the re</u> >> "TRANSMI "BCM" other	NSULT CAN Diagnosis Support Moni nalfunction between each cor <u>esult of "PRESENT"?</u> Refer to <u>LAN-12, "CAN Comr</u> T DIAG" is other than "OK">> er than "OK">>GO TO 3.	tor" of "CHASSIS CONTROL". htrol unit connected to chassis control module. <u>nunication Control Circuit"</u> . GO TO 2.	
<b>2.</b> CHECK	TRANSMITTING SIDE UNIT		
1. Turn the	e ignition switch OFF.		

## U1A36-00 BCM/IPDM COMMUNICATION

#### < DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect chassis control module harness connector.
- Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 5.

## 3. СНЕСК ВСМ

- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM harness connector.
- 3. Check BCM harness connector terminals (CAN communication line) or damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 4.

**4.**PFEFORM SELF-DIAGNOSIS (BCM)

### With CONSULT

- 1. Connect BCM harness connector.
- 2. Erase "Self Diagnostic Result" of "BCM".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "BCM".

#### Is DTC detected?

- YES >> Check the DTC. Refer to <u>BCS-48, "DTC Index"</u> (with Intelligent key system) or <u>BCS-109,</u> <u>"DTC Index"</u> (without Intelligent key system).
- NO >> GO TO 5.

## **5.**PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

#### Is DTC "U1000-00", "U1A36-00" or other DTC detected?

- YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".
- YES ("U1A36-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "<u>Removal and Installation</u>". YES (other DTC)>>Check the DTC.
- NO >> Inspection End.

## U1A39-00 COMBINATION METER COMMUNICATION DIAGNOSIS > [CHASSIS CONTROL]

### < DTC/CIRCUIT DIAGNOSIS >

## U1A39-00 COMBINATION METER COMMUNICATION

## **DTC Description**

INFOID:000000012421792

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	Display Item	Malfunction detected condition
DIC	(Trouble diagnosis content)	
U1A39-00	COMBINATION METER COMM (Combination meter communica- tion)	When chassis control module is not receiving CAN communication signal (be- tween chassis control module and combination meter) for 2 seconds or more.
POSSIBLE	CAUSE	
Combination	on meter	
<ul> <li>Chassis co</li> <li>CAN comr</li> </ul>	nunication line	
DTC CONF	IRMATION PROCEDURE	
1_PRECON		
		has been previously conducted, always turn the ignition switch OF
and wait at l	east 10 seconds before condu	icting the next test.
<u>&gt;&gt;</u>	GO TO 2.	
	DTC DETECTION	
With CON	ISULT	
1. Turn the	ignition switch OFF to ON.	
Be sure	to wait of 10 seconds after	turning ignition switch OFF or ON.
2. Perform	"Self Diagnostic Result" of "C	HASSIS CONTROL".
Is DTC "U1A	<u>39-00" detected?</u>	
YES >>	Proceed to <u>DAS-215, "Diagno</u> To check malfunction symptor	sis Procedure". n before repair: Refer to GL45, "Intermittent Incident"
NO-2 >>	Confirmation after repair: Insp	ection End.
Diagnosis	Procedure	NEOID-00000012421
Diagnooid		INF-OLD.0000000124217
Regarding V	Viring Diagram information, re-	fer to <u>DAS-153, "Wiring Diagram"</u> .
1.CHECK	CAN DIAGNOSIS SUPPORT	MONITOR
With CON	ISULT	
1. Select "	CAN Diagnosis Support Monit	or" of "CHASSIS CONTROL".
2. Check n	nalfunction between each con	trol unit connected to chassis control module.
Check the re	esult of "PRESENT"?	
>> TRANSMI	Reter to <u>LAN-12, "CAN Comn</u> T DIAG" is other than "∩K">>।	<u>nunication Control Circuit"</u> . GO TO 2
"METER/M	&A" other than "OK">>GO TC	03.
2.CHECK 1	RANSMITTING SIDE UNIT	
1. Turn the	ignition switch OFF.	
0 D'	and also also a sufficient stands the last	

#### Is the inspection result normal?

YES >> GO TO 5.

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## **U1A39-00 COMBINATION METER COMMUNICATION**

#### < DTC/CIRCUIT DIAGNOSIS >

[CHASSIS CONTROL]

NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10. "Precautions for Harness</u> <u>Repair"</u>, and GO TO 5.

## 3.CHECK COMBINATION METER

- 1. Turn the ignition switch OFF.
- 2. Disconnect combination meter harness connector.
- 3. Check combination meter harness connector terminals (CAN communication line) or damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 4.

**4.**PFEFORM SELF-DIAGNOSIS (COMBINATION METER)

#### With CONSULT

- 1. Connect combination meter harness connector.
- 2. Erase "Self Diagnostic Result" of "METER/M&A".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "METER/M&A".

#### Is DTC detected?

- YES >> Check the DTC. Refer to <u>MWI-31, "DTC Index"</u>.
- NO >> GO TO 5.

## **5.**PERFORM SELF-DIAGNOSIS

#### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

Is DTC "U1000-00", "U1A39-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A39-00")>>Replace the chassis control module. Refer to <u>DAS-234, "Removal and Installation"</u>. YES (other DTC)>>Check the DTC.

NO >> Inspection End.
### **U1A3B-00 TCM COMMUNICATION**

### < DTC/CIRCUIT DIAGNOSIS >

# U1A3B-00 TCM COMMUNICATION

# **DTC** Description

[CHASSIS CONTROL]

INFOID:000000012421794

# DTC DETECTION LOGIC

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DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	4
U1A3B-00	TCM COMM (TCM communication)	When chassis control module is not receiving CAN communication signal (be- tween chassis control module and TCM) for 2 seconds or more.	(
POSSIBI F	CAUSE		[
• TCM			
<ul><li>Chassis co</li><li>CAN comr</li></ul>	ontrol module nunication line		I
FAIL-SAFE			
The following	g functions are suspended:		
Active Ride	e Control (engine) function		
<ul> <li>Active Eng</li> </ul>	jine Brake		
DTC CONF	IRMATION PROCEDURE		(
1.PRECON	IDITIONING		
If "DTC CON	FIRMATION PROCEDURE"	has been previously conducted, always turn the ignition switch OFF	
and wait at i			
>>	GO TO 2.		
2.снеск а	DTC DETECTION		
(P)With CON	ISULT		
1. Turn the	e ignition switch OFF to ON.		
Be sure	on: to wait of 10 seconds after	turning ignition switch OFF or ON.	
2. Perform	"Self Diagnostic Result" of "C	CHASSIS CONTROL".	
Is DTC "U1A	<u>A3B-00" detected?</u>		
YES >> NO-1 >>	Proceed to <u>DAS-217, "Diagno</u> To check malfunction symptop	o <u>sis Procedure"</u> . m before repair: Refer to GI-45. "Intermittent Incident"	
NO-2 >>	Confirmation after repair: Insp	pection End.	
Diagnosis	Procedure	INFOID:000000012421795	
Ū			
Regarding V	Viring Diagram information, re	fer to DAS 153 "Wiring Diagram"	
rtegarung v		ier to <u>DAS-133, Winng Diagram</u> .	
		MONITOD	
	JAN DIAGNOSIS SUFFORT	MONITOR	D
With CON	NSULT CAN Diagnosis Support Moni		
2. Check n	nalfunction between each cor	itrol unit connected to chassis control module.	
Check the re	esult of "PRESENT"?		
>>	Refer to LAN-12, "CAN Comr	nunication Control Circuit".	
"TRANSMI	SSION" other than "OK">>	GO TO 2. ) TO 3.	
2.CHECK 1	RANSMITTING SIDE UNIT		
1 Turn the			

# U1A3B-00 TCM COMMUNICATION

### < DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect chassis control module harness connector.
- Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10, "Precautions for Harness</u> <u>Repair"</u>, and GO TO 5.

# 3. СНЕСК ТСМ

- 1. Turn the ignition switch OFF.
- 2. Disconnect TCM harness connector.
- 3. Check TCM harness connector terminals (CAN communication line) or damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 4.

### **4.**PFEFORM SELF-DIAGNOSIS (TCM)

### With CONSULT

- 1. Connect TCM harness connector.
- 2. Erase "Self Diagnostic Result" of "TRANSMISSION".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Šelf Diagnostic Result" of "TRANSMISSION".

#### Is DTC detected?

- YES >> Check the DTC. Refer to <u>TM-63, "DTC Index"</u>.
- NO >> GO TO 5.

### **5.**PERFORM SELF-DIAGNOSIS

#### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

#### Is DTC "U1000-00", "U1A3B-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A3B-00")>>Replace the chassis control module. Refer to <u>DAS-234</u>, "Removal and Installation". YES (other DTC)>>Check the DTC.

NO >> Inspection End.

### U1A42-00 STEERING ANGLE SENSOR COMMUNICATION IT DIAGNOSIS > [CHASSIS CONTROL]

### < DTC/CIRCUIT DIAGNOSIS >

# U1A42-00 STEERING ANGLE SENSOR COMMUNICATION

# **DTC** Description

INFOID:000000012421796

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DTC DETECTION LOGIC	
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DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С					
U1A42-00	U1A42-00 STEERING ANGLE SENSOR COMM (Steering angle sensor communi- cation) When chassis control module is not receiving CAN communication signal (be- tween chassis control module and steering angle sensor) for 2 seconds or more.							
POSSIBLE	CAUSE							
<ul> <li>Steering a</li> <li>Chassis co</li> <li>CAN comr</li> </ul>	ngle sensor ontrol module munication line		E					
FAIL-SAFE The followin • Active Tra	g functions are suspended: ce Control function		F					
			G					
If "DTC CON and wait at I	NFIRMATION PROCEDURE" east 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF ucting the next test.	Н					
>>	GO TO 2							
2.снески	DTC DETECTION							
	ISULT		J					
1. Turn the	e ignition switch OFF to ON.							
2. Perform	In wait of 10 seconds after "Self Diagnostic Result" of "Contract of the second sec	turning ignition switch OFF or ON. CHASSIS CONTROL".	K					
Is DTC "U1A	42-00" detected?							
YES >> NO-1 >> NO-2 >>	Proceed to <u>DAS-219</u> , "Diagno To check malfunction symptor Confirmation after repair: Insp	o <u>sis Procedure"</u> . m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	L					
Diagnosis	s Procedure	INFOID:000000012421797	M					
Regarding V	Viring Diagram information, re	fer to <u>DAS-153, "Wiring Diagram"</u> .	Ν					
1.снеско	CAN DIAGNOSIS SUPPORT	MONITOR	DA					
With COI 1. Select " 2. Check r Check the re	NSULT CAN Diagnosis Support Monit nalfunction between each con esult of "PRESENT"?	tor" of "CHASSIS CONTROL". trol unit connected to chassis control module.	Ρ					
>> "TRANSMI "STRG" oth	Refer to <u>LAN-12, "CAN Comn</u> T DIAG" is other than "OK">> ner than "OK">>GO TO 3.	nunication Control Circuit". GO TO 2.						
2.CHECK	TRANSMITTING SIDE UNIT							

**Revision: September 2015** 

# U1A42-00 STEERING ANGLE SENSOR COMMUNICATION

### < DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect chassis control module harness connector.
- 3. Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 5.

# **3.**CHECK STEERING ANGLE SENSOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect steering angle sensor harness connector.
- 3. Check steering angle sensor harness connector terminals (CAN communication line) or damage or loose connection.

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair"</u>, and GO TO 4.

 ${f 4}$ .PFEFORM SELF-DIAGNOSIS [ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)]

### With CONSULT

- 1. Connect steering angle sensor harness connector.
- 2. Erase "Self Diagnostic Result" of "ABS".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "ABS".

### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

- NO >> GO TO 5.
- **5.**PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

Is DTC "U1000-00", "U1A42-00" other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A42-00")>>Replace the chassis control module. Refer to DAS-234, "Removal and Installation".

- YES (other DTC)>>Check the DTC.
- NO >> Inspection End.

### U1A43-00 STEERING ANGLE SENSOR COMMUNICATION IT DIAGNOSIS > [CHASSIS CONTROL]

### < DTC/CIRCUIT DIAGNOSIS >

# U1A43-00 STEERING ANGLE SENSOR COMMUNICATION

### **DTC** Description

INFOID:000000012421798

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DTC DETECTION LOGIC
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DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С
U1A43-00	STEERING ANGLE SENSOR COMM (Steering angle sensor communi- cation)	A calculated signal value differs between a signal transmitted from the steering an- gle sensor and a signal received from chassis control module via CAN communi- cation.	D
POSSIBLE	CAUSE		
<ul> <li>Steering a</li> <li>Chassis control</li> <li>CAN commonstraints</li> </ul>	ngle sensor ontrol module munication line		Ε
FAIL-SAFE The followin • Active Tra • Active Rid	g functions are suspended: ce Control function e Control (engine) function		F
DTC CONF	FIRMATION PROCEDURE		G
1.PRECON	NDITIONING		
If "DTC CON and wait at I	NFIRMATION PROCEDURE" east 10 seconds before condu	has been previously conducted, always turn the ignition switch OFF ucting the next test.	Η
	CO TO 2		
2 CHECK			
			J
1. Turn the	e ignition switch OFF to ON.		
2 Perform	e to wait of 10 seconds after	turning ignition switch OFF or ON.	Κ
Is DTC "U1A	Add a contraction of the contract of the contr		
YES >> NO-1 >>	Proceed to <u>DAS-221</u> , "Diagno To check malfunction symptor	<u>osis Procedure"</u> . n before repair: Refer to <u>GI-45, "Intermittent Incident"</u> .	L
NO-2 >>	Confirmation after repair: Insp	ection End.	в.4
Diagnosis	s Procedure	INFOID:000000012421799	IVI
Regarding V	Viring Diagram information, re	fer to <u>DAS-153, "Wiring Diagram"</u> .	Ν
1.снеск	CAN DIAGNOSIS SUPPORT	MONITOR	DA
With COI 1. Select " 2. Check r <u>Check the re</u>	NSULT CAN Diagnosis Support Monit nalfunction between each con esult of "PRESENT"?	tor" of "CHASSIS CONTROL". trol unit connected to chassis control module.	Ρ
>> "TRANSMI "STRG" oth	Refer to <u>LAN-12, "CAN Comn</u> T DIAG" is other than "OK">> her than "OK">>GO TO 3.	nunication Control Circuit". GO TO 2.	

2. CHECK TRANSMITTING SIDE UNIT

# U1A43-00 STEERING ANGLE SENSOR COMMUNICATION

### < DTC/CIRCUIT DIAGNOSIS >

- 1. Turn the ignition switch OFF.
- 2. Disconnect chassis control module harness connector.
- 3. Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 5.

### 3.CHECK STEERING ANGLE SENSOR

- 1. Turn the ignition switch OFF.
- 2. Disconnect steering angle sensor harness connector.
- 3. Check steering angle sensor harness connector terminals (CAN communication line) or damage or loose connection.

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair"</u>, and GO TO 4.

 ${f 4}$  . PFEFORM SELF-DIAGNOSIS [ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)]

### With CONSULT

- 1. Connect steering angle sensor harness connector.
- 2. Erase "Self Diagnostic Result" of "ABS".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "ABS".

### Is DTC detected?

YES >> Check the DTC. Refer to <u>BRC-57, "DTC Index"</u>.

- NO >> GO TO 5.
- **5.**PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

Is DTC "U1000-00", "U1A43-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A43-00")>>Replace the chassis control module. Refer to DAS-234, "Removal and Installation".

- YES (other DTC)>>Check the DTC.
- NO >> Inspection End.

# U1A48-00 ECM/HPCM COMMUNICATION

### < DTC/CIRCUIT DIAGNOSIS >

# U1A48-00 ECM/HPCM COMMUNICATION

# **DTC** Description

[CHASSIS CONTROL]

INFOID:000000012421800

## DTC DETECTION LOGIC

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ŀ	2	
L	2	

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DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	0
U1A48-00	ECM/HPCM COMM (ECM/HPCM communication)	When chassis control module is not receiving CAN communication signal (be- tween chassis control module and ECM) for 2 seconds or more.	C
POSSIBLE	CAUSE		D
• ECM	ontrol modulo		
CAN comr	nunication line		Е
FAIL-SAFE			
The following	g functions are suspended:		_
Active Trac     Active Trac	e Control function		
<ul> <li>Active Eng</li> </ul>	ine Brake function		
DTC CONF	IRMATION PROCEDURE		G
1.PRECON	IDITIONING		
If "DTC CON	IFIRMATION PROCEDURE"	has been previously conducted, always turn the ignition switch OFF	Н
anu wait at i	east to seconds before condi	acting the next test.	
>>	GO TO 2.		
2.снеск а	DTC DETECTION		
With CON	ISULT		J
1. Turn the	e ignition switch OFF to ON.		
Be sure	to wait of 10 seconds after	turning ignition switch OFF or ON.	
2. Perform	"Self Diagnostic Result" of "C	CHASSIS CONTROL".	K
YES >>	Proceed to DAS-223. "Diagno	osis Procedure".	
NO-1 >>	To check malfunction sympton	m before repair: Refer to <u>GI-45, "Intermittent Incident"</u> .	L
NO-2 >>	Confirmation after repair: Insp	Dection End.	
Diagnosis	Procedure	INFOID:000000012421801	M
Regarding V	Viring Diagram information, re	fer to <u>DAS-153, "Wiring Diagram"</u> .	Ν
<b>1.</b> CHECK (	CAN DIAGNOSIS SUPPORT	MONITOR	
With CON	NSULT		DA
1. Select a	nd "CAN Diagnosis Support N	Nonitor" of "CHASSIS CONTROL".	
Check the re	esult of "PRESENT"?		Ρ
>>	Refer to LAN-12, "CAN Comr	nunication Control Circuit".	
"TRANSMI" "ENGINE"	T DIAG" is other than "OK">>	GO TO 2.	
	RANSMITTING SIDE UNIT		
1. Turn the	e ignition switch OFF.		

# U1A48-00 ECM/HPCM COMMUNICATION

### < DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect chassis control module harness connector.
- Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 5.
  - >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10, "Precautions for Harness</u> <u>Repair"</u>, and GO TO 5.

# 3. СНЕСК ЕСМ

NO

- 1. Turn the ignition switch OFF.
- 2. Disconnect ECM harness connector.
- 3. Check ECM harness connector terminals (CAN communication line) or damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 4.

### **4.**PFEFORM SELF-DIAGNOSIS (ECM)

### With CONSULT

- 1. Connect ECM harness connector.
- 2. Erase "Self Diagnostic Result" of "ENGINE".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "ENGINE".

#### Is DTC detected?

- YES >> Check the DTC. Refer to <u>EC-96, "DTC Index"</u>.
- NO >> GO TO 5.

### **5.**PERFORM SELF-DIAGNOSIS

#### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

#### Is DTC "U1000-00", "U1A48-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

YES ("U1A48-00")>>Replace the chassis control module. Refer to <u>DAS-234, "Removal and Installation"</u>. YES (other DTC)>>Check the DTC.

NO >> Inspection End.

# U1A4A-00 CONTROL MODULE (CAN)

### < DTC/CIRCUIT DIAGNOSIS >

# U1A4A-00 CONTROL MODULE (CAN)

# **DTC Description**

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition	С
U1A4A-00	CONTROL MODULE (CAN) [Control module (CAN)]	<ul> <li>When a malfunction is detected in chassis control module (transmiss CAN communication is impossible)</li> </ul>	sion via
POSSIBLE • Chassis co	CAUSE ontrol module		D
FAIL-SAFE The following • Active Trad • Active Rid • Active Eng	g functions are suspended: ce Control function e Control function jine Brake function		F
DTC CONF	IRMATION PROCEDURE		
1.PRECON	IDITIONING		G
If "DTC CON and wait at le	VFIRMATION PROCEDURE" east 10 seconds before condu	has been previously conducted, always turn the ignition sw ucting the next test.	<b>∕itch OFF</b> ⊣
>>	GO TO 2.		
2.снеск а	DTC DETECTION		1
With CON 1. Turn the	ISULT e ignition switch OFF to ON.		
<b>Be sure</b> 2. Perform	* to wait of 10 seconds after "Self Diagnostic Result" of "C	turning ignition switch OFF or ON. HASSIS CONTROL".	J
<u>Is DTC "U1A</u> YES >> NO-1 >> NO-2 >>	<u>AA-00" detected?</u> Proceed to <u>DAS-225, "Diagno</u> To check malfunction symptor Confirmation after repair: Insp	o <u>sis Procedure"</u> . n before repair: Refer to <u>GI-45, "Intermittent Incident"</u> . pection End.	K
Diagnosis	Procedure	INFOID:	000000012421803
1.PERFOR	M SELF-DIAGNOSIS		M
With CON 1. Erase "S 2. Turn the 3. Turn the 4. Perform	NSULT Self Diagnostic Result" of "CH. e ignition switch OFF and wait e ignition switch ON. "Self Diagnostic Result" of "C	ASSIS CONTROL". for 10 seconds or more. HASSIS CONTROL".	Ν
<u>Is DTC "U1A</u>	A4A-00" detected?		DA
YES >> NO >>	Replace the chassis control n Inspection End.	nodule. Refer to DAS-234, "Removal and Installation".	
			P

INFOID:000000012421802

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### U1A4B-00 CONTROL MODULE (CAN)

### < DTC/CIRCUIT DIAGNOSIS >

# U1A4B-00 CONTROL MODULE (CAN)

### **DTC** Description

INFOID:000000012421804

[CHASSIS CONTROL]

### DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A4B-00	CONTROL MODULE (CAN) [Control module (CAN)	When a malfunction is detected in chassis control module.

### **POSSIBLE CAUSE**

· Chassis control module

### FAIL-SAFE

The following functions are suspended:

- Active Trace Control function
- Active Ride Control function
- Active Engine Brake function

### DTC CONFIRMATION PROCEDURE

## 1.PRECONDITIONING

If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test.

### >> GO TO 2.

### 2. CHECK DTC DETECTION

### With CONSULT

- Turn the ignition switch OFF to ON.
  - CAUTION:

### Be sure to wait of 10 seconds after turning ignition switch OFF or ON.

2. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

Is DTC "U1A4B-00" detected?

- YES >> Proceed to DAS-226, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

### **Diagnosis** Procedure

INFOID:000000012421805

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

#### With CONSULT

- 1. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 2. Turn the ignition switch OFF and wait for 10 seconds or more.
- 3. Turn the ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "CHASSIS CONTROL".

#### Is DTC "U1A4B-00" detected?

- YES >> Replace the chassis control module. Refer to DAS-234, "Removal and Installation".
- NO >> Inspection End.

### U1A4E-00 ECM/HPCM COMMUNICATION

# < DTC/CIRCUIT DIAGNOSIS >

# U1A4E-00 ECM/HPCM COMMUNICATION

### **DTC** Description

DTC DETECTION LOGIC

[CHASSIS CONTROL]

INFOID:000000012421806

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#### **Display Item** DTC Malfunction detected condition (Trouble diagnosis content) ECM/HPCM COMM A calculated signal value differs between a signal transmitted from the ECM and a U1A4E-00 (ECM/HPCM communication) signal received from chassis control module via CAN communication. POSSIBLE CAUSE D ECM Chassis control module CAN communication line E FAIL-SAFE The following functions are suspended: Active Ride Control (engine) function DTC CONFIRMATION PROCEDURE 1.PRECONDITIONING If "DTC CONFIRMATION PROCEDURE" has been previously conducted, always turn the ignition switch OFF and wait at least 10 seconds before conducting the next test. Н >> GO TO 2. 2. CHECK DTC DETECTION (P)With CONSULT Turn the ignition switch OFF to ON. CAUTION: Be sure to wait of 10 seconds after turning ignition switch OFF or ON. Perform "Self Diagnostic Result" of "CHASSIS CONTROL". Is DTC "U1A4E-00" detected? Κ YES >> Proceed to DAS-227, "Diagnosis Procedure". >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident". NO-1 NO-2 >> Confirmation after repair: Inspection End. L Diagnosis Procedure INFOID-000000012421807 M Regarding Wiring Diagram information, refer to DAS-153, "Wiring Diagram". Ν $1_{-}$ CHECK CAN DIAGNOSIS SUPPORT MONITOR With CONSULT Select "CAN Diagnosis Support Monitor" of "CHASSIS CONTROL". DAS 1. Check malfunction history between each control unit connected to chassis control module. 2. Check the result of "PAST"? All items are "OK">>Refer to GI-45, "Intermittent Incident". Ρ "TRANSMIT DIAG" is other than "OK">>GO TO 2. "ENGINE" other than "OK">>GO TO 3.

2. CHECK TRANSMITTING SIDE UNIT

1. Turn the ignition switch OFF.

2. Disconnect chassis control module harness connector.

# U1A4E-00 ECM/HPCM COMMUNICATION

### < DTC/CIRCUIT DIAGNOSIS >

3. Check the chassis control module harness connector terminals No. 3 and 4 for damage or loose connection.

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 5.

# 3. СНЕСК ЕСМ

- 1. Turn the ignition switch OFF.
- 2. Disconnect ECM harness connector.
- 3. Check ECM harness connector terminals (CAN communication line) or damage or loose connection.

### Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Recheck terminals for damage or loose connection. Refer to <u>LAN-10</u>, "Precautions for Harness <u>Repair</u>", and GO TO 4.

**4.**PFEFORM SELF-DIAGNOSIS (ECM)

### With CONSULT

- 1. Connect ECM harness connector.
- 2. Erase "Self Diagnostic Result" of "ENGINE".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "Self Diagnostic Result" of "ENGINE".

### Is DTC detected?

- YES >> Check the DTC. Refer to EC-96, "DTC Index".
- NO >> GO TO 5.

### **5.**PERFORM SELF-DIAGNOSIS

### With CONSULT

- 1. Connect chassis control module harness connector.
- 2. Erase "Self Diagnostic Result" of "CHASSIS CONTROL".
- 3. Turn the ignition switch OFF and wait for 10 seconds or more.
- 4. Turn the ignition switch ON.
- 5. Perform "All DTC Reading".

Is DTC "U1000-00", "U1A4E-00" or other DTC detected?

YES ("U1000-00")>>Refer to DAS-208, "Diagnosis Procedure".

- YES ("U1A4E-00")>>Replace the chassis control module. Refer to DAS-234, "Removal and Installation".
- YES (other DTC)>>Check the DTC.
- NO >> Inspection End.

P	OWER SUPPLY A	ND GROUND CI	RCUIT
DTC/CIRCUIT DIAGNOS	IS >		[CHASSIS CONTROL]
POWER SUPPLY A	ND GROUND CI	RCUIT	
Diagnosis Procedure			INFOID:000000012421808
Regarding Wiring Diagram in	iformation, refer to <u>DAS-</u>	-153, "Wiring Diagram	<u>_</u> .
.CHECK FUSE			
Check that the following fuse	is not blown.		
Terminal No.	Sic	anal name	Fuse No.
7P	Ignition	power supply	30 (10A)
s the fuse blown?	<b>3</b> ***		
YES >> Replace the blow NO >> GO TO 2. 2.CHECK POWER SUPPLY	vn fuse after repairing th Y CIRCUIT	e affected circuit.	
<ol> <li>Turn the ignition switch (</li> <li>Disconnect chassis cont</li> <li>Check the voltage between</li> </ol>	DFF. rol module harness conr en chassis control modu	nector M96. ule harness connector	M96 terminal 10 and ground.
Chassis cont	rol module		Voltage
Connector	Terminal		
M96	10	Ground	Approx. 0 V
CAUTION: Never start the engine. Check the voltage betwee Chassis cont	en chassis control modu	ule harness connector	M96 terminal 10 and ground.
Connector	Terminal		voitage
M96	10	Ground	6.4 – 16 V
s the inspection result normal YES >> GO TO 3. NO >> Repair or replace CHECK CHASSIS CONT Check the continuity between	<u>al?</u> e harness or connector ROL MODULE GROUN n chassis control module	D CIRCUIT e harness connector M	196 terminal 12 and ground.
Chassis cont	rol module		
Connector	Terminal	— —	Continuity
M96	12	Ground	Yes
s the inspection result norm	al?		
M96 Is the inspection result norm: YES >> Inspection End. NO >> Repair or replace	12 al? e harness or connector.	Ground	Yes

# SYMPTOM DIAGNOSIS CHASSIS CONTROL

### Active Engine Brake

INFOID:000000012421809

#### NOTE:

- For the operational conditions of Active Engine Brake, refer to <u>DAS-133</u>, "System Description Active Engine Brake".
- Perform the "Self Diagnostic Result" using CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom		Possible cause	Inspection item	
Active Engine Brake in-	No CVT gear ratio assist.		Active Engine Brake select- ed OFF in the vehicle infor- mation display.	Change Active Engine Brake se- lection in the vehicle information display to ON.
			Certain roads, inclement weather or driving condi- tions.	System is functioning normally. Confirm the condition with the customer. Refer to <u>DAS-139</u> , "Precautions for Chassis Control (Engine Brake, Active Ride, and Active <u>Trace)"</u> .
			<ul> <li>Road wheel tire condition is abnormal</li> <li>Road wheel tire size is ab- normal.</li> </ul>	Check the road wheel tire.
operative/ineffective.	Lower CVT gear ratio not achieved.	Continuously	Active Engine Brake select- ed OFF in the vehicle infor- mation display.	Change Active Engine Brake se- lection in the vehicle information display to ON.
		At cornering.	<ul><li>Wheel alignment</li><li>Steering malfunction</li></ul>	Refer to "STEERING WHEEL TURNING FORCE IS HEAVY OR LIGHT" <u>STC-7, "EPS SYS-</u> <u>TEM : System Description"</u> .
		While coming to a complete stop.	Certain roads, inclement weather or driving condi- tions.	System is functioning normally. Confirm the condition with the customer. Refer to <u>DAS-139</u> , "Precautions for Chassis Control (Engine <u>Brake</u> , Active Ride, and Active <u>Trace)"</u> .

# Active Ride Control

INFOID:000000012421810

### NOTE:

- For the operational conditions of Active Ride Control, refer to <u>DAS-134</u>, <u>"System Description Active Ride</u> <u>Control"</u>.
- Perform the "Self Diagnostic Result" using CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

# **CHASSIS CONTROL**

### < SYMPTOM DIAGNOSIS >

### [CHASSIS CONTROL]

Symptom		Possible cause	Inspection item	А	
	No Active Ride Control assist.		VDC OFF switch is engaged.	Turn VDC OFF switch to the OFF position.	
Active Ride Control in- operative/ineffective.			Engine or transmission DTCs present.	Refer to EC DTCs <u>EC-96.</u> <u>"DTC Index"</u> , or TM DTCs <u>TM-</u> <u>63. "DTC Index"</u> as necessary.	В
	Bumpy ride on bumpy road.		Certain roads, inclement weather or driving condi- tions.	System is functioning normally. Confirm the condition with the customer. Refer to <u>DAS-139</u> , " <u>Precautions</u> for <u>Chassis Control (Engine</u> <u>Brake</u> , <u>Active Ride</u> , and <u>Active</u> <u>Trace)</u> ".	C
			<ul><li>Road wheel tire condition is abnormal.</li><li>Road wheel tire size is ab- normal.</li></ul>	Check the road wheel tire.	E
	High vehicle pitch on bumps. No engine torque control on curves.	Ineffective pitch control.	<ul><li>Wheel alignment.</li><li>Steering malfunction.</li></ul>	Change Active Engine Brake se- lection in the vehicle information display to ON.	F
		No pitch control.	Brake system malfunction.	Refer to DAS-150, "DTC Inspec- tion Priority Chart".	G
		Certain roads, inclement weather or driving condi- tions.	System is functioning normally. Confirm the condition with the customer. Refer to <u>DAS-139</u> , " <u>Precautions</u> for <u>Chassis Control (Engine</u> <u>Brake</u> , <u>Active Ride</u> , and <u>Active</u> <u>Trace</u> )".	H	

# Active Trace Control

INFOID:000000012421811 J

### NOTE:

- For the operational conditions of Active Trace Control, refer to <u>DAS-134</u>, "System Description Active Trace <u>Control</u>".
- Perform the "Self Diagnostic Result" using CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

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# **CHASSIS CONTROL**

### < SYMPTOM DIAGNOSIS >

# [CHASSIS CONTROL]

Symptom			Possible cause	Inspection item
Active Trace Control in- operative/ineffective.	No Active Trace Control assist.		Active Trace Control select- ed OFF in the vehicle infor- mation display.	Change Active Trace Control se- lection in the vehicle information display to ON.
			VDC OFF switch is engaged.	Turn VDC OFF switch to the OFF position.
			Certain roads, inclement weather or driving condi- tions.	System is functioning normally. Confirm the condition with the customer. Refer to <u>DAS-139</u> , "Precautions for Chassis Control (Engine <u>Brake, Active Ride, and Active</u> <u>Trace)"</u> .
			<ul><li>Road wheel tire condition is abnormal.</li><li>Road wheel tire size is ab- normal.</li></ul>	Check the road wheel tire.
	Excessive lag on turns.	On turns	Wheel alignment	Repair alignment malfunction.
		While zigzagging.	Steering malfunction.	"STEERING WHEEL TURNING FORCE IS HEAVY OR LIGHT" DAS-134, "System Description - Active Trace Control".
		With quick lane change.	Certain roads, inclement weather or driving condi- tions.	System is functioning normally. Confirm the condition with the customer. Refer to <u>DAS-139</u> , "Precautions for Chassis Control (Engine Brake, Active Ride, and Active <u>Trace)"</u> .

# NORMAL OPERATING CONDITION

# Description

Description INFOID:000000012421812	
<ul> <li>CHASSIS CONTROL</li> <li>Chassis Control will not provide all the necessary controls to replace driver intervention. It is not designed to prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the travel-</li> </ul>	В
<ul> <li>ing lane, and be in control of vehicle at all times.</li> <li>Chassis Control is primarily intended for use on well-developed freeways or highways. It may not perform satisfactorily in certain roads, weather or driving conditions.</li> </ul>	С
• Using Chassis Control under some conditions of road, corner or severe weather could lead to an unexpected system operation. In such conditions, driver needs to correct the vehicle's direction with driver's steering operation to avoid accidents.	D
<ul> <li>When Chassis Control is operating, avoid excessive or sudden steering maneuvers. Otherwise, you could lose control of the vehicle.</li> <li>Engine Brake Control is designed to enhance braking feel and traceability at corners.</li> </ul>	E
<ul> <li>Active Ride Control is designed to enhance handling and drive comfort.</li> <li>Active Trace Control is designed to enhance traceability at corners and smooth vehicle movement for more confident driving.</li> <li>Chassis Control may not function properly under the following conditions:</li> </ul>	F
<ul> <li>During bad weather (rain, fog, snow, wind, etc.).</li> <li>When driving on slippery roads, such as on ice or snow, etc.</li> <li>When driving on winding or uneven roads.</li> </ul>	G
<ul> <li>When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).</li> <li>When the vehicle is equipped with non-original steering parts or suspension parts.</li> <li>The functions of Chassis Control may or may not operate properly under the following conditions:</li> <li>On roads covered with water, dirt or snow, etc.</li> </ul>	Н
- On roads where there are sharp curves.	I
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### < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION CHASSIS CONTROL MODULE

Exploded View

INFOID:000000012421813

[CHASSIS CONTROL]



# Removal and Installation

INFOID:000000012421814

### REMOVAL

### NOTE:

If the chassis control module is replaced, user registration information is erased, and all setting items for Nissan InTuition related parts are erased.

- 1. Remove glove box assembly. Refer to IP-24, "Removal and Installation".
- 2. Disconnect harness connector from chassis control module.
- 3. Release pawl and remove chassis control module. CAUTION:

### Do not drop the chassis control module.

#### INSTALLATION

Installation is in the reverse order of removal.

**CAUTION:** 

When replacing chassis control module, perform configuration of chassis control module. Refer to <u>DAS-163, "Work Procedure"</u>.